# SEX ROLE, PERSONALITY CHARACTERISTICS, NEGATIVE LIFE EXPERIENCES, AND THE DEVELOPMENT OF NEOPLASM IN FEMALES

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TABLE OF CONTENTS

LIST OF TABLES

# CHAPTER I

## INTRODUCTION

Psychologists have long attempted to delineate and utilize the interrelationship between psychology and physiology. Research to date has isolated specific personality characteristics and life-experiences as being the psychological concomitants of the physiology of malignancy. It has been suggested that one personality characteristic of the cancer patient is an inability to express anger or hostility overtly (LeShan & Worthington, 1956c). A second character trait which has been identified is low ego strength (Bahnson & Bahnson, 1966; LeShan & Worthington, 1956b) resulting in a high perception of personal helplessness (Schmale & Iker, 1971). Interacting with these factors is a lack of perceived closeness to parents (Bacon, Renneker, & Cutler, 1952; Wheeler, Caldwell, & McDonald, 1955). Further delineation of the psychological characteristics of cancer patients is essential in order that a theoretical basis of intervention and possible prevention of malignancy from a psychological perspective be established.

Researchers have been primarily concerned with individual characteristics and life experiences. Cultural sex

roles and degree of psychological individuation have generally been ignored as possible correlates of the inception of malignancy.

Research indicates that the characteristics of a mature adult are synonymous with the traditional male role (Bardwick, 1971; Bardwick & Douvan, 1971; Lerner & Spanier, 1980; Scarf, 1980; Symonds, 1974, 1976). Whether a female chooses, therefore, to define herself via traditional role or via the more masculine "adult" role, she risks a duality of existence between individuation or adulthood and dependence or feminity (Friedan, 1963; Scarf, 1980; Symonds, 1971). In more closely adhering to the traditional role, a female renders herself less intrinsically powerful (Scarf, 1980). Individuation, by Jung's definition, is to be autonomous, having and recognizing the power to define oneself (Corsini & Contributors, 1979). The female, therefore, who adheres more closely to traditional role is more extrinsically defined and supported than the nontraditional female (Cass & Thomas, 1979; Dowling, 1981; Scarf, 1980). Conversely, the female who is closer on the continuum to the adult/male role is less powerful in terms of environmental support. In defying convention, she risks the loss of external support/definition (Scarf, 1980). It may follow, therefore, that stress, a precursor to malignancy which is supported by research (Achterberg, Simonton, & Simonton, 1976; Horowitz, 1976; Sklar & Anisman, 1979; Solomon, 1969) particularly in terms of loss of external support, may be

more debilitating to those females who are extrinsically dependent. Depression, as the result of the loss of a significant other, appears to be more devastating and to last longer for a traditional female (Scarf, 1980).

Differential treatment of female children by parents may deter individuation as well (Chodorow, 1978). Perception of lack of parental warmth and support may continue to affect life patterns in persons who are dependent on external support and definition to a marked degree (Dowling, 1981; Horney, 1967; Scarf, 1980). Females more dependent on external validation are less likely to express hostility overtly (Dowling, 1981; Scarf, 1980; Symonds, 1976). Obviously, such females have less sense of power to effect change due to dependence on external persons and variables of happenstance (Dowling, 1981; Scarf, 1980). The female who closely adheres to the traditional role is seen as more dependent, more passive, more covert in expression of anger, and less powerful overtly than her less traditional counterparts (Dowling, 1981; Scarf, 1980).

The profile of the traditional female is strikingly similar to the profile of the cancer patient. Blumberg, West, and Ellis (1956) stated that the victim of neoplasm is "...consistently serious, over-cooperative, over-nice, over-anxious, painfully sensitive, passive, apologetic and, according to family, friends, and previous records, has suffered from lack of self-expression and self-realization all of (his/her) life (p. 285)."

The concept that a relationship exists between the development of malignancy and psychology is centuries old. As early as 1701, Gendron (cited in Kowal, 1955) posited that cancer occurs after a severe fright or violent grief. In a treatise on cancer published in 1846, a professor of anatomy at University College in London summarized his observation that a preponderance of patients had malignancy clearly caused by emotions, reversal of fortune, and/or gloominess (cited in Simmons, 1979). It was not, however, until 1948 that a specific physiological response to specific emotions was delineated (Cannon, 1923). The specificity of Cannon's work imparted a respectability to the science now known as psychogenics. There followed both a recognition of previously little noticed research and a profusion of new research supporting the correlation of psychology and malignancy.

Research supporting a correlation between stress and malignancy is clearly defined in the literature, particularly via animal experimentation (Achterberg, Simonton, & Simonton, 1976). Research indicates that the varying of stress could alter incidence of breast cancer in mice from 92% in a stressful environment to 7% in a protected environment (Riley, 1975). Support for hopelessness as being a positive factor in conjunction with stress as a precursor to malignancy indicates that rejection of a tumor in rats is more probable after escapable than after inescapable shock (Visintainer, Volpicelli, & Seligman,

1982). Only 27% of the rats receiving inescapable shock rejected the tumor whereas 63% of the rats receiving escapable shock and 54% receiving no shock rejected the tumor. These results indicate that rate of tumor rejection resulted not from the shock per se, but from the animal's degree of control over the shock.

Hopelessness as a predictor of neoplasm in human patients is supported by the research as well. Selye (1976) delineated biological response to particular stressors as well as specific diseases which may result. In 1971, a group of healthy women considered to be biologically disposed to cancer were separated as being likely or not likely to eventually have diagnosable malignancy based on having or not having a premorbid helplessness prone personality (Schmale & Iker, 1971). The correct prediction rate as of publication was 73.6%.

Research conducted by LeShan and Worthington (1956b) supports the probability that the cancer patient will evidence a blockage in ability to express hostile feelings often hidden behind a social facade of benign goodness or kindness. Also apparent, according to LeShan and Worthington (1956a), is a marked amount of self-dislike and self-distrust. LeShan and Worthington concluded that these patterns of behavior appeared to stem from a loss of a parent in childhood. Whether the loss was physical or psychological, the child's resultant vulnerability precluded normal expression of hostility toward both the lost

and remaining parent. The anger was, therefore, turned inward as self-hate and/or guilt.

Of importance, as well, are implications that particular combinations of personality and life experiece may result in the development of particular types and sites of malignancy (Inman, 1964). Muslin, Gyarfas and Pieper (1966) found an experience of early separation from one or both parents to be highly correlated with malignancy of the breast. Schmale and Iker (1966) found evidence to support hopelessness as a predictor of cervical cancer. A comparison of 11 patients with breast cancer to 11 patients with cervical malignancy (Tarlau & Smalheiser, 1951) via administration of the Rorschach indicated that the group having cervical malignancy had greater self-acceptance and a higher degree of emotionality. Tarlau and Smalheiser (1951) hypothesized that among both groups mother dominance in family of origin resulted in a rejection of the female role. It is both interesting and indicative of a need for further research that the primary site of malignancy in these groups were both feminine and sexual in nature.

The similarities of the female cancer patient and the female who adheres strongly to the traditional role indicate a need to explore the possibility of a cultural role in the apparent correlation between psychology and malignancy. Implications of interaction between cultural expectations, life-experiences, and personality characteristics in the development of malignancy and choice of

primary site of disease may provide additional information in the formulation of psychological intervention prior to the development of neoplasm in women.

## Purpose of the Study

The purpose of this study was to investigate the incidence of adherence to traditional sex role as a life pattern among cancer patients with malignancy in a female primary organ (Group A) and female cancer patients with other types of malignancy (Group B), as compared to a female population of non-cancer patients (Group C). In addition, the personality characteristics of low ego strength and covert expression of hostility, as well as remembered perception of low warmth in mother's and father's parenting style at age 16 were examined in terms of interaction with a life pattern of adherence to traditional female sex role.

## Definitions

Subjects in Group A, having a female primary organ in which the neoplasm was diagnosed, were delineated as having breast, cervical, ovarian, or endometrial malignancy. Subjects in Group B, having a non-female primary organ in which malignancy was diagnosed, had diagnoses which included colo-rectal, hematologic (acute leukemia), lung, melanoma, colo-rectal and anus, Hodgkin's disease, sarcoma, lymphoma, pancreas, larynx, stomach, kidney, thyroid, tra-

chea, skin, or large intestine. For the purposes of this study, adherence to traditional female role was defined as a high femininity score on the Attitudes Toward Women Scale (Spence & Helmreich, 1972). Perception of degree of warmth in parenting style of mother and parenting style of father was defined by scores on the Parent Behavior Form (Worrell & Worrell, 1975). Method of expressing anger and/or hostility, ego strength, and helplessness/hopelessness were measured by scales C and E of the Sixteen Personality Factor Questionnaire (Cattell, Eber & Tatsouka, 1970).

## Limitations

1. Generalizability of this study is limited as a result of the use of subjects in Groups A and B who were all patients at the same cancer center in a metropolitan city in the Southwest. Group C was made up of subjects from two women's clubs in a small university town in the Southwest. An attempt to ameliorate this weakness was made by selecting subjects randomly from the intact groups.

2. Though instruments selected to measure personality characteristics and life experiences are designed to measure traits rather than temporary states, the fact that subjects in Groups A and B were post morbid may have affected their perceptions in some significant way.

3. Communication with subjects by mail and by telephone are considered a limitation of the study in terms of

response percentage. However, the danger of limitation due to interviewing only those patients who chose, for some reason which might have impacted on the variables under study, to enter the hospital for treatment and/or diagnosis at a particular time of year was considered a more serious threat to the generalizability of the study. Repeated follow-up, particularly with Group B, resulted in sufficient questionnaires to apply the statistical analysis of choice.

## Research Hypotheses

The research hypotheses studied were based on results of previous studies discussed in the introduction. Three groups of women, ages 35-50, were studied. Subjects in Group A were women with diagnosed malignancy in a female primary organ. Subjects in Group B were women with diagnosed malignancy in a non-female primary organ. Subjects in Group C were women with no diagnosed malignancy.

In order to carry out this study, the following hypotheses were investigated using an alpha level of .05:

1. Low ego-strength and perception of helplessness/hopelessness will be evident to a greater degree in the group of cancer patients with malignancy in a female organ and will be evident to a greater degree in both cancer groups than in the group of women not diagnosed as having cancer.
2. Suppression of expression of anger/hostility will be

stronger in the group of females having a female organ malignancy than in either of the other two groups and females with a non-female organ malignancy will have a higher suppression of anger/hostility than the females having no diagnosed malignancy.

3. Perception of warmth in the mother's parenting style in the family of origin when the subject was age 16 will be lowest in the group of subjects with female organ malignancy. Perception of warmth in mother's parenting style among the subjects with non-female organ malignancy will be lower than among subjects with no diagnosed malignancy but will be higher than that of subjects with female organ malignancy. Subjects with no diagnosed malignancy will have the highest perception of warmth in mother's parenting style among the three groups.
4. Perception of warmth in the father's parenting style in the family of origin when the subject was age 16 will be lowest in the group of subjects with female organ malignancy. Perception of warmth in father's parenting style among the subjects with non-female organ malignancy will be lower than among subjects with no diagnosed malignancy but will be higher than that of subjects with female organ malignancy. Subjects with no diagnosed malignancy will have the highest perception of warmth in father's parenting style among the three groups.

5. There will be a stronger adherence to traditional female sex role among the subjects diagnosed as having a female organ malignancy than in either of the other groups, and strong adherence to traditional female sex role will be greater in both of the cancer groups than in women not diagnosed as having cancer.

## Organization of the Study

The present chapter includes an introduction to the problem, a discussion of the need for the study, a brief overview of previous research which supports the hypotheses of this study, and a statement of the problem, limitations and hypotheses. Chapter II contains a review of literature relevant to this study. Chapter III includes a description of the selection of subjects, instrumentation, and the method of collection and assessment of the data. Chapter IV consists of a delineation of the analysis of the data and the resultant findings of the present investigation. Chapter V includes conclusions and recommendations formulated as a result of this research.

# CHAPTER II

## REVIEW OF RELATED RESEARCH

### Introduction

In reviewing the research related to neoplasm in females, it appears that certain personality factors and negative life experiences are correlated with both the development of malignancy and with the type of malignancy developed. This investigation was designed to extend the current findings to determine the relationships between neoplasm and adherence to traditional female sex role, perception of warmth in parenting style of mother and parenting style of father in family of origin, factors of negative life experience, and the characteristics of personality.

The following review will begin with a discussion of the general literature regarding the psychological/life experience component of malignancy specifically and of psychogenics in general prior to 1950. This review will be followed by a review of research conducted since 1950 which is specifically applicable to the dependent variables of low ego strength and helplessness/hopelessness, method of expressing anger/hostility, perception of warmth in parenting style of mother and parenting style of father in family

of origin and adherence to traditional female sex role in the development of malignancy.

In reviewing the research related to the effect of personality structure and life experience on the etiology and development of neoplasm, it becomes obvious that the psychosomatic concept is not a recent development. Instead, the psychosomatic concept appears to have cyclically gained and lost recognition and respect throughout its history. The medieval theory of body humors was an intricate theory of mind-body interaction (LeShan, 1959). The complexity of this theory is illustrated in a letter written in 1402 by a physician, Sassoli, to a patient. Sassoli wrote the following words:

> ...let me speak to you regarding the things of which you must most beware. To get angry and shout at times pleases me, for this will keep up your natural heat; but what displeases me is your being grieved and taking all matters to heart. For it is this, as the whole of physic teaches, which destroys our body more than any other cause (cited in LeShan, 1959, p. 5).

Galen is reported (cited in Mettler & Mettler, 1947) to have stated that cancer was much more frequently diagnosed in "melancholic" than in "sanguine" women.

Eighteenth and nineteenth century physicians, in terms of explanation and treatment of malignancy, tended to divide into two groups, one of which favored local causation and

treatment of the disease. The other emphasized origin of the disease in a peculiar constitutional state (Kowal, 1955). Techniques of investigation during the eighteenth and nineteenth centuries included an adequate history of the onset of neoplasm and a physical examination (Kowal, 1955). In 1802, a group of leading English and Welsh physicians formed "The Society for the Prevention and Cure of Cancer" (Hoffman, 1915). The group listed 11 areas regarding the onset and development of malignancy which they posited were in need of further research. One question was regarding the possibility of a predisposing temperament. In 1846, Walshe (cited in Simmons, 1979) wrote:

> Much has been written on the influence of mental misery, sudden reverses of fortune, and habitual gloominess of temper on the deposition of carcinomatous matter. If systematic writers can be credited, these constitute the most powerful cause of the disease ...Whether this be the real catenation of circumstances or not, and although the alleged influence of mental disquietude has never been made a matter of demonstration, it would be vain to deny that facts of a very convincing character in respect to the agency of the mind in the production of this disease are frequently observed. I have myself met with cases in which the connexion appeared so clear that I decided questioning its reality would have seemed a struggle against reason (p. 155).

Snow, in 1893 (cited in LeShan, 1961), conducted the first statistical study of psychogenics in the area of neoplasm. Snow reported on 250 out- and in-patients in the Cancer Hospital in London. Among the results of Snow's study, he reported that malignancy patients showed a consistent inability to express hostility and tension over the death of a parent.

In the United States, in 1885, Parker (cited in LeShan, 1959) described his 53 years of surgical experience with cancer as follows:

> It is a fact that grief is especially associated with the disease. If cancer patients were as a rule cheerful before the malignancy development made its appearance, the physiological theory, no matter how logical, must fall, but it is otherwise. The fact substantiates what reason points out (p. 3).

At about the same time, Hughes (cited in LeShan, 1959), a neurologist, wrote about the "neurotic origin and nature" of cancer. This marked the first publication of the use of psychological diagnostic terms by a medical doctor to express a psychogenic relationship between the psyche and malignancy.

In the early years of the twentieth century, little appears to have been written on the concept of psychogenics. One noted exception is a paper by Freud (1910) entitled "Psychogenic Visual Disturbance According to Psychoanalyti-

cal Conceptions." Another exception is a statement by Groddeck in 1928 (cited in LeShan, 1959) describing cancer as an "acting out" of deep frustration on the part of the body.

During the second quarter of the twentieth century, an examination of the relationship between carcinoma and the psyche began once more to emerge via psychological exploration, statistical analysis, and clinical observation (LeShan, 1959). Evans (1926) studied 100 cancer patients via Jungian depth-psychotherapy and concluded that the basic problem of the cancer patient is that of being driven back into her/himself after losing an important relationship. The energy, according to Evans, which was previously focused on the significant other is turned inward and the result is the hopelessness and melancholy discussed in earlier literature.

A rebirth of awareness and concern regarding psychogenics appears to emerge in the 1950's. Not only does published research abound, but more specific exploration of specific life experiences and personality traits, as well as specific psychological factors in the development of particular types of malignancy, appears as well.

## Low Ego Strength and Helplessness/ Hopelessness

Low ego strength which is manifested in perception of personal helplessness/hopelessness is supported in the

research as being typical of the cancer patient. Among the characteristics concomitant with low ego strength and a perception of self as helpless is a suppression of anger and/or hostility. Butler, (1954) on completion of his study of hypnosis in the reduction of pain with cancer, posited that there may be a "cancer personality". The prototypes Butler reported among his subjects are the inhibited individual with repressed anger or a "good" person expressing extreme self-pity.

In 1956c, LeShan and Worthington published a report based on a study of 250 individuals with diagnosed malignancy. Personality of subjects was evaluated by means of exploratory clinical interview and the Worthington Personal History projective test. The results of these tests were compared to results of the same tests administered to an age equated group of 150 individuals with no known disease. Among the four factors characteristic of the cancer group, but not of the controls, was a marked amount of self-dislike and self-distrust. Seventy-nine of the neoplastic patients and 34% of the controls indicated a strong sense of unworthiness and culpability.

Klopfer (1957) posited a correlation between personality and virulence of malignancy. Initial impetus for Klopfer's research was the repeated statement by physicians that those patients who seemed to be the finest human beings seemed to die most rapidly. Klopfer posited that these people may well have overinvested too much ego de-

fensive energy in their attempt to be good and loyal. In support of these hypotheses, Klopfer conducted various blind diagnoses of fast- and slow-growing malignancy based on the results of patients' responses to the Rorschach and Minnesota Multiphasic Personality Inventories (MMPI). The first of these endeavors involved 44 patients, 21 of whom were correctly identified as having fast-growing cancer and 13 of whom were correctly identified as having slow-growing cancer. Five of each group were misidentified. On the basis of this and numerous similar investigations, Klopfer (1957) concluded that an over-investment in ego defense, i.e. low ego strength, results in little ego defense with which to combat the malignancy.

Bahnson and Bahnson (1964a) suggested a choice between psychological and somatic regression. The model links the "choice" between somatic and interpersonal behavioral regression to different types of ego defenses and functions. Bahnson and Bahnson (1964b) suggested that conflict and solution may be deduced from type of ego defense. They reported the following:

> Individuals utilizing projective ego defenses are predicted to manifest neurotic, and in case of strong conflicts and strong ego defenses, psychotic solutions. Individuals who utilize repressive ego defenses are predicted to suffer from hypochondriac, psychosomatic and, ultimately, somatic manifestation of their conflictual

impulses (p. 192).

On the basis of the analysis of 50 Rorschach protocols of cancer patients, Nemeth and Mezei (1964) have established a "malignancy score". Two elements of the malignancy score are (a) self-effacing criticism and (b) self-depreciation. These elements differ from common self-criticism, having an expression of self-annihilation in conjunction with a supplication for help. Differences between benign and cancer group protocols included (a) less evidence of pathology among the benign group and (b) self-criticism becomes object criticism with the benign group. In addition, the cancer patient group scores high on passive hostility and each member of the group shows evidence of being a highly dependent personality. Nemeth and Mezei concluded that a person's readiness for fight and the drive force of an individual's hostility may play an important role in the occurrence of malignancy.

Bahnson and Bahnson (1964b) conducted an intensive study of 12 cancer patients by means of unstructured interviews and by means of projective psychological test battery consisting of the Rorschach and selected drawings of persons and animals. Characteristics of the cancer patients evident in the data collected using the Rorschach technique include rigidity, constriction, and an inability to utilize inner potentials. In addition, the protocols showed evidence of emotional withdrawal as a result of fear that emotional involvement might arouse primitive, regressive material

existing in a compartmentalized portion of the personality. Bahnson and Bahnson (1964b) concluded that the cancer patient's behavior and perception of him/herself and the world is characterized by primitive denial and secondary repression resulting from unsatisfactory ego development. The researchers stated that repeated use of repression and denial leave the conscious, overt personality depleted of affective material. They reported that:

> The patients live a double existence. On the one hand, encapsulated and contained regressive and possible psychotic processes unfold on the unconscious level while their physiological or biochemical correlates proceed on the somatic level; and on the other hand, a shell of schematic and appropriate social behavior, conscious and related to the 'social self', is carried out in a rigid and perseverative fashion. However, there is no contact or interchange between these two 'selves'. The conscious self is socially adequate, but empty and meaningless. The unconscious self is explosive and tormented. By discharging the biophysiological correlates of inhibited psychic drive along primitive and regressive physiological channels, the person kills himself. The two 'selves' have remained strangers to each other (p. 61).

Schmale and Iker (1971) selected a group of healthy women considered biologically predisposed to cancer and predicted the disease would be present in those who had a "hopelessness prone personality". In addition, they predicted that the disease would be absent in those subjects who did not have a high hopelessness predisposition. Psychological tests administered to 42 subjects included the Minnesota Multiphasic Personality Inventory (MMPI) and the Rosensweig Picture Frustration Test. The percent of correct predictions equals 73.6%. Though this percentage is not significant, a consistent trend toward lower ego strength and depression on the MMPI was noted among those women later diagnosed as having malignancy.

In psychoanalytic interviews of 25 female cancer patients and 25 female non-cancer patients, Beck (1975) found a higher number of depressive traits and a higher repression of inner conflicts among the cancer group. On the MMPI, later administered, the cancer group scored significantly higher on hypochondria and hysteria scales and significantly lower on the aggression and hostility scales.

Brainsky, Lerer, and Simon (1977) compared 20 women with breast cancer to 20 depressive neurotic women with hypochondria. The hypochondriacal pride of the neurotic patients was in sharp contrast to the submission of the cancer patients. The authors suggest that the acceptance of defeat by the cancer patient is similar to the schizo-

phrenic's acceptance of a psychotic role.

In a study previously cited, Visintainer et al. (1982) reported the effect of helplessness on tumor growth in rats and concluded that the low rate of tumor rejection was not a matter of the shock, but resulted, instead, from the animal's lack of control over the shock. They posited that the psychological experience of helplessness somehow interfered with the ability of the organism to resist tumor development.

Suppression of Anger/Hostility

Research supports the cancer patient personality as being repressive in terms of anger/hostility. LeShan and Worthington (1956b) administered the Worthington Personal History to 152 patients with malignant tumors and to 125 patients with other or no known disease. Among the three factors which differentiated the protocols of patients with malignant tumors from the protocols of the control group was an inability to express hostile feelings toward other people. The patients in the cancer group evidenced aggressive feelings that were often quite strong but were blocked in terms of verbal or other expression of these feelings. This characteristic was present in 47% of malignancy records and in 25% of the controls.

In a study previously cited, Bahnson and Bahnson (1964b) stated that "conflicts concerning discharge of hostility and inability to release anger in these...pat-

ients...were...unequivocol findings" (p. 42). They found the Rorschach protocols of cancer patients had characteristics which differed from those of the non-cancer patients. These characteristics included a low level and slow rate of responsiveness indicating a lack of availability of inner resources of sentiment, emotion and perspective and a nearly complete lack of shading suggesting constricted individuals not experiencing conscious anxiety. Additional characteristics of the protocols of cancer patients were the absence of color in some cases and in other cases the use of color in an uncontrolled regressive fashion, suggesting a pattern of either withdrawal or immature, explosive interaction; an unusually high F% indicating constriction, and a low number of original responses; and a high number of animal content (A%), suggesting stereotyped, constricted personality processes. A summarization of the Bahnson and Bahnson findings indicates that the cancer patient withdraws from emotional involvement because of the fear of expressing strong, negative emotions.

Greer and Morris (1975) interviewed 160 women on the day prior to a breast tumor biopsy and administered the Mill Hill Vocabulary Scale, the Eysenck Personality Inventory (Form A), and the Hostility and Direction of Hostility Questionnaire. Sixty-nine patients were subsequently found to have breast cancer and 91 were found to have benign tumors. Extreme suppression of anger and other feelings were significantly associated with the cancer group, lend-

ing additional credence to the profile of the cancer patient as suppressing hostility and anger.

Pettingale, Greer, and Tee (1977) participated in the Greer-Morris study using the same 160 subjects. The researchers hypothesized that "the neuroendocrine system is the major intermediary and that the immune response is influenced either via the autonomic nervous system or the hypothalamic-pituitary unit, to effect the growth of tumor cells" (p. 395). Based on this hypothesis, Pettingale et al. separated serum from the pre-operative blood samples and made an estimate of serum immunoglobulins IgG, IgA, and IgM using single radial immunodiffusion on commercial Tripartigen plates (Hoechst Ltd.). Total serum IgE levels were measured using radioimmunoassay. A similar measurement was taken at 3, 12 and 24 months after surgery. A comparison of these measurements was made to the psychological test results reported by Greer and Morris (1975). Pettingale et al. (1977) reported that expression of anger was not related to serum IgG, IgM or IgE levels, but IgA levels were found to be significantly ($p < .001$) higher in patients who habitually suppressed anger than in those who were capable of expressing anger. Though the researchers discuss the difficulty of interpreting correlations between variables obtained from such differing disciplines as psychiatry and immunology, they concluded that it is possible that the chronic suppression of anger could produce widespread metabolic alterations via the hypothalamus and

autonomic nervous system, resulting in increased secretion of IgA. Although both local and general factors could be operating in the patients with breast disease, Pettingale et al. stated that they are "tempted" to postulate that release or suppression of anger influenced the serum IgA levels in everyone.

The Greer and Morris perspective is primarily from a psychological viewpoint. Pettingale et al. (1977) combined the psychological perspective with chemical changes in the body. These two reports, both individually and in collaboration, support the existence of a relationship between supression of anger and the development of malignancy.

In the Beck (1975) study, 25 women suffering from breast cancer were found, as measured on the MMPI, to repress inner conflicts more frequently than the 25 subjects in the control group. In addition to low ego strength, perception of self as helpless/hopeless, the theme of suppression of hostility appears to pervade the research of the psychogenics of neoplasm.

More specific delineation of expression of hostility is provided by Wirsching (1982). A total of 56 women admitted for breast biopsy were interviewed the day prior to the operation. On the basis of certain characteristics, the blind raters' predictions of diagnosis were 83% and 94% of all cancer patients and correct in 71% and 68% of all benign cases. Among the characteristics used for blind diagnosis were (a) vacillation between intimacy and aloofness,

(b) restraint of feelings, (c) hopelessness and helplessness, and (d) conflict avoidance. The results of this study support those previously discussed in terms of characteristics of the cancer patient.

Lansky (1982) suggested that the malignant tumor is the result of emotional energy turned back on itself. He posited that treatment of the tumor requires an integration and assimilation of the "repressed evil" (p. 501). One must assume responsibility for one's illness and accept that heretofore unacceptable element of oneself, according to Lansky. Lansky's hypothesis, in conjunction with the Bahnson and Bahnson (1964b) findings of encapsulated processes hidden from the cancer patient her/himself and the research supporting repression of anger as a characteristic of the cancer patient (Greer & Morris, 1975; Pettingale et al. 1977; Wirsching, 1982), delineates a profile of the cancer patient as physiologically expressing what he/she is unable to express psychologically.

## Perception of Parenting Style

A second characteristic of interest in this study is perception of parenting styles. LeShan and Worthington (1956a) in a previously discussed study (p. 15) stated that among the four characteristics of the cancer patient is tension over the relationship with one or both parents. Thirty-eight percent of the experimental group and 12% of the control group demonstrated unusual tensions in this area.

In selected cases, death of a parent had occurred 30 to 40 years in the past, but guilt and anxiety over the event and the relationship remained evident.

Bahnson and Bahnson (1964b), in an intensive study of 12 cancer patients using the Rorschach and drawings of persons and animals, concluded that most cancer patients retain a close attachment to one parent. They stated, in addition, that these patients have been unable to change their early dependency and the result has been repetition in adult life with childhood dependent patterns in relationships. The result of this pattern, according to Bahnson and Bahnson, is severe conflict which is denied in favor of safe, stereotypic interchange with the environment.

In a study of five disease states and perceived closeness to parents, Thomas and Duszynski (1974) matched 30 male medical students with diagnosed malignancy to a control group and administered a questionnaire concerning family attitudes. The low mean score on the closeness to parents scale among the malignant tumor group indicates a significant ($\underline{p} < .01$) lack of closeness to parents in comparison with the matched control group. Mean scale scores for different types of malignant tumor are given. In all but one type, melanoma, the mean closeness score is below both the mean and median scores for the total population. Thomas and Duszynski indicated that "the marked lack of closeness to parents in the tumor group was a striking and unexpected finding" (p. 265). The researchers conclude that a similar

trend toward lack of closeness to parents in the suicide and mental illness group appears to support the concept that psychological factors play important roles in all three disorders.

## Traditional Female Sex Role

Another characteristic to be considered is adherence to traditional female sex role. Direct research delineating the strength of such adherence among female cancer patients as compared to non-cancer patients is not reported in either medical or psychological literature abstracts. Descriptions of the cancer patient resulting from research are, however, very similar to the traditional female role.

Blumberg et al. (1956) via psychological research having its origin in daily clinical observation of large numbers of cancer patients noted that patients with rapidly progressing disease were polite, apologetic, and painfully acquiescing. This was in sharp contrast to the sometimes bizarre and more expressive personalities of patients who had long remissions and survivals. As a result of this observation, Blumberg et al. chose 15 contrasting cancer patients with respect to disease and activity, survival period, and ease of control with irradiation or chemotherapy. The researchers administered the Minnesota Multiphasic Personality Inventory (MMPI), the Rorschach, the Thematic Apperception Test (TAT), and the Wechsler-Bellevue Intelligence Test to these patients. Results indicated that the

patients having exceptional resistance to growth of malignancy were successful in avoiding or reducing excessive emotional stress in one or more of the following ways: (a) normal outward activity, (b) psychopathic activity, (c) neurotic activity such as conversion hysteria, or (d) psychotic activity. The ability to utilize any of these methods appears to be lacking in the average cancer patient, particularly those with rapid disease growth according to Blumberg et al. The average patient is reported, instead, to be

> ...consistently serious, over-cooperative, over-nice, over-anxious, painfully sensitive, passive, apologetic personalities and, as far as could be ascertained from family, friends and previous records, they had suffered from this pitiful lack of self-expression all their lives (p. 285).

In short, the average cancer patient, as delineated by Blumberg et al., has characteristics synonymous with those of the female who adheres to the traditionally passive, cooperative, sensitive over-nice female role (Dowling, 1981; Scarf, 1980; Symonds, 1976).

Female babies, according to Lewis (1976), show a greater sensitivity to touch, taste, and pain and this persists into adulthood. In addition, Lewis stated that women are trained to devote their lives to others. And finally, Lewis discussed the fact that present-day society scorns

people who are not self-sufficient and independent of others. Women, therefore, learn that they should be ashamed of the qualities which are uniquely their own. One is reminded once more of Lansky's (1982) hypothesis that malignancy may represent that part of oneself which one is unable to accept. Present research is far from supporting Lansky's hypothesis and even further from linking that hypothesis to the innate ambivalence of the female and her role in this society. It is, however, important to note both Lansky's hypothesis and the ambivalence with which a woman in this society learns to view the very role to which she is expected to accede. It is important to note, as well, that these characteristics are analogous with the characteristics which the research (Blumberg et al., 1954) supports as being those of the average cancer patient.

Scarf (1980) suggested that the ways women now lead their lives is "profoundly antibiological" (p. 536). Scarf suggested that women are both innately ready to place an enhanced value on affiliativeness and are taught to do so as well. Dependence on affiliation leaves the women, according to Scarf, at risk due to the statistical evidence that more than one of every three marriages ends in divorce; mobility results in loss of friendships and extended family ties; and women outlive men by approximately seven years. The probability that most women will live a portion of their lives without a strong emotional attachment is very high. According to Scarf, the result of training

women to rely on affiliation coupled with the realities of mobility, divorce, and death result in an overwhelming degree of depression, passivity, and sense of personal helplessness among women. And these characteristics are the characteristics of the average cancer patient, as well, as reported by Blumberg, et al. (1956).

## Personality Characteristics, Life Experience and Type of Malignancy Developed

In addition to supporting a relationship between the development of malignancy and certain life experiences and personality characteristics, research has been conducted which appears to support a relationship between these factors and the type of malignancy developed. Tarlau and Smalheiser (1951) conducted a study of 22 women, 11 of whom had a malignant tumor of the breast and 11 of whom had a malignant tumor of the cervix. Data was collected via a personal interview lasting from one to two hours, administration of the Rorschach, and from the drawing of a human figure. Significant similarities were noted between the groups, as well as significant differences. The mother was perceived by the patient as the dominant parent in 20 of the cases. In both groups the father was either physically absent or was perceived by the patient to be psychologically absent. Both groups had similarly negative attitudes toward sexuality, though the women having breast

tumors were able to make a superficially positive sexual adjustment. These women had no premarital sexual experience, married at a late age, and their marriages were stable. That stability, according to the data, was a result of a lack of demands by their partners. Among the patients having cervical malignancy was a high incidence of premarital relations, a lower age at marriage, and overt marital disturbance. Tarlau and Smalheiser stated that the patients having breast cancer were functioning at a primitive oral level and the patients having cervical cancer appeared to have a genital fixation. They conclude that "these personality patterns are not the result of the disease, but may have some significance in the genesis or localization of the pathologic process" (p. 212).

Bacon et al. (1952) reviewed psychiatric case histories of 40 women with cancer of the breast. The major behavioral characteristics observed were (a) a masochistic character structure; (b) inhibited sexuality; (c) inhibited motherhood; (d) the inability to discharge or deal appropriately with anger, aggressiveness, or hostility, covered over with a facade of pleasantness; (e) unresolved hostile conflict with the mother, handled through denial and unrealistic sacrifice; and (f) delay in securing treatment. Bacon et al. concluded that "...on the basis of our work with these women, we are inclined to believe that there might be a connection between the psyche and cancer" (p.

459). They state that they developed a "feeling" for a malignant history synonymous with the diagnosis of malignancy of the breast and that this history is not post-morbid, but represents a life-long pattern of behavior.

Wheeler and Caldwell (1955) conducted a psychological evaluation of 60 women with 20 having diagnosed breast malignancy, 20 having diagnosed cervical malignancy and 20 having no diagnosed malignancy. Evaluation was made using the Kent E-G-Y Intelligence Scale, the Rorschach, the Draw-a-Person Test, Family Preference Ratings, Directed Interview, and the Rosenzweig Picture Frustration Study. Wheeler and Caldwell compared their results to the Tarlau and Smalheiser (1951) and the Bacon et al. (1952) results. Areas of greatest agreement among the three studies were in perception of childhood environment and sexual attitudes and behavior which were similar among patients with diagnoses which were the same. Wheeler and Caldwell suggested that future studies into the psychological component of malignancy should concentrate on these areas.

Fisher and Cleveland (1956) studied the relationship between the patient's psychological picture of her/his own body and the site of the cancer. One type of body image views the skin as a strong, protective barrier. The opposite type of body image views the skin as permeable and easily penetrated. Fisher and Cleveland developed a "barrier score" on the Rorschach based on these concepts. Blind analyses of the protocols indicated that a determination of

body image allowed accurate prediction of whether the patient had cancer on the interior or exterior surfaces of the body. Fisher and Cleveland concluded, "We find the overall results obtained to be most meaningful if one assumes that an individual's unconscious image of his body is an index to aspects of his personality which can influence the site at which he develops physical symptoms" (p. 309).

A study of the psychological attributes of women who develop breast cancer, conducted by Greer and Morris (1975) supports the presence of a life-time pattern of abnormal release of emotions. A series of 160 patients was studied. After surgery, 69 of these patients were diagnosed as having breast cancer and 91 were diagnosed as having benign breast disease. The latter group comprised the control group. After an individual interview, each patient was administered the Mill Hill Test of Verbal Intelligence, the Eysenck Personality Inventory, and the Caine and Foulds Hostility and Direction of Hostility Questionnaire. The main positive finding of this investigation is a statistically significant association between the diagnosis of breast cancer and abnormal release of emotions. In the majority of cases, the abnormality was in the extreme repression of anger and other emotions, but a higher proportion of breast cancer patients than of the controls showed extreme expression of emotion.

In a follow-up to the Greer-Morris (1975) study, Morris, Greer, Pettingale and Watson supported the findings of the 1975 study. Fifty patients completed a structured interview, the Eysenck Personality Questionnaire, and the Spielberger State-Trait Anxiety Inventory. The 17 patients found after surgery to have breast cancer were found to admit only a small rise in anxiety in a situation where anxiety is the norm. Morris et al. (1981) suggested that further research is necessary to ascertain whether this pattern is a fundamental characteristic of the breast cancer patient of genetic origin or whether it is a learned response to stress.

## Summary

Research in the area of personality characteristics and life experience and type of malignancy developed is primarily limited to cancer of the breast and cervix. Further research in this area involving other types of malignancy appears necessary in order to systematically and thoroughly explore the possible relationship between experience and personality and site and type of malignancy.

The literature previously cited supports the possibility of a relationship between the psyche and physiology in the development of malignancy. The research supports, as well, a relationship between personality characteristics and life experience and the type and site of the neoplasm. Finally, the literature describing the typical female cancer

patient indicated that she is likely to be similar in personality characteristics to the female who adheres strongly to the traditional female sex role. Based upon this review of the related literature, this investigation focused on the characteristics of low ego-strength and helpless/hopelessness; suppression of anger; perception of lack of closeness to parents; and adherence to traditional female role among three groups of female subjects between the ages of 35 and 50. The first of these groups consisted of subjects with a diagnosed malignancy in a female organ, the second group consisted of females with a diagnosed malignancy of another type, and the third group consisted of female subjects with no diagnosed malignancy.

# CHAPTER III

# METHODOLOGY

## Introduction

This chapter consists of a presentation and description of the methods and procedures utilized in this investigation. The selection of subjects for this study is detailed and instruments used are described. The procedure for data collection and analysis is also described.

## Subject Selection

The subjects for this study were 74 women between the ages of 35 and 50. Of the 74 subjects, 35 were between the ages of 35 and 44, and 39 were between the ages of 45 and 50. Thirty-one subjects had a diagnosed malignancy in a female organ, 21 subjects had a diagnosed malignancy in a non-female organ, and 22 subjects had no diagnosed malignancy. The subjects for Groups A and B, those having a diagnosed malignancy, were randomly selected from the files of a cancer unit in a large hospital in a Southwestern city. The subjects for Group C, having no diagnosed malignancy, were selected randomly from the membership roles of two women's organizations in a university

town of approximately 40,000 people in the same state.

It was necessary to have at least 21 subjects in each group in order to meet the requirements for power at the .05 level. In order to insure a final subject count of at least 21 in each group, 42 subjects were randomly selected for each of the three groups. The most recent available data on potential subjects for Groups A and B was for the 1983 year. Though a sufficient number of subjects for random selection was available for group A from this data, it was necessary to drop back to the 1980 data and include all living subjects in the pool of random choice in order to have sufficient numbers to randomly select members for Group B. In order to avoid the potential confounding of findings based on subject's varying reaction to their malignancy based on time frame, the same years of data were used for Groups A and B.

Seventy-two subjects comprised the pool from which the final 42 subjects in Group B were randomly selected via the fishbowl technique. The pool from which the final 42 subjects for Group A were randomly selected via the fishbowl technique consisted of 192 subjects. In the event that a subject declined to participate, became too ill to participate, or died after being selected, another subject was randomly chosen from the remaining subjects in the selection pool. Group C consisted of women who were selected randomly via the fishbowl technique from among those who agreed to participate and who were in the appropriate age range and

had no diagnosed malignancy.

The subjects selected for these groups were initially contacted by phone to describe briefly the procedures and purposes of the study and to explain the materials which were to be mailed for completion. The Cancer Center from which Groups A and B were selected treats both inpatients and outpatients. It offers psychological services to both patients and their families and to staff members. The hospital tends to serve a middle to upper income clientele. Membership in the clubs from which Group C was selected is, likewise, limited primarily to middle to upper-class socio-economic status individuals.

From the total sample of 74 subjects, 67 were married, five were divorced, one was widowed, and one was never married. Two subjects had no children and two subjects had five children. Thirteen subjects had one child, 28 subjects had two children, 20 subjects had three children, and nine subjects had four children. Fifty-eight subjects were living in an intact home at the age of 16, six subjects were living in a single parent home at the age of 16, and 10 subjects were either married or living with other relatives at the age of 16. Six of the subjects did not graduate from high school, 31 had earned a high school diploma, five had received an associate degree, 17 had been granted a bachelor's degree, eight had earned master's degrees, and two had obtained doctor's degrees. Fifty subjects reported having a diagnosed malignancy in their family of origin.

Twenty subjects reported that their mother had had a diagnosed malignancy, 17 subjects reported that their father had had a diagnosed malignancy, seven reported a diagnosed malignancy in a sibling, 26 reported a diagnosed malignancy in a grandparent, and 23 reported a malignancy in another relative in their family of origin. Use of various types of non-medical treatment in response to disease was reported to be extremely limited. Only four subjects reported having used hypnosis to respond to any type of disease, two reported having used biofeedback, nine reported having used muscle relaxation, 15 reported having used meditation, and three reported the use of imagery. Only seven of the subjects reported the use of psychotherapy in response to any illness.

It seems important to note that, in addition to the general support of previous research, certain differences between Group A and Group B in this study which were not measured by the instruments used were, nevertheless, apparent. The first 42 women contacted in Group A agreed to participate in this study. In addition, these subjects expressed curiosity and enthusiasm with regard to the study. Group B was not only more difficult in terms of finding subjects due to patients having moved or having died, but those potential subjects who were contacted expressed little enthusiasm for the study, sometimes refused to participate (four of the first 10 contacted, refused), and, even when they agreed to participate, subjects in Group B would sigh or

express some reluctance. Only 21 of the 42 women who agreed to participate returned completed questionnaires by the cut-off date. In addition, the pattern of return of the questionnaires was different with Group A returning 28 or the 32 questionnaires returned during the first 10 days after mailing, and Group B returning only 10 completed questionnaires during the same time period (see Appendix A).

## Instrumentation

### Sixteen Personality Factor Questionnaire

The Sixteen Personality Factor Questionnaire (16PF) (1976) was designed by Raymond Cattell, Herbert Eber, and Maurice M. Tatsouka to provide information about an individual's standing on 15 self-report personality scales and one general intelligence scale. Personality factors reported on the 16PF include reserved-outgoing, less intelligent-more intelligent, affected by feelings-emotionally stable, humble-assertive, sober-happy-go-lucky, expedient-conscientious, shy-venturesome, tough-minded-tender-minded, trusting-suspicious, practical-imaginative, forth-right-shrewd, placid-apprehensive, conservative-experimenting, group-dependent-self-sufficient, casual-controlled, and relaxed-tense. The 16PF was used in this study to compare covert versus overt expression of hostility/anger and to measure ego-strength/helplessness/hopelessness.

Scale C (ego-strength) was used to measure ego-strength and helplessness/hopelessness. Scale E (dominance) was used to measure overt vs. covert expression of anger/hostility. A low score on factor C is indicative, according to Karson and O'Dell (1976), of ego weakness, emotional instability, and emotional response to frustration. Other factors concomitant with a low score on factor C are a tendency to give up, accident proneness, and physical illness (Krug, 1981). Sherman and Krug (1977), as a result of a review of literature, identified this scale as the highest medical risk profile of the 16PF. Karson and O'Dell (1976) stated that scale C correlates with scales H (shyness), L+ (suspiciousness), O+ (guilt proneness), $Q_3$ (inability to bind anxiety), and $Q_4$+ (free floating anxiety). They compared a low score on scale C with Eysenck's (1970) "general neuroticism".

A low factor E score is, according to Karson and O'Dell (1976), synonymous with an obedient, mild, easily led, docile personality. A person scoring low on factor E is usually conforming, easily upset by authority, submissive and dependent. High scoring individuals, according to Krug (1981), are more self-assertive and aggressive. Karson and O"Dell (1976) indicated that a high score on this scale is related to the individual's ability to externalize hostile feelings. The person who scores low on scale E is more likely to express anger in a passive-aggressive pattern.

The 16PF is designed for persons 16 and older, consists of 187 forced-choice responses, and requires approximately 50 minutes for newspaper-literate adults. Subjects are informed that there are no "right" or "wrong" answers and that they are to give the first answer that comes to mind. Items are statements of opinion or incomplete sentences followed by a choice of three answers. Subjects are encouraged to stay away from the middle, "uncertain" choice as much as possible.

Norms. Normative data was collected on three samples which included 977 female high school students, 1012 female college students, and 1701 female subjects with a mean age of 35 years. Normative data for females in the age 35 group on Form A are reported in Appendix B.

Validity. In developing the 16PF, an attempt was made to provide an instrument validated with respect to the primary personality factors and based on the concepts of general psychology (Cattell, Eber, & Tatsouka, 1970). Additional properties of the 16PF which add validity to the instrument include (a) suppressor action among items to reduce the effect of contaminating factors (Cattell, 1957); (b) known correlations of every item with the pure factors (Cattell, Eber, & Delhees, 1968); and (c) relations established between the questionnaire factors and corresponding factors in the behavior rating "criterion" realm (Schaie, 1962).

The 16PF construction and validation have developed from a series of factor analyses (Cattell et al., 1970). Based on these analyses, a statement of direct validities for each form and each factor has been formulated. (See Appendix C)

Reliability. Test-retest correlations calculated using forms A and B with intervals of two to seven days in two samples range from .45 to .93 (median, .81). Test-retest reliability is the only data which is available on the reliability of this instrument. Since only scales C and E of form A of the 16PF were utilized in this study, it was necessary to establish test-retest reliability for these scales. For this purpose, these scales were administered to a group of females between the ages of 35 and 50 (N=33) and were readministered in 10 days to 2 weeks to the same group. A Pearson r of .87 was formulated for Scale C based on the results of this procedure. A Pearson r of .96 was calculated for scale E.

Parent Behavior Form

The Parent Behavior Form (PBF) (Worrell & Worrell, 1975) was used to assess perception of parenting styles and closeness to parents when the subject was 16 years of age. The respondent was asked to rate each descriptive statement as being like, somewhat like, or not like her perceptual memory of the parent at the time the respondent

was 16 years old. The subject was asked to answer the set of questions separately for mother and father. A separate question and answer sheet for each parent was provided. For each parent, PBF scales, consisting of nine items each, assess Warmth (W), Active Involvement (AI), Equalitarianism (E), Cognitive Independence (CI), Curiosity (CU), Cognitive Competence (CC), Lax Control (LC), Conformity (CO), Achievement (AC), Strict Control (SC), Punitive Control (PC), Hostile Control (HC), Rejection (R), and two scales, Infrequency (IRS) and Social Desirability (SD) designed to determine the extent to which the person is responding attentively, truthfully, and in a biased/unbiased social direction. (see Appendix D for a copy of the PBF)

The order of the scales is determined by the correlation of each scale with the lead scale being Warmth. The scales range on a warmth-rejection dimension. Scales high on the list have a closer correlation with Warmth. Scales lower on the list have a negative relationship with Warmth and scales near the middle have low or variable relationships depending upon the parent being considered.

Each scale consists of nine items of parent behavior. Each item in a scale can receive a score of 1, 2, or 3 indicating Not Like, Somewhat Like, or Like the parent being considered. The range of scores for any one scale extends from a low of 9 to a high of 27. To aid in interpretation, standard scores for females (N=177) are provided. (see Appendix E) For the purposes of this study, only the

Warmth scale was utilized.

Validity. Kelly factor analyzed the data from the Kelly and Worrell (1978) study using a principal components analysis, followed by a varimax rotation. Three factors emerged across sex of respondent and sex of parent. Factor I is a warmth rejection dimension, factor 2 represents parental control, and factor 3 reflects parental cognitive involvement. Together these principle components account for 72.3 to 74.3% of the total variance. The component of Warmth used for this study is not analyzed separately. Validity studies for the Warmth scale used separately are not available.

Reliability. Worrell and Worrell (1975) reported test-retest correlations for all PBF scales (Females=110) have been established for a two-week interval. (see Appendix F) Test-retest reliability for the Warmth scale was formulated by administering this scale to a group of females between the ages of 35 and 50 (N=33) and readministering the scale to the same females after a 10 day to 2 week interval. A Pearson r of .84 for the Mother Warmth scale and a Pearson r of .90 for the Father Warmth scale was calculated.

Kelly and Worrell (1976) reported that in a study by Hasak (1974) subjects (110 females) retested two weeks after initial testing provide both reliable scores for subjects and for perceived father/mother behaviors. Kelly and Worrell (1978) suggested that in view of the information pro-

vided the PBF is a reliable instrument for the assessment of adult perception of parent behavior.

The Attitudes Toward Women Scale

The Attitudes Toward Women Scale (AWS) was designed by Spence and Helmreich (1972) to measure attitudes towards the rights and roles of women in contemporary society. The original instrument consisted of 55 items which from previous research (Spence & Helmreich, 1972) has been found to discriminate among subgroups on item analyses and were not redundant in content. A 15-item instrument was developed based on this instrument for the purpose of ease of administration (Spence, Helmreich, & Stapp, 1973). The 15-item instrument was found to have a correlation of .91 with the 55-item version. The 15-item AWS was utilized in this study. (see Appendix G for a copy)

AWS items consist of declarative statements to which four response alternatives are possible: (a) Agree Strongly, (b) Agree Mildly, (c) Disagree Mildly, and (d) Disagree Strongly. Scoring for this instrument involves assigning a number from zero to three to each item with zero reflecting the most traditional, conservative attitude and three indicating the liberal attitude. A final score is derived from summing the values for the individual items yielding possible scores from 0 to 45.

Norms. Normative data was collected on three samples which included 420 men and 529 women at the University of Texas at Austin in 1971, 293 men and 239 women from the University of Texas in 1972, and, finally, 292 women and 232 men who were parents of college men and women. Spence and Helmreich (1972) reported that the women students tended to score slightly higher (i.e., more liberal) than the men and that the parents tended to score lower (i.e., more traditional) than the students.

Validity. In developing the AWS, an attempt was made to select items which describe roles and patterns of conduct for men and women in major areas. For the purpose of establishing construct validity, some items were taken from the Kirkpatrick Belief-Pattern Scale for measuring attitudes toward feminism (Kirkpatrick, 1926) while other items were designed by the researchers. The Kirkpatrick Scale was used only as a starting point for developing items related to roles and patterns of conduct among men and women. After the test was administered to 1,000 college psychology students, factor analyses and item analyses resulted in the dropping of 23 items which did not appear to measure the attitudes under consideration. The final test included only those items which were found to measure the desired attitudes based upon statistical analyses.

Reliability. Spence and Helmreich (1972) utilized more than a thousand subjects in two successive administrations of the AWS. They stated that because of the similarity in the distributions for the two test administrations "that a reliable phenomenon is being tapped" (p. 6). No other data is available on the reliability of this instrument.

The test-retest reliability of this instrument was formulated via the study used to establish test-retest reliability with the other instruments used in this study. Subjects of this study included 33 females between the ages of 35 and 50. A Pearson r of .98 was calculated on the basis of the data collected from this study.

## Research Design

The design utilized in this study was the causal comparative design. Subjects were selected from three groups. Group A included subjects between the ages of 35 and 50 who had a diagnosed malignancy in a female organ. Group B included female subjects between the ages of 35 and 50 who had a diagnosed malignancy in a non-female organ. Group C included female subjects between the ages of 35 and 50 who had no diagnosed malignancy.

## Procedure

Subjects in Groups A and B were chosen from patient files in the cancer unit of a large hospital in a metropoli-

tan city in the Southwest. Files of females in the appropriate age bracket were separated according to whether the diagnosed malignancy was in a female organ or whether another type or site of malignancy had been diagnosed. A list of names from each group was made and each name was numbered consecutively. Numbers and corresponding names of subjects were chosen by the fishbowl method. The same selection process was used to select subjects for Group C. Females in the appropriate age bracket who had no diagnosed malignancy were listed, their names numbered consecutively, and numbers were then selected by using the fishbowl method. A total of 42 subjects was chosen for each group.

After subjects were selected, they were contacted by phone and apprised of the purpose and procedure of the study. Instruments were then mailed to each subject who agreed to participate. Instruments were ordered randomly to prevent a confounding of results due to a mind set potentially established by a particular order of instrumentation. A brief demographic data sheet and a cover letter were included. (see Appendices H and I)

Subjects who did not respond within two weeks were contacted by letter. (see Appendix J) Non-respondents two weeks after the letters were mailed were recontacted by postcard which apprised subjects of the last date by which instruments could be returned in order to be included in the final report. (see Appendix K) A minimum of 21 sub jects in each group was necessary to meet the power require-

ment of a .05 alpha level.

## Analysis of Data

A one-way multivariate analysis of variance (MANOVA) was the originally proposed analysis. However, examination of the error correlation matrix indicated univariate analyses would be more appropriate. The univariate analyses were followed by post-hoc contrasts which included Scheffe's test of comparisons and Helmert Contrasts to compare the cancer groups with each other and the cancer groups with the non-cancer group on the variable which was found to show a significant difference.

The dependent variables were adherence to traditional female role, perception of helplessness/hopelessness and low ego strength, suppression of anger/hostility, perception of mother warmth, and perception of father warmth in family of origin parenting styles. The fixed, categorical independent variable was disease. For the purposes of this study, disease was divided into three levels with level 1 representing malignancy in a female organ, level 2 representing malignancy in a non-female organ, and level 3 representing no diagnosed malignancy. Demographic variables controlled for were age, gender, and socioeconomic level.

## Assumptions

Use of MANOVA for this study was predicated on the

assumptions that multivariate normal distribution and homogeneity of variance/co-variance matrix were characteristics of the intact groups from which subjects were selected. Independence of groups in terms of female organ malignancy, some other type of malignancy in a primary diseased organ, or no diagnosed malignancy was a third assumption which was satisfied in order to appropriately use MANOVA. Though intact groups were used, an attempt to abide by the assumption of random sampling via random selection from intact groups provided a means of making the results more valid.

# CHAPTER IV

# ANALYSIS OF THE DATA

## Introduction

The results of the present investigation are presented in this chapter. This study was designed to delineate and explore the interrelationship between personality characteristics, life experience, adherence to traditional female sex role and the inception and development of neoplasm. Univariate analysis of variance (ANOVA) was used to determine the relationship between the dependent variables of perception of helplessness/hopelessness and low ego strength, suppression of anger/hostility, perceived warmth in mother parenting style in family of origin, perceived warmth in father parenting style in family of origin, and adherence to traditional female role with the fixed, categorical independent variable of malignancy. For the purposes of this study, the variable of disease was divided into three groups with Group A representing malignancy in a female organ, Group B representing malignancy in a non-female organ, and Group C representing no diagnosed malignancy.

An examination of the error correlation matrix indicated that no values above .3 were present and, therefore,

a minimum of 10 percent of the variance was not accounted for using multivariate analysis of variance (MANOVA) (see Table 1). It was concluded that the dependent variables under consideration did not appear to form a construct, and univariate analysis was pursued.

Table 1

Error Correlation Matrix[a] of Dependent Variables

| | PFEGO[b] | PFANGER[c] | WMOTHER[d] | WFATHER[e] | ATTWOMEN[f] |
|---|---|---|---|---|---|
| PFSUBC | 4.20 | | | | |
| PFSUBE | .10 | 4.02 | | | |
| WMOTHER | .11 | -.06 | 2.64 | | |
| WFATHER | .18 | .02 | .49 | 2.68 | |
| ATTWOMEN | -.04 | .14 | .03 | .03 | 0.03 |

[a]Standard deviations of the responses to the scales are reported on the diagonal. [b]Sixteen Personality Factor Questionnaire, Scale C - Ego Strength. [c]Sixteen Personality Factor Questionnaire, Scale E - Overt/Covert expression of anger. [d]Parent Behavior Form - Warmth of mother's parenting style as perceived and remembered at age 16. [e]Parent Behavior Form - Warmth of father's parenting style as perceived and remembered at age 16. [f]Attitudes Towards Women Scale - Adherence to traditional role

Reported in Table 2 are the means and standard deviations for each of the five dependent variables. Findings related to each of the five variables and the concomitant hypotheses which were investigated will follow. An alpha level of .05 was used to evaluate the relevant F ratios.

Table 2

Means and Standard Deviations of Responses

| | | PFSUBC[a] | PFSUBE[b] | WMOTHER[c] | WFATHER[d] | ATTWOMEN[e] |
|---|---|---|---|---|---|---|
| GROUP A | $\bar{X}$ | 27.6 | 18.3 | 21.1 | 20.6 | 41.6 |
| N=31 | S | 4.46 | 3.86 | 2.82 | 2.89 | 9.61 |
| GROUP B | $\bar{X}$ | 26.9 | 19.1 | 21.1 | 20.2 | 43.1 |
| N=21 | S | 4.24 | 4.07 | 2.17 | 2.48 | 10.26 |
| GROUP C | $\bar{X}$ | 28.0 | 19.9 | 21.4 | 20.9 | 49.54 |
| N=22 | S | 3.77 | 4.20 | 2.77 | 2.54 | 6.61 |

[a]Sixteen Personality Factor Questionaire, Scale C - Ego Strength. [b]Sixteen Personality Factor Questionnaire, Scale E - Overt/Covert expression of anger. [c]Parent Behavior Form Warmth of mother's parenting style as perceived and remembere at age 16. [d]Parent Behavior Form - Warmth in father's parenting style as perceived and remembered at age 16. [e]Attitudes Toward Women Scale - Adherence to traditional role.

Hypothesis 1: Low ego-strength and perception of helplessness/hopelessness is evident to a greater degree in the group of cancer patients with malignancy in a female organ and is evident to a greater degree in both cancer groups than in the group of women not diagnosed as having cancer.

To investigate this hypothesis, a one factor fixed effects univariate analysis of variance (ANOVA) was performed to compare the three groups of the independent variable (Group A - female organ malignancy; Group B - non-female organ malignancy; and Group C - no diagnosed malignancy) in terms of ego strength. No significant ($p > .05$) differences were found among the means (see Table 3).

Table 3

ANOVA Summary Table of Responses on PFEGO[a]

| Source | df | SS | MS | F |
|---|---|---|---|---|
| Between | 2 | 12.23 | 6.11 | .3634 |
| Within | 71 | 1254.05 | 17.66 | |
| Total | 73 | 1266.28 | | |

[a]Sixteen Personality Factor Questionnaire - Scale C - Ego Strength.

The results from the statistical analysis did not support the research hypothesis that ego strength is significantly lower in females with female organ malignancy than in females with a non-female organ malignancy nor did these results support the hypothesis that both cancer groups evidence significantly lower ego strength than the non-cancer group.

Hypothesis 2: Suppression of expression of anger/hostility is stronger in the group of females having a female organ malignancy than in either of the other two groups, and females with non-female organ malignancy have a higher suppression of anger/hostility than the females having no diagnosed malignancy.

A one factor fixed effects univariate analysis of variance (ANOVA) was used to analyze the hypothesized relationship between suppression of anger/hostility as measured by the Sixteen Personality Factor Questionnaire, Scale E and the three groups of the independent variable of disease (Group A - female organ malignancy; Group B - non-female organ malignancy; and Group C - no diagnosed malignancy). No significant ($p > .05$) differences were found among the means of the three groups examined (see Table 4). The statistical analysis did not support the hypothesis that suppression of anger/hostility would be most evident in Group A and would be more evident in both Groups A and B than in Group C.

Table 4

ANOVA Summary Table of PFANGER[a]

| Source | df | SS | MS | F |
|---|---|---|---|---|
| Between | 2 | 35.42 | 17.71 | 1.09 |
| Within | 71 | 1147.56 | 16.16 | |
| Total | 73 | 1182.99 | | |

[a]Sixteen Personality Factor Questionnaire, Scale E - Overt/Covert Expression of Anger.

Hypothesis 3: Perception of warmth in the mother's parenting style in the family of origin when the subject was age 16 is lowest in the group consisting of females with a female organ malignancy. Perception of warmth in mother's parenting style among the subjects with non-female organ malignancy is lower than among subjects with no diagnosed malignancy but higher than that of subjects with female organ malignancy. Subjects with no diagnosed malignancy have the highest perception of warmth in mother's parenting style among the three groups.

To investigate Hypothesis 3, a one factor fixed effects univariate analysis of variance (ANOVA) was per-

formed to compare the responses of the three groups (Group A - female organ malignancy; Group B - non-female organ malignancy; and Group C - no diagnosed malignancy) in terms of retrospective perception of warmth in mother's parenting style when the subject was 16. No significant ($p > .05$) differences were found among the means (see Table 5).

Table 5

ANOVA Summary Table of WMOTHER[a]

| Source | df | SS | MS | F |
|---|---|---|---|---|
| Between | 2 | 1.17 | .58 | .09 |
| Within | 71 | 495.37 | 6.98 | |
| Total | 73 | 496.54 | | |

[a]Parent Behavior Form - Warmth of mother's parenting style as perceived when the subject was 16 years of age.

The statistical analysis did not support the hypothesis that perception of warmth in the mother's parenting style when the subject was 16 is lower among women with female organ malignancy than among women in either of the other groups. Furthermore, the statistical analysis did not

support the hypothesis that perception of warmth in mother's parenting style when the subject was 16 is significantly lower among women in both cancer groups than among women having no diagnosed malignancy.

Hypothesis 4: Perception of warmth in the father's parenting style in the family of origin when the subject was age 16 is lowest in the group of subjects with female organ malignancy. Perception of warmth in father's parenting style among the subjects with non-female organ malignancy will be lower than among subjects with no diagnosed malignancy but will be higher than that of subjects with female organ malignancy. Subjects with no diagnosed malignancy have the highest perception of warmth in father's parenting style among the three groups. Both Group A and Group B perceive less warmth in parenting style of the father when the subject was 16 than Group C perceives in their fathers when they were 16 years of age.

A one factor fixed effects univariate analysis of variance (ANOVA) was used to analyze the hypothesized relationship between perception of warmth in father's parenting style when the subject was 16 as measured by the Parent Behavior Form Warmth Scale and the three groups of the independent variable of disease (Group A - female organ malignancy; Group B - non-female organ malignancy; and Group C - no diagnosed malignancy). No significant ($p > .05$) differences were found among the means of the three groups examined (see Table 6). Consequently, the

statistical analysis did not support the hypothesis that there is a significant relationship between perception of father warmth when the subject was 16 and the three groups of the independent variable.

Table 6

ANOVA Summary Table of WFATHER[a]

| Source | df | SS | MS | F |
|---|---|---|---|---|
| Between | 2 | 5.68 | 2.84 | .39 |
| Within | 71 | 510.15 | 7.18 | |
| Total | 73 | 515.84 | | |

[a]Parent Behavior Form - Warmth of father's parenting style as perceived by the subject at age 16.

Hypothesis 5: There is a stronger adherence to traditional female sex role among the subjects diagnosed as having a female organ malignancy than in either of the other groups and strong adherence to traditional female sex role is greater in both of the cancer groups than in women not diagnosed as having cancer.

A one factor fixed effects univariate analysis of

variance (ANOVA) was used to analyze the hypothesized relationship between adherence to traditional female sex role and the three groups of the independent variable (Group A - female organ malignancy; Group B - non-female organ malignancy; and Group C - no diagnosed malignancy). Significant ($p < .01$) differences were found among the means (see Table 7). Post hoc contrasts using the Helmert Contrasts test indicated that the differences were between Group A and Group C and between a combination of Groups A and B and Group C (see Table 8).

Table 7

ANOVA Summary Table of AWS[a]

| Source | df | SS | MS | F |
|---|---|---|---|---|
| Between | 2 | 859.02 | 429.51 | 5.26* |
| Within | 71 | 5794.62 | 81.61 | |
| Total | 73 | 6653.63 | | |

[a]Attitudes Toward Women Scale - Adherence to traditional female sex role.

*$p < .01$

Table 8

Helmert Contrasts for Responses to AWS[a]

| | Coeff. | Std. Err. | T-Value | Sig. of T |
|---|---|---|---|---|
| Group A x Group C | 7.93 | 2.52 | 3.15 | .002* |
| Groups A & B x Group C | 7.19 | 2.31 | 3.11 | .003* |

[a]Attitudes Toward Women Scale

*$p < .01$

The eta squared ($\eta^2$) formula was applied to determine the strength-of-association for the significant $F$ ratio calculated. This analysis indicated that the relationship between adherence to traditional female sex role as measured by the Attitudes Toward Women Scale and the three groups of the independent variable of disease is .13. Results from the statistical analysis supported the relationship delineated between strict adherence to traditional female sex role and female organ malignancy in Hypothesis 5. The Helmert Contrasts test indicated that there is a relationship

between the cancer groups combined in terms of strict adherence to traditional female sex role, as well. The Helmert Contrasts test, therefore, supports the hypothesis that female cancer patients as a group are significantly different from females with no diagnosed malignancy in strong adherence to traditional female sex role.

## Summary

This chapter includes statements of the research hypotheses investigated in this study. The statistical analyses did not provide support for significant relationships between low ego strength and perception of helplessness/hopelessness and the three groups of the independent variable (Group A - female organ malignancy; Group B - non-female organ malignancy; and Group C - no diagnosed malignancy). Furthermore, the statistical analysis did not provide support for a significant relationship between suppression of expression of anger/hostility and the three groups of the independent variable of disease. No statistically significant differences were found among the perceptions of warmth in either retrospective perceptions of mother or father parenting styles in the three groups representing the three categories of the independent variable. A statistically significant difference in stronger adherence to traditional female sex role among subjects with female organ malignancy than in subjects with no diagnosed malignancy was found. A post hoc Helmert Contrasts test in-

dicated that the difference occurred between females with a female organ malignancy and females with no diagnosed malignancy. A second Helmert Contrasts test indicated that a difference between a combination of the two cancer groups and the non-cancer group was significant as well. Eta squared ($\eta^2$) was calculated using the sums of squares on the Attitude Toward Women Scale for Groups A and C and the strength of association between the responses to the AWS and group membership was found to be .13.

# CHAPTER V

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## Summary

This study was designed to examine the relationship between individual characteristics, life experiences and cultural sex roles and inception and location of neoplasm in women. Individual characteristics which were examined included ego strength and concomitant perception of helplessness/hopelessness as measured by Subscale C of the Sixteen Personality Factor Questionnaire and overt versus covert expression of anger/hostility as measured by Subscale E of the Sixteen Personality Factor Questionnaire. Life experience examined in this study was retrospective perception of mother's parenting style when the subject was 16 years of age, measured by the Warmth Subscale of the Parent Behavior Form and retrospective perception of the father's parenting style when the subject was 16 years of age as measured by the Warmth Subscale of the Parent Behavior Form. Adherence to traditional female sex role was measured by the Attitudes Toward Women Scale.

The subjects in this study were 74 women between the ages of 35 and 50. Subjects were divided on the basis of

independent variable of disease with Group A consisting of 31 women with a diagnosed malignancy in a female organ, Group B consisting of 21 women with a non-female organ diagnosed malignancy, and Group C consisting of 22 women with no diagnosed malignancy.

The hypotheses for this study stated that there would be a significantly higher manifestation, as measured by the instruments utilized, of low ego strength, covert expression of anger/hostility, lack of perception of warmth in mother's and father's parenting styles, and strong adherence to traditional female sex role among the subjects in Group A than among subjects in either Group B or Group C. It was further hypothesized that these same characteristics would be present to a more significant extent in subjects in Group B than among subjects in Group C. Univariate analysis of variance (ANOVA) was used to determine whether these significant differences were present among the subjects while controlling for age, sex, and socioeconomic level. No significant differences were found among the groups in measured ego strength, covert expression of anger/hostility or in retrospective perception of mother or father warmth in parenting styles when the subject was 16 years of age. A significant difference was found between Group A and Group C on adherence to traditional female sex role with Group A evidencing a stronger adherence than Group C. In addition, a Helmert Contrasts analysis indicated that the subjects having a diagnosed mal-

ignancy were, as one group, significantly different than the subjects having no diagnosed malignancy in terms of strict adherence to traditional female sex role.

No significant difference between Groups A and B was found in terms of any of the five dependent variables. Failure to support a significant difference between these two disease groups is antithetical to previous research (Bacon et al., 1952; Fisher & Cleveland, 1956; Greer & Morris, 1975; Morris et al., 1981; Tarlau & Smalheiser, 1951; Wheeler, Caldwell & McDonald, 1955) which has supported a difference on the variables of life experience and personality characteristics between females with differing disease sites.

## Conclusions

The four hypotheses in this study which are strongly supported by previous research were not supported in this study. One possible explanation for this difference is that the instruments used in this study differed from those used in much of the previous research. Instruments such as the Minnesota Multiphasic Personality Instrument, which is normed on an inpatient population, and the Rorschach, which is designed to measure pathology, have frequently been used in previous research (Bahnson & Bahnson, 1964a, 1964b; Beck, 1975; Blumberg et al., 1956; McCoy, 1976; Schmale & Iker, 1971). In addition, the Rorschach and Thematic Apperception Test, used frequently in previous research as well, are pro-

jective instruments which are administered in a one on one srtuation and may well provide a different kind of information than the Sixteen Personality Factor Questionnaire and the Parent Behavior Form which are normed on a healthy population and which were mailed to the subjects in this study.

In addition to the types of instruments used in this study as opposed to the type of instruments used in previous research in this area and the method of collecting information via mail rather than via a one-on-one contact, the limited size of the sample in this study and the area of the country may have influenced the results in some significant way which is not readily apparent based on the collected data. An expansion of this study in terms of sample size and/or geographical area might lend additional credence to previous research or might indicate a need for research into cultural mores of a region and the relationship of these mores to physiological well-being.

Previous research regarding differences in terms of the dependent variables under consideration in relation to site of disease has involved subjects with differing types of female organ malignancy (Bacon et al., 1952; Beck, 1975; Brainsky, et al., 1977). The comparison of subjects with female and non-female organ malignancy in this study resulted in a recognition of obvious, yet unsubstantiated differences between Group A and Group B. In terms of possible future research questions, this dif-

ference may be the most unexpected and important conclusion of this study. Group A responded to the request to participate in a research study as if it represented an opportunity to increase the understanding and the quality of life. Group B responded to the same request as if it were an imposition in an already over-burdened and rather unhappy existence. Group A consisted of women anxious to interact. Several of these women, in fact, suggested that the results of the research study might be discussed over lunch. The women in Group B were, conversely, less open. And though there were exceptions in Group B, the women in Group A were without exception open and welcoming to the experience of participation as well as to the increased knowledge concomitant with receiving the results of the research. The question that pervades in addition to the question of the differences is the question of the commonality of both groups--the development of neoplasm. If the relationship between malignancy and psychology continues to be supported by the research, an underlying similarity between these two groups of women, seemingly so different, will be the ultimate object of research and intervention.

The hypothesis which was supported by this research has not been the subject of previous research into incidence and development of neoplasm. The results of this study indicate that there is a significant difference between subjects with a female organ malignancy and subjects with no diagnosed malignancy in terms of strict adherence

to traditional female sex role. A significant difference was not delineated between females with a female organ malignancy and females with another type of malignancy on this variable of interest. No significant difference on this variable was supported between females with a non-female organ malignancy and females with no diagnosed malignancy. However, when the two cancer groups were combined, a significant difference was evident between this combined group and the group of subjects with no diagnosed malignancy. The difference delineated by the statistical analysis supports the direction of the hypothesis which suggested that the subjects in Group A or in a combination of subjects in Group A and Group B would more strongly adhere to traditional female sex role than would subjects having no diagnosed malignancy. These results support the possibility that the similarity between the average cancer patient as reported by Blumberg et al. (1956) and the traditional female (Dowling, 1981) may be more than a chance similarity.

Conclusions based on the support of this hypothesis by this research must, obviously, be limited. Certainly, it is not too much to suggest that further research is in order to delineate further the relationship between adherence to traditional female sex role and the inception and development of neoplasm. If that relationship is further supported, research will then be necessary to examine whether it is the role itself which is antithetical to physiological health or

whether it may, instead, be the double standard which this culture imposes on women, a standard of compliance to the female role and an acceptance of that role as inferior to the role of the healthy adult which is synonymous with the cultural expectation of the healthy male (Lerner & Spanier, 1980; Scarf, 1980). If further research indicates that the relationship between malignancy and strong adherence to traditional female sex role is a result of the double bind of the role rather than innate to the role itself, further examination of Lansky's (1982) theory may be in order. Lansky's theory that malignancy may represent that part of oneself which one is unable to accept may offer an explanation of the relationship between adherence to traditional female sex role and the development of malignancy. Either a support of the relationship between malignancy and strong adherence to traditional female sex role as being affiliated with passivity and helplessness of the role itself or a support of that relationship as being associated with the double bind of the role has serious implications for the practicing therapist. These implications support the necessity of the therapist functioning as activist in terms of fostering power rather than helplessness in the client which will allow her to make essential changes not only in her response to her environment, but to actively pursue means of changing that environment as well.

## Recommendations for Further Research

1. Additional research is needed to determine further the relationship between adherence to traditional female sex role and the incidence and development of neoplasm. A replication of this study with a larger sample and with the inclusion of subjects from other areas of the country would increase both the generalizability and the viability of the findings in the present study.

2. Research which compares the findings from the same subjects based on objective and projective instruments as well as instruments normed on pathological and normal populations would furnish information which would be helpful in providing an explanation for the failure of this study to support previous research which provides evidence for a relationship between low ego strength, covert expression of hostility/anger and lack of retrospective perceived warmth in mother's and father's parenting styles and the development of malignancy.

3. Subjects in this study were diagnosed as having a malignancy from 1 - 5 years prior to their completing the questionnaires for this research. It is suggested that a study comparing response to the dependent variables in this study at various intervals after diagnosis might indicate how reliable are postmorbid measures regarding these characteristics.

4. As a result of the information collected during

the course of this study which was synonymous with the data gathering rather than with the standardized instruments utilized, it is suggested that the area of psychology and cancer research would be expanded with the use of ethnographic research. Ethnographic research would be a viable means of answering some questions which causal-comparative research does not answer and, concomitantly, would pose new questions which might be well served through more traditional causal-comparative research.

5. This study often involved an understanding of medical data which is not included in the training of a psychologist. Conversely, it appears probable that studies involving cancer patients which are conducted by medical practitioners would be limited in terms of psychological information which might not be recognized or appropriately interpreted. The development of multi-disciplinary research teams for psychological/physiological research would provide both the expertise to pursue questions which no one practitioner has the skill to pursue and would expedite the development of knowledge in the ares of psychogenics.

## Implications for the Practitioner

1. Of the 74 subjects polled, only seven had ever received psychotherapy in conjunction with the treatment of an illness. The research supporting a relationship between physiological and psychological health indicates a

need for psychological intervention in the treatment of disease. Furthermore, psychology is, at present, primarily palliative even in the few cases where it is used. If further research continues to support the existence of a relationship between psychological and physiological health, the conceptualization and application of psychological methodology in the treatment and prevention of physical disease will be a logical and necessary development.

2. Maracek (1975) suggests that the psychological disorders which women are most likely to experience exacerbate powerlessness. If one accepts this suggestion as probable and considers the possibilities to increase the powerlessness when the therapist in a therapeutic relationship interacts with the client in a way which reflects the double bind of the traditional female sex role, it becomes obvious that it is imperative that the therapist be made aware of his/her conceptualization and personal implementation of cultural sex role.

3. Psychological pathology which appears to be related to culturally defined and supported female sex role is well supported in the literature (Chesler, 1972; Symonds, 1978). This study supports the possibility of a relationship between culturally defined and supported female sex role and physiological pathology as well. It is suggested that this additional evidence of pathology which is related to cultural sex role should serve as impetus for training programs in psychology to address the issue of and

educate in the methodology of psychotherapy for women. Kenworthy, Koufacos, and Sherman (1976) report that 299 internship programs and selected psychology graduate schools were surveyed by mail regarding their opinions and practices relevant to training in psychotherapy for women. The 94 usable returns included 55 percent of all APA approved programs. Only a minority of training facilities indicated that they deal in a systematic way with issues of sex bias and sex-role stereotyping in psychological practice. Kenworthy et al. (1976) suggest that egalitarian group supervisory meetings afford more opportunity than individual supervisory sessions to deal effectively with issues of sex bias and stereotyping. Holroyd (1976) suggests other issues which need to be addressed in training centers for psychologists. These include the following:

(a) There is an abundance of conflicting information about women. Psychologically and biologically there is no "typical" woman and often not even a "type" of response pattern. The client's self report should be respected.

(b) It is imperative that the therapist relate to the client as a person valued in her own right, rather than focusing on her role as a mother, a wife, a feminist, etc.

(c) It is important to share with the client the therapist's attitudes about women's roles so

that relative positions are not covert.

(d) Society's ambivalence about women's roles may cause a client pain. It is important for the therapist to discourage her from taking responsibility which is not her own, but to actively encourage her to accept responsibility for seeking solutions and for changing the system which constrains her.

(e) It is often necessary for the therapist to supplement therapy with specific training to counteract deficiencies in socialization skills due to sex role stereotyping during the development period such as assertion training, desensitization of achievement fears, vocational guidance, etc.

Optimally, it is hoped that this study, by examining the relationship between adherence to traditional female sex role and the inception and development of neoplasm, may have contributed to the impetus to explore the efficacy of psychological intervention in physiological disease. At a minimum, it may serve as an impetus to re-examine cultural messages regarding female sex role in terms of physiological, as well as psychological, well-being.

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# APPENDICES

# APPENDIX A

## QUESTIONNAIRE RETURN RATE

QUESTIONNAIRE RETURN RATE--POST

MARK DATE ON RETURN ENVELOPE

(GROUPS A AND B)

| | Group A | Group B |
|---|---|---|
| 5/29 - Mailing of questionnaires | | |
| 5/31 | 5 | 2 |
| 6/1 | 3 | 2 |
| 6/2 | 1 | |
| 6/3 | | 1 |
| 6/4 | 7 | 1 |
| 6/6 | 2 | 2 |
| 6/7 | 3 | |
| 6/8 | 2 | 1 |
| 6/9 | | 1 |
| 6/10 | | 1 |
| 6/11 | 1 | |
| 6/12 | 1 | |
| 6/13 - Follow-up letter mailed | | |
| 6/14 | | 1 |
| 6/15 | | 1 |
| 6/16 | | 3 |
| 6/17 | 1 | |
| 6/18 | | 3 |
| 6/19 | | |
| 6/20 - Final post-cards mailed | | |
| 6/21 | | 1 |
| 6/22 | | 1 |
| 6/23 | | |
| 6/24 | | |
| 6/25 | 1 | |
| 6/26 | | 1 |
| 6/27* | | |

*6/27 was the final date on which completed questionnaires would be used in the data analysis as explained in the final postcard mailed 6/20. Three Group A questionnaires and one incomplete Group B questionnaire were received after that date.

# APPENDIX B

## NORMATIVE DATA SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE (16PF)

## GENERAL POPULATION

*FEMALE: FORM A*

(Based on age 35 years; N = 1701)

| Factor | Sten Score 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Factor | Mean | Stan. Dev. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw Score | | | | | | | | | | | | |
| A | 0- 4 | 5- 6 | 7- 8 | 9-10 | 11 | 12-13 | 14-15 | 16 | 17-18 | 19-20 | A | 11.88 | 3.27 |
| B | 0- 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8- 9 | 10 | 11-13 | B | 5.92 | 2.06 |
| C | 0- 7 | 8- 9 | 10-11 | 12-13 | 14-15 | 16-17 | 18-20 | 21-22 | 23-24 | 25-26 | C | 16.03 | 4.17 |
| E | 0- 2 | 3 | 4- 5 | 6- 7 | 8- 9 | 10-11 | 12-14 | 15-16 | 17-18 | 19-26 | E | 9.90 | 4.13 |
| F | 0- 4 | 5- 6 | 7- 8 | 9-10 | 11-13 | 14-15 | 16-17 | 18-19 | 20-21 | 22-26 | F | 13.35 | 4.33 |
| G | 0- 6 | 7 | 8- 9 | 10-11 | 12-13 | 14-15 | 16 | 17 | 18-19 | 20 | G | 13.64 | 3.27 |
| H | 0- 2 | 3- 4 | 5- 7 | 8- 9 | 10-12 | 13-14 | 15-17 | 18-20 | 21-22 | 23-26 | H | 12.31 | 5.03 |
| I | 0- 5 | 6- 7 | 8 | 9-10 | 11 | 12-13 | 14 | 15-16 | 17 | 18-20 | I | 11.84 | 2.89 |
| L | 0- 1 | 2 | 3- 4 | 5 | 6- 7 | 8 | 9-10 | 11 | 12-13 | 14-20 | L | 7.41 | 3.07 |
| M | 0- 6 | 7 | 8- 9 | 10-11 | 12 | 13-14 | 15-16 | 17 | 18-19 | 20-26 | M | 12.74 | 3.29 |
| N | 0- 5 | 6 | 7 | 8- 9 | 10 | 11 | 12-13 | 14 | 15 | 16-20 | N | 10.64 | 2.55 |
| O | 0- 3 | 4 | 5- 6 | 7- 8 | 9-10 | 11-12 | 13-14 | 15-16 | 17-18 | 19-26 | O | 10.70 | 3.84 |
| $Q_1$ | 0- 3 | 4 | 5 | 6- 7 | 8 | 9 | 10-11 | 12-13 | 14 | 15-20 | $Q_1$ | 8.77 | 2.76 |
| $Q_2$ | 0- 3 | 4 | 5- 6 | 7- 8 | 9 | 10-11 | 12-13 | 14-15 | 16-17 | 18-20 | $Q_2$ | 10.02 | 3.42 |
| $Q_3$ | 0- 5 | 6- 7 | 8 | 9-10 | 11 | 12-13 | 14 | 15-16 | 17 | 18-20 | $Q_3$ | 11.52 | 2.95 |
| $Q_4$ | 0- 2 | 3- 4 | 5- 7 | 8-10 | 11-12 | 13-15 | 16-17 | 18-20 | 21-22 | 23-26 | $Q_4$ | 12.92 | 4.96 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | |
| | Sten Score | | | | | | | | | | | | |

# APPENDIX C

# DIRECT VALIDITY SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE (16PF)

ANALYTIC STATEMENT OF DIRECT VALIDITIES FOR EACH OF THE SINGLE FORMS FOR EACH FACTOR SCALE

| Form | Source Trait | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | E | F | G | H | I | L | M | N | O | $Q_1$ | $Q_2$ | $Q_3$ | $Q_4$ |
| A | 79 | 35 | 70 | 63 | 83 | 67 | 92 | 70 | 49 | 44 | 41 | 71 | 62 | 70 | 68 | 57 |

# APPENDIX D

# PARENT BEHAVIOR FORM (PBF)

PBF - MOTHER

Nine statements follow which might be used to describe one's mother. Please respond to these statements according to the perception which you carry regarding their applicability to your mother when you were 16 years of age. The answer boxes at the bottom of the page are numbered the same as the statements. Answer each statement by placing an X in the (L) box if the statement is like your remembered perception of your mother. Place an X in the (SL) box if the statement is somewhat like your remembered perception of your father. Place an X in the (NL) box if the statement **is not** like your remembered perception of your mother when you were 16.

1. Makes me feel better after talking over my worries with her.

2. Tells me neither of us has a brain.

3. Says I'm a big problem.

4. Doesn't let me go places because something might happen to me.

5. Wants me to have the same religious beliefs as she does.

6. Plays classical music when I am home.

7. Likes when I ask questions about all kinds of things.

8. Becomes very involved in my life.

9. Is honest in dealing with others.

| | L | SL | NL |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |

PBF - FATHER

Nine statements follow which might be used to describe one's father. Please respond to these statements according to the perception which you carry regarding their applicability to your father when you were 16 years of age. The answer boxes at the bottom of the page are numbered the same as the statements. Answer each statement by placing an X in the (L) box if the statement is like your remembered perception of your father. Place an X in the (SL) box if the statement is somewhat like your remembered perception of your father. Place an X in the (NL) box if the statement is not like your remembered perception of your father when you were 16.

1. Makes me feel better after talking over my worries with him.

2. Tells me neither of us has a brain.

3. Says I'm a big problem.

4. Doesn't let me go places because something might happen to me.

5. Wants me to have the same religious beliefs as he does.

6. Plays classical music when I am home.

7. Likes when I ask questions about all kinds of things.

8. Becomes very involved in my life.

9. Is honest in dealing with others.

| | L | SL | NL |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |

# APPENDIX E

## FEMALE STANDARD SCORES PARENT BEHAVIOR FORM (PBF)

RAW SCORE--STANDARD SCORE

FEMALES--FATHERS (N=177)

| | |
|---|---|
| 9 | 26 |
| 10 | 28 |
| 11 | 30 |
| 12 | 32 |
| 13 | 34 |
| 14 | 36 |
| 15 | 38 |
| 16 | 40 |
| 17 | 42 |
| 18 | 44 |
| 19 | 46 |
| 20 | 48 |
| 21 | 50 |
| 22 | 52 |
| 23 | 54 |
| 24 | 56 |
| 25 | 58 |
| 26 | 59 |
| 27 | 61 |

FEMALES--MOTHERS (N=177)

| | |
|---|---|
| 9 | 19 |
| 10 | |
| 11 | 24 |
| 12 | 26 |
| 13 | 28 |
| 14 | 30 |
| 15 | |
| 16 | 35 |
| 17 | 37 |
| 18 | 39 |
| 19 | 41 |
| 20 | 43 |
| 21 | 45 |
| 22 | 48 |
| 23 | 50 |
| 24 | 52 |
| 25 | 54 |
| 26 | 56 |
| 27 | 58 |

# APPENDIX F

# TEST-RETEST CORRELATIONS PARENT BEHAVIOR FORM PBF

PARENT BEHAVIOR FORM:

TEST-RETEST CORRELATIONS

| PBF Scales | Father Females | Mother Females |
|---|---|---|
| Warmth | .90 | .82 |
| | .92 | .87 |
| | .89 | .77 |
| | .85 | .72 |
| | .85 | .85 |
| | .79 | .83 |
| | .79 | .70 |
| | .77 | .69 |
| | .72 | .63 |
| | .64 | .71 |
| | .67 | .73 |
| | .75 | .73 |
| | .86 | .54 |

Note: Reliability after two week interval (Female N=110)

# APPENDIX G

# ATTITUDES TOWARD WOMEN SCALE (AWS)

# Attitudes Toward Women

The statements below describe attitudes toward the roles of women in society which different people have. There are no right or wrong answers, only opinions. You are asked to express your feeling about each statement by indicating whether you (A) agree strongly, (B) agree mildly, (C) disagree mildly, or (D) disagree strongly.

1. Swearing and obscenity are more repulsive in the speech of a woman than a man.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

2. Under modern economic conditions with women being active outside the home, men should share in the household tasks such as washing dishes and doing laundry.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

3. It is insulting to women to have the "obey" clause remain in the marriage service.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

4. A woman should be as free as a man to propose marriage.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

5. Women should worry less about their rights and more about becoming good wives and mothers.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

6. Women should assume their rightful place in business and all the professions along with men.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

7. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

8. It is ridiculous for a woman to run a locomotive and for a man to darn socks.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

9. The intellectual leadership of a community should be largely in the hands of men.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

10. Women should be given equal opportunity with men for apprenticeship in the various trades.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

11. Women earning as much as their dates should bear equally the expense when they go out together.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

12. Sons in a family should be given more encouragement to go to college than daughters.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

13. In general, the father should have greater authority than the mother in bringing up of children.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

14. Economic and social freedom are worth far more to women than acceptance of the ideal of femininity which has been set up by men.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

15. There are many jobs in which men should be given preference over women in being hired or promoted.

| A | B | C | D |
|---|---|---|---|
| Agree Strongly | Agree Mildly | Disagree Mildly | Disagree Strongly |

# APPENDIX H

# INFORMATION SHEET

INFORMATION SHEET

1. How old were you on your last birthday? _____yrs.

2. At this time, what is your marital status? (Circle the letter that applies to you).

   a. married
   b. separated
   c. divorced
   d. widowed
   e. never married

3. Do you have children?

   a. yes
   b. no (if you circle b, skip question 4)

4. If so, how many? _____children

5. At age 16, in what type of home were you living?

   a. Intact home (both natural parents present)
   b. Single parent home
   c. Foster parent home
   d. Other (please specify) _____

6. What is the highest degree or diploma you have?

   a. No degree or diploma
   b. High school diploma
   c. Associate (A.A.)
   d. Bachelor's (B.A. or B.S.)
   e. Master's (M.A., M.S., MBA, etc.)
   f. Professional (M.D., Ph.D., Law degree, etc.)

7. What type of professional position have you held for the longest period of time?

_____

8. Is there a history of malignancy in your family?

   a. yes

   b. no (if you answer no to this question, skip question 9)

9. If there is a history of malignancy in your family, please check the following family members who have had a diagnosed malignancy at some time.

   a. mother

   b. father

   c. sibling

   d. grandparent

   e. other, (please specify)_____

10. Which of the following treatments have you used to help you deal with current or past illnesses? (please circle any of the following which apply)

   a. hypnotherapy

   b. biofeedback

   c. muscle relaxation

   d. meditation

   e. visualization or guided imagery

   f. psychotherapy

   g. growth experiences

11. Would you like to receive a follow-up report on the results of this research study?

   a. yes

   b. no

# APPENDIX I

## LETTER TO PARTICIPANTS

Dear

Thank you for agreeing to participate in this study which we discussed in our recent phone conversation. Though it is difficult to predict the potential effect of research, it is hoped that this study will contribute to an understanding of the power of the mind in relationship to malignancy. Your contribution to this study, whether it occurs at a difficult juncture in your life or whether it triggers memories of more difficult experiences, is both invaluable and generous.

As you can see, your name is not requested or recorded on any of the instruments which you have agreed to complete. The number in the upper right hand corner will allow me to study your responses in totality and to provide to you the results of this research if you request follow-up. However, neither your name nor the name of the hospital or of your physician will be included in the final report of this study.

Please complete the instruments and return them to me as soon as possible. An envelope for this purpose is enclosed. Directions for completion of each instrument are included at the top of the first page of each. It is important that you answer each question as honestly as possible. On the information sheet, you will have an opportunity to request a report of the findings of this research when it is complete.

Again, I thank you for your generosity in participating in this study. It is my hope that you and I, together with other participants, can contribute to an understanding of how our minds may impact on malignancy.

Sincerely,

Nancy Mize, M.S.

# APPENDIX J

## FOLLOW-UP LETTER

Dear

A few weeks ago, I mailed questionnaires to you in order to gain information for a research project which I had discussed previously with you by phone. To date, I have not received your completed questionnaires. I am very concerned that the valuable contribution which you can make to this area of research be included in the final data analysis.

Please take time to complete and return the questionnaires in the envelope provided. I assure you that your identity will be carefully concealed in the final research report.

Thank you for the invaluable contribution to this project which only you can provide.

Sincerely,

Nancy G. Mize, M.S.

# APPENDIX K

## POSTCARD

Dear

I recently mailed questionnaires to you for a research study which we had previously discussed by phone. To date, I have not received your completed questionnaires. I regret that any questionnaires not received by Wednesday, June 27 will not be included in the data analysis and final report. If you are unable to complete the instruments by this date, but would still like a summary of the results of this study, please return the uncompleted instruments to me and indicate that you are interested only in the results.

Thank you for your interest in this study.

Sincerely,

Nancy Mize, M.S.

VITA

Nancy Grimes Mize

Candidate for the Degree of

Doctor of Philosophy

Thesis: SEX ROLE, PERSONALITY CHARACTERISTICS, NEGATIVE LIFE EXPERIENCES, AND THE DEVELOPMENT OF NEOPLASM IN FEMALES

Major Field: Applied Behavioral Studies

Biographical:

Personal Data: Born in Norman, Oklahoma, May 5, 1944.

Education: Graduated from Harrah High School, Harrah, Oklahoma, in May, 1962; received the Bachelor of Arts in English degree from Oklahoma Baptist University in May, 1966; received the Master of Science degree in Community Counseling from Oklahoma State University in December, 1981; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in July, 1985.

Professional Experience: Teacher, Cleveland High School, Cleveland, Oklahoma, August, 1975 - December, 1978; Psychology Intern, Natalie Warren Bryant Cancer Center, St. Francis Hospital, Tulsa, Oklahoma, August, 1981 - December, 1981; Instructor, Department of Applied Behavioral Studies, Oklahoma State University, August, 1982 - December, 1982; Teaching Assistant, Department of Applied Behavioral Studies, Oklahoma State University, January, 1982 - July, 1984; Staff Therapist, Bi-State Mental Health Clinic,

O.S.U., August, 1982 - July, 1983; Practicum, Marriage and Family Counseling Service, January, 1982 - July, 1984; Advanced Practicum, University Counseling Service, O.S.U., August, 1983 - July, 1984; Pre-doctoral Internship, Georgia State University Counseling Service, September, 1984 - August, 1985.

Professional Organizations: American Psychological Association, American Association of Marriage and Family Therapy, Oklahoma Association of Marriage and Family Therapy, Mortar Board, Kappa Delta Pi.