Demographic Correlations with Exercise of Self-care Agency in Women

Susan Marie Hubka Todd
DEMOGRAPHIC CORRELATIONS WITH EXERCISE
OF SELF-CARE AGENCY IN WOMEN

by
Susan Marie Hubka Todd

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This thesis is approved as a creditable and independent investigation by a candidate for the degree Master of Science, and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Evelyn T. Peterson, R.N., D.N.Sc., F.A.A.N. Date
Thesis Advisor

Carol J. Peterson, R.N., Ph.D., F.A.A.N. Date
Dean, College of Nursing
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Determination of Research Involvement
With Human Subjects
Graduate Program
College of Nursing
South Dakota State University

Definition of Human Subjects
This term describes any individual who may be at risk as a consequence of participation as a subject in research, development, or related activities. Subjects may include patients; outpatients; donors of organs, tissues and services; and normal individuals, including students or others who are placed at risk during training in medical, psychological, sociological, educational, and other types of activities. Of particular concern and meriting special consideration are those subjects in groups with limited civil freedom. These include prisoners and residents of clients of institutions for the mentally ill and mentally retarded. Minors are also of particular concern. The unborn and the dead will be considered subjects only under conditions and to the extent permitted by law and regulation.

The proposed master's research project/thesis titled

Demographic Correlations with Exercise of Self-Care Agency in Women

has been discussed regarding whether it involves human subjects. We (advisor and student) have determined that

A. (Check one)

X Human subjects are not involved because there is no physical or psychological risk to any woman filling out the questionnaire.

____ Human subjects are involved because __________________________

B. (Check one)

____ The student will initiate contact with the University Human Subjects Committee and proceed according to established University guidelines.

X The student need not forward his/her proposal to the Human Subjects Committee.

Signature: Student
Date: 18 October 1982

Signature: Project/Thesis Advisor
Date: 22 Nov. 1982

cc: Advisor
Student
Dean of Nursing's Office
Graduate Program Office
ACKNOWLEDGEMENTS

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Chapter 1

STATEMENT OF THE PROBLEM
AND THEORETICAL BACKGROUND

The particular health needs of women have not been addressed by health care professionals. There are three reasons for this: first, only the reproductive functions of women are thought to be particularly female health problems, thus producing a severely limited scope of study on women; secondly, all other health problems are measured in terms of normal adult functioning, those norms having been set by research on adult male normalcy or pathology; and lastly, what studies have been individualized to women have been done on women only in illness situations. (Dunbar, Patterson, Barton and Stuckert, 1981; Broverman, 1970)

Dunbar et al (1981) illustrated in their comprehensive, nursing literature search the need for studies about women in their normal setting that focus on their experiences as females. As an effort to develop scientific knowledge on health behaviors of women this study examined women randomly selected from their normal place of residence. The focus of the study was two-fold: (1) Demographic factors were selected as possible predictors of health behaviors in women because of their predictive use in sociological studies and because of recommendations to do so from nursing literature. (2) The variables (demographic
factors) were studied within the context of Orem's Self-Care framework so that new knowledge could be organized within a paradigm of current nursing knowledge. (Smith, 1979)

Orem's framework has particular application to the primary care clinical setting and forms the theoretical basis of several publicized nursing practices at the primary care level. (Kinlein, 1977) The importance of this area of nursing practice to the client is that it is the entry point into the health care system, and the use of a nursing practice model can make the difference between a comprehensive health care situation or the more narrowed, medical model treatment of illness. There is a potential for power in the health care system for nurses in primary care if nursing can present its unique value to the client.

Orem's model interrelates the components of nursing practice - person, environment, health and nursing, in a system readily applicable to primary care and easily presented to clients. The model must be strengthened by testing each construct within the framework to insure validity in application to the particular needs of each client. This paper will explore two dimensions of Orem's framework as they particularly relate to women.

**Definition of Terms**

For purposes of this study and prior to discussion of
the theoretical framework the following definitions are presented.

**Health.** A dynamic quality state of individual bio-psycho-social interaction.

**Universal self-care requisites.** Basic human needs, constantly present, which must be met in order to maintain a healthy state.

**Developmental self-care requisites.** "Specialized expressions of universal self-care requisites, particularized for developmental processes or new requisites derived from a condition (pregnancy) or associated with an event (e.g. loss of spouse or parent)." (Orem, 1980, p. 47)

**Health deviation patient-care requisites.** That which is required only in the event of illness, injury or disease. (Orem, 1980) A life-cycle event may impose illness requirements rather than those of universal self-care.

**Self-care demand.** A specified set of actions needing to be performed by the self-care agent (or client) in order to accomplish objectively beneficial self-care behavior.

**Patient-care demand.** Specified set of actions needing to be performed as a result of illness requirements.

**Self-care agency.** The ability of a person to engage in the kinds and amounts of behavior required to meet the self-care demands as they become understood and valued. Kearney and Fleischer (1979) in constructing their
measurement of the exercise of self-care agency delineated four components to self-care agency: an active versus passive response to situations, individual motivation, knowledge base and personal sense of self-worth. These were operationalized into the following indicants: an attitude of responsibility for self, motivation to care for self, application of knowledge to self-care, valuing of health priorities and high self-esteem.

**Self-care behavior.** The practice of activities that clients personally initiate and perform on their own behalf for the maintenance, restoration, or promotion of health. (Joseph, 1980) Orem notes that both internal and external variables should promote these activities.

**Self-care deficit.** "An inability to engage in self-care which occurs when the self-care agent is unable to meet the therapeutic self-care demand placed upon him/her owing to insufficient self-care agency." (Joseph, 1980, p. 133)

**Exercise of self-care agency (ESCA).** Another term for self-care behavior or self-care deficit, depending on high or low performance.

**Exercise of self-care agency scale.** A tool which quantitatively measures ESCA and can be scored as a continuous variable.

**Determinants of self-care agency.** Factors which influence self-care agency or the potential for action.
Originally, these were enumerated as age, developmental state, life cycle event, sex, sociocultural orientation, health state, health care situation, organic/behavioral diagnosis, family system, and other factors. In her latest edition, Orem (1980) uses the Nursing Development Conference Group's (1979) term Basic conditioning factors of the personal characteristics of clients for determinants of self-care agency. These now include:

"1). Reasons why health care, including nursing, is being sought or received.

2). Experiences of the person in similar situations.

3). Age, sex, position in family (family of origin, family of marriage), or membership in a residence group.

4). Gross evidence of developmental state by stage of the life cycle.

5). Gross evidence of health state, for example, ability to control position and movement in space; signs of injury, dibility, illness; sensory impairment.

6). National origins, language, place of residence, religious orientation, and nature of occupational or educational endeavors." (p. 180)

For purposes of this study, demographic factors were extrapolated from the determinants of self-care agency. These include the factors of self-care determinants in the above number three and number six.

Nurse agency. The effort contributed toward
designing, providing and managing systems of therapeutic care for clients with varying degrees of insufficiency in meeting their therapeutic self-care demands, as demonstrated in actual or potential self-care behavior or deficit behavior. The nurse agent operates within a tri-level nursing system: wholly compensatory, partly compensatory or educative-supportive. Kinlein (1977) simplifies nurse agency as the ability to assist the person in his self-care practices in regard to his state of health. Nursing assessment of the client's status in all of the areas of behavioral influence (within this framework) become crucial to diagnosing insufficiencies and determining consentual interventions.

**Theoretical Framework**

Dorothea Orem (1971, 1980) has proposed a theory of nursing based on the premise that each person (self) operates from a need for self-determination. Her theory is still under development.

The writer has found in her practice that the useability of this theory stems from its ease of application to the practice of nursing, and its alternate modus operandi to the assumed compliance of the medical model. In assisting the client in his self-care practices the object of nursing and the nurse/client interaction is to increase a client's abilities, (1) through the nurse's application and
and sharing of nursing's body of knowledge, and (2) with his consent and participation. In contrast, the object of medicine is to diagnose disease processes and then effect a cure (1) through exercise and application of medicine's body of knowledge and (2) with activity involved in cure of disease directed by the physician on the patient.

The following diagrams propose a directional flow to Orem's self-care constructs to clarify interpretation of the model for practice and for this research. Figure 1 presents the basic model which states that a need creates a demand, which in turn produces a condition for potential action; that action is modified by intervening and set variables which yields a behavior. Figure 2 simply renames the components in the above figure with Orem's terms. Note that both self-care behavior and deficit behavior are the same construct as exercise of self-care agency. Thus, high exercise of self-care agency (ESCA) is equated to self-care behavior and deficit behavior to low ESCA. The third figure marries the nurse/client interaction and illustrates the self-care framework. Orem's theory assumes a process of self-care prior to meeting with a nurse and continuation of the self-care process after this encounter, as well as the possibility for a continuous and extended nurse/client interaction.

Entry point for the client is at the need level, which Orem has named universal self-care requisites,
Figure 1. Underlying concepts of Orem's framework.
Figure 2. Directional system of the Self-Care Concept.
Figure 3.

Schematic Representation of Orem's Self-Care Framework.
developmental self-care requisites and health deviation patient-care requisites. The need produces a demand, which is a person's interpretation of the need requiring attention. Dickinson and Lee-Valasinos (1982) equate self-care demand to a nursing diagnosis. This reference assumes that self-care demand is a viable construct only within a framework for nursing care. If nursing intervention builds upon basic self-functioning then the nurse/client interaction reaffirms or alters the person's demand by mutual consent, and implies that this is the point in time at which the nurse makes a nursing diagnosis.

Illness care, particularly in such dependent situations as intensive care when wholly compensatory care is the major nursing system employed, is more easily followed through the health-deviation, patient-care demand tract as realigned by Orem. (1980) (See Figure 2) In Figure 3, patient care demand has again been subsumed into self-care demand, to realign the concept of self-determination to the basic premise of this conceptual framework.

Self-care agency can be understood in the context of potential for action or abilities for action, with agency meaning action-producing. The construct has been divided into four sub-constructs or components by Kearney and Fleischer (1979): an active versus passive response to situations, individual motivation, knowledge base, and
personal sense of self-worth. By analyzing the determinants for self-care agency one should be able to see how they might feed into the four components. The multiple construct interaction of the entire framework produces either self-care behavior or deficit behavior.

Depending on her evaluation of client functioning, the nurse may enter the system at various phases. Considering the multiple client-input possibilities the nurse's entry decisions must be based on knowledge of the multiple variables. Universal self-care needs are generally known by professional nurses as are health deviation requisites. The patient care demand may be obvious, as in a cardiac arrest, which requires immediate nursing action performed without consideration of determinant variables. Deficit behavior would be the outcome of extending that equation without nursing intervention. Thus, the nursing system in this situation falls into the wholly compensatory mode. In the partly-compensatory and supportive-educative systems nurse/client interaction undergoes constant intake and output through each phase or step of the model. Because each individual possesses different particulars for determinants of self-care agency, and because perception of need varies from moment to moment within the same person, as do current needs or requisites, it is incumbent for the nurse to possess sufficient data to arrive at the nursing diagnosis or analysis of the self-care demand.
In 1979 as a first step in testing Orem's model for predictive qualities, a tool was developed for the measurement of exercise of self-care agency. (Kearney and Fleischer) It is a measurement of the final product or result of the equation. The writer believes that if the nurse could impact on the equation at the determinants for self-care point, the resulting nursing action could become predictive toward health for the client. (See Figure 3) For example, if one could find significant correlations between age as a continuous variable, and level of ESCA, the nurse, could take this variable into her assessment as a potential health risk factor. Determinants of self-care agency might be identified and categorized as having a positive or negative influence on health care behavior, or be related to the client decision making, a crucial element in Orem's model. (Trandel-Korenchuk, 1982) The writer believes that demographic characteristics provide a potentially predictable classification of determinant variables in Orem's model.

**Purpose**

The purpose of this study is to determine whether correlations exist between specific demographic factors relating to women and levels of exercise of self-care agency.
Chapter 2

REVIEW OF LITERATURE

Until the late 1970's research on women's health was virtually non-existent. (Woods, 1982; Dunbar, et al, 1981) Since 1980 certain nursing journals have devoted entire issues to women and their health (Advances in Nursing Science, January, 1981; Topics in Clinical Nursing, January, 1983; Nursing Clinics of North America, March 1982). Nursing textbooks have been rewritten so content emphasizes the wholistic woman rather than emphasizing only the women's reproductive functions.

A literature search of the last ten years was undertaken using the Cummmulative Index of Nursing and Allied Health Literature, Cummmulative Medicus Indicus, Psychological Abstracts, Nursing Abstracts, and Medline Computer search. The literature reviewed focused on an illness orientation in assessing women's health status with little attention given to significant demographic variables and their relation to health. Such data are not sufficiently descriptive for the nursing model.

A frequently suggested method to begin analysis of women's health is to employ role theory - change, conflict and overload. (Woods, 1982) Within that approach several authors analyze the problem of lack of adequate or meaningful women's health care from the feminist viewpoint
citing oppression intrinsic to all feminine roles (Lovell, 1980; Fiorino, 1980; Fee, 1975). However, even the least radical authors point to lack of adequate health care for women by virtue of their sex alone (MacPherson, 1983). In order to articulate the unique demands for health care, women's health needs must be elicited first.

A typology of women's health needs could be constructed based on demographic factors. Age, marital status, children, education, employment (including hours worked, occupation and income), socio-economic status (accounting for spouse's occupation and income, as well as her own), race, and residence (rural/urban) are the variables which have been suggested for study. (Mariskind, 1980; Woods, 1982; Trandel-Korenchuk, 1982) Religion has also been studied as a predictive variable. (Comstock, 1972; Hannay, 1980)

To become meaningful to a nursing paradigm, these health factors must be related to some current health variable, such as health status or health behavior. To become more practically applicable, the factors and outcome need to be placed within the context of nursing theory and practice. Within the Orem framework, demographic factors fall under determinants of self-care agency. They, at least potentially, play a predictive role in this model.

**Age**

Age is a continuous variable measuring biological
time, but also implies developmental milestones of human interaction. Life expectancy in the U.S. continues to rise. Females born in 1978 are expected to live to 77.2 years. The four leading causes of death for American females (as well as males) are heart disease, cancer, cerebrovascular diseases and accidents. (Moore, 1980) The aging population is frequently disabled with chronic diseases precipitated by environmental pollutants or behavioral factors such as alcohol abuse, smoking, and obesity. A longer life for women currently is pointing to more severe health problems. According to the 1980 Public Health Report Supplement (Moore, 1980) women report more acute illness, have a higher incidence of chronic diseases and more mobility limitations as they age. Fogel and Woods (1981) have indicated that the health of older women is dependent on their adaptive abilities. These in turn are related to cognitive abilities, personality types, and continuing or substitute role activity. The literature reflects few studies on older women until the last eight years because research on aging has not included female subjects as a separate group. (Moore, 1980)

Marital Status

Overall, when analyzing mortality, morbidity and use of health services, better physical health is generally associated with being married as compared to being single (widowed, divorced or separated, or never married).
(Ibrabim, 1980) However, one review suggests that the controlling factor appears to be the difference in stress, life styles and social support while categorized within the marital or non-marital state (Morgan, 1980). Gove (1972) has reported that married women experience higher rates of mental disorders than the unmarried and that in general marriage has a detrimental effect on women.

**Education**

The literature demonstrates a correlation between positive health practices and higher levels of education in women. (Franks and Boisseau, 1980) In general, the individual health belief system becomes more grounded in health producing knowledge rather than myths as education increases. Grossman (1976) has created a mathematic model which demonstrates that schooling is the most efficient producer of individual health practices. Franks and Boisseau (1980), in studying correlates of socio-economic status with health, suggest that income and occupation may have a reverse causal pathway when correlated to "health and illness" whereas education remains a constant positive measurement.

**Children**

Studies of the effect of children on women combine the motherhood role with another role (i.e., marriage or employment). The measurement of outcome is
stated in disability days, utilization of medical service or satisfaction. Nathanson (1975) reports that housewives with no children or older children are more frequently ill than employed women or those with preschoolers, the implication being that the sick role is related to amount of free time. However, women with children, whether employed or not, or married or not, suffer poorer mental health and less life satisfaction. (Gove and Geerken, 1977; Seiden, 1976) Lovell and Fiorino (1979) discuss the institution of motherhood as a role with inherent oppressive qualities that produces health impairment in women. This is in contrast to the traditional belief of female growth and fulfillment in mothering. (Montagu, 1968)

Employment

According to Fishel (1981) employment has the most positive effect on women's health of any variable investigated. It is considered a socially integrating role. Successful employment produces recognition and monetary rewards with an attenuant rise in self-esteem. This again is in contrast to housewifery or homemaking which is economically unrewarding, even devalued, and socially isolating. Nathanson (1975 and 1980) when controlling for age, gynecologic illness, and occupational injuries, in the first study, and for chronic conditions in the second one, found that the results suggest employment may have both selective and protective effects on women's health.
Other Demographic Variables

The literature indicates that income and occupation (frequently cited indicators of socio-economic status) have a positive demonstrable effect in the availability of health care, as has urban rather than rural residence. Economically a woman earns 60 cents for every dollar paid to her male counterpart. Women have traditionally been clustered in the lower paying jobs, which forces a pro-rated index. In addition, it is the combined husband/wife income which generates the family's social economic status, or in the case of non-working women, it is the spouses' income alone. (Judd and Josephs, 1975)

LaGodna (1981) has examined the rural woman's roles, with particular emphasis on the single rural woman, and suggests the need to study the detrimental effects of strong traditional role values, socialization, and isolation on health behavior.

Both Hannay (1980) and Comstock (1972) have indicated that religiosity, or increased church attendance, not any particular denomination, has a positive correlate with good health.

Consideration of the previous discussion poses a number of possible correlations between various demographic variables and a women's self-care agency. Accordingly, an educated, employed, married, childless, younger woman who attends church regularly should score better on a measurement
of her self-care agency. The single state, unemployment or housewifery alone, increased numbers of children, advancing age and a rural residence appear to be indicants for lower self-care agency. However, in attempting to find correlates, separate considerations must be given to the woman's personal satisfaction about her life styles, as a variable, the obvious correlate being high satisfaction with high exercise of self-care agency.
Chapter 3

METHODOLOGY

In order to obtain information about women in their "normal setting"¹ a self-administered questionnaire was mailed to 300 women located throughout the state of South Dakota.

Sample

A randomly selected sample of 300 females was chosen from the total state population (690,768). That generated about a 1:2300 ratio of sample to population. This number (2300) was then divided into each county population. The county sample was urban/rural proportioned. If the sampled person lived on a farm or in a community of 2500 or less she was considered to be a rural resident. Each subject was randomly selected from the appropriate area phone books. If the random number fell on a business listing, the next name was selected. Questionnaires were sent to residences with only a male name listed in the telephone book to insure that married women, whose names were not listed, would have an equal chance for selection.

¹This term was used to note the selection of a sample as suggested by Dunbar et al (1981). See Chapter 1.
Questionnaire

The mailed packet included an introductory letter, demographic questionnaire, the tool - ESCA Scale - and a stamped envelope addressed to the author at the Graduate Department, College of Nursing at South Dakota State University. The letter explained the purpose of the study, the importance of each person's participation, directions for its return, a deadline date, a statement about each person's consent to participate as well as permission to publish the results. The second page contained the questions regarding all the demographic variables; age, marital status, children, education, income, employment, occupation, race, religion, residence and an open-ended question asking each to describe her satisfaction with herself and what she is doing. (See Appendix A for a copy of the entire questionnaire with footnote explanation of coding for transfer of data onto the computer.)

Research Instrument

The last two pages were comprised of the tool, Exercise of Self-Care Agency, which contains forty-three declarative statements. (Kearney and Fleischer, 1979) Each

\(^2\)The university return address was chosen over personal residence to reinforce the fact that the subject was taking part in authorized research, hopefully promoting an increased number of returns.
response is rated among a five-point Likert scale (0-4), with 4 assigned to the "very characteristic" response and 0 to "very uncharacteristic". The maximum score possible is 172, indicating a very high practice of self-care behavior. (See Appendix A)

Content validity was established by the originators of this tool, with evaluation of the forty-four original statements by five experts in Orem's theory. Twenty-nine items were rated good, fifteen good or fair by 80% and 60% interrater agreement. One item was dropped. Construct validity was determined by correlational testing with the Adjective Check List and Internal Locus of Control scales utilizing 84 AD nursing students and 153 psychology students. Test-retest reliability was .77 and split-half reliabilities were .80, .81, and .77.

Permission to utilize the tool was obtained in writing from Barbara Y. Kearney. (See Appendix B) Three hundred questionnaires were mailed. One hundred fifty-nine questionnaires were returned. Of that, 132 were considered suitable for analysis. The resulting data were entered onto an IBM terminal for marriage with the Statistical Package for the Social Sciences (Nie, Hadlay, Jenkins, Steinbrenner and Bent, 1975) for statistical analysis. The data were later punched onto IBM cards for possible future use.
Statistical Methods

Descriptive analysis of the respondents' demographic data included absolute, relative, adjusted and cumulative frequencies of each answer for each question. The three measurements of central tendency, standard deviation and range were also computed. The tool ESCA was analyzed by the same criteria item by item and then by cumulative scores.

A chi-square matrix was created utilizing cumulative scores on the ESCA Scale with age, employment, education, number of children, marital status and residence. Significance was at $\alpha=.05$. Next, all primary variables were entered into a zero order correlation analysis. Then scores on the ESCA Scale were treated as the dependent variable in two sets of multiple regression analysis. The independent variables were entered as follows: age, a continuous variable; education, a continuous variable; numbers of children, a continuous variable; marital status; weighted (1) married and (2) unmarried, divorced or widowed; employment weighted (1) yes, (2) no; residence, (1) rural and (2) urban; occupation, utilized only the Census Bureau Index of 1 through 12 major divisions; family income, a continuous variable; religion (1) Catholic and (2) all Protestant; and satisfaction, a Likert 1-5 scale. The scale evolved from development of the construct by Burr, Hill, Nye and Reiss. (1979) Marital status, employment, residence and religion were coded as dummy variables. This procedure was used so
that these demographic factors would be treated as continuous variables. The primary independent variables were entered at Step 1 giving each equal potential for maximum correlation with the dependent variable. This approach more closely simulates the situation encountered with women in natural settings, thus, the relative value of each variable is determined in cohort with all others present. The first five variables were run on one set, and the last five on a second set because the precision of variation determination is greater with fewer variables in each analysis.
Chapter 4

ANALYSIS OF DATA

Descriptive Variables of the Sample

The sample consisted of 132 questionnaires - a 44% return of the 300 selected. Age of the respondents ranged from 20 years to 89 years. Mean age was 47.3 years, median age, 43.5 and mode, 29 years. Census 1980 demonstrated 29.8 years as the median female age for South Dakota. The number of South Dakota women between the ages of 20 and 85 years is 234,666; thus, there was one sample per 1778 women in that age range.

The majority of the women, 94 (71.2%), were married at the time of the study; 22 (16.7%) were widows; 6 (4.5%) were divorced; and 10 (7.6%) have never been married. The average age at the first marriage was 19.7 years, 21 years, the mode. Of those married, the mean number of years in marriage was 19.7, but they ranged from 2 to 57 years. The 25 widows averaged 13.3 years widowhood.

The average number of children was 2.5. Twenty-five women had none. The mode was 2 and the range 0 to 10. Forty-six had one or two children and 61, three or more. Seventeen women (12.9%) had experienced the death of a child, ten within the first year of the child's life.

The average educational level was 13 years although the range was from one to 22 years. (See Table 1) Post
Table 1
Educational Levels of Sample

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school education</td>
<td>21</td>
<td>15.9</td>
<td>1-11</td>
</tr>
<tr>
<td>High school education</td>
<td>42</td>
<td>31.8</td>
<td>----</td>
</tr>
<tr>
<td>Vocational certificate</td>
<td>23</td>
<td>17.4</td>
<td>----</td>
</tr>
<tr>
<td>Associate degree</td>
<td>14</td>
<td>10.6</td>
<td>----</td>
</tr>
<tr>
<td>Baccalaureate degree</td>
<td>35</td>
<td>26.5</td>
<td>----</td>
</tr>
<tr>
<td>Masters degree</td>
<td>8</td>
<td>6.3</td>
<td>----</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>1</td>
<td>.8</td>
<td>----</td>
</tr>
</tbody>
</table>

Note. There is some duplication in the levels beyond high school thus the frequencies will total greater than the absolute number. Each percentage is that portion of the total number for that level of education.
high school education for 19 women was completed after the age of 30 years. Fields of study were divided into technical (n=19), professional (n=42) and liberal arts (n=7).

Seventy-four (56.1%) of the women worked, 29 (22%), part-time, and 44 (33.3%), full-time. Seven women stated they worked more than 50 hours per week, the longest being a truck driver who reported over 98 hours weekly. (See Table 2 for a breakdown of occupations.) When subjects were asked about which activities were most time consuming (other than employment) - 39 (29.5%) stated that housework and child care took up most of their time; while 7 (5.3%) said volunteer work; 10 (7.6%), recreation and hobbies; 2 (1.5%), (both were elderly) watching television; 9 (6.8%), helping husband's business; and 2 (1.5%), studying.

The annual income range for the employed and retired women ranged from $250 to $95,000, eleven women chose not to answer. When these figures were compiled after eliminating those women with no personal income (38) and those women choosing not to answer (11), the mean income for the employed women was $10,130. Twenty-seven chose not to respond to the family income question. The mean for the remaining 105 respondents was $22,750. The range was 0 to $100,000.

The sample paralleled the state racial distribution in relation to caucasian and native Americans. There were
### Table 2

**Occupational Stratification of Sample**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Professional and technical workers.</td>
<td>25</td>
</tr>
<tr>
<td>2. Managers and administrators (except farm).</td>
<td>3</td>
</tr>
<tr>
<td>3. Sales workers.</td>
<td>4</td>
</tr>
<tr>
<td>4. Clerical workers.</td>
<td>17</td>
</tr>
<tr>
<td>5. Craft and hired workers.</td>
<td>2</td>
</tr>
<tr>
<td>6. Operatives, except transport.</td>
<td>5</td>
</tr>
<tr>
<td>7. Transport equipment operatives.</td>
<td>1</td>
</tr>
<tr>
<td>8. Non-farm laborers.</td>
<td>0</td>
</tr>
<tr>
<td>9. Private household workers.</td>
<td>1</td>
</tr>
<tr>
<td>10. Service workers.</td>
<td>13</td>
</tr>
<tr>
<td>11. Farm and farm managers.</td>
<td>1</td>
</tr>
<tr>
<td>12. Farm laborers and supervisors (includes paid and unpaid family workers).</td>
<td>4</td>
</tr>
<tr>
<td>13. Homemaker.</td>
<td>45</td>
</tr>
<tr>
<td>14. Retiree.</td>
<td>10</td>
</tr>
<tr>
<td>15. Student.</td>
<td>1</td>
</tr>
</tbody>
</table>
96% caucasian and 3% native American. The state census indicated native Americans represented 7% of the population. The state census of blacks was .3%. There were no blacks in this study.

The Lutheran denomination is the most prevalent religious orientation in South Dakota and was reflected in the 32.6% of this sample. All other Protestants made up 37.9% of the total; Catholics 24.2%; Mormons, Mennonites, Bahai, Christian Scientists 4.5%; and one person expressed no preference. There were no Jews in the sample.

Statewide the population is divided into 46.4% urban and 53.6% rural. The sample was almost a carbon copy at 46.2% urban and 53.8% rural. Thirty-three women (25%) live on farms, and another 38 (28.8%) live in towns with a population of 2500 or less.

The last variable selected was self-satisfaction. The author evaluated the open ended question response for satisfaction.¹ The analysis showed that 36.4% were very satisfied with themselves and what they were doing. Another 45.5% were at least somewhat satisfied, 7.6% were somewhat unsatisfied and very few (1.5%) were very unsatisfied. The neutral answer reflects ambivalent feelings, comprised of 9.1% of the sample or almost 1 out of 10.

¹The question was: "Briefly, would you please describe your feelings of satisfaction with yourself and what you are doing."
A composite picture of a typical subject sample was created by compiling various central tendencies from each category. This woman would be married, in her early forties, with two children. She has education beyond high school, is employed, probably full-time, in a professional or technical job which nets her approximately $10,000/year. With her husband's job their total income is at least doubled. She is probably Lutheran, caucasian, lives in a rural setting, and is satisfied with all or at least most of the above.

**Descriptive Analysis of the Tool**

Scores on the tool, Exercise of Self-Care Agency Scale, ranged from a low of 68 to a high of 156. The mean score was 124.4, the mode 125.0, and the median 125.75 indicating an almost perfect bell curve. The standard deviation was 16.804. Ninety-four scores (71%) fell within one standard deviation from the mean. (See Figure 4)

For crosstabulation the scores were divided into thirds indicating high, medium, and low exercise of self-care agency. High scores ranged from 134 to 156, medium from 121 to 133, and low from 68 to 120.

**Chi-Square Analysis**

In the first analysis (Table 3) ages were divided into four categories (1) 30 and under (2) 31 to 50, (3) 51 to 65, (4) 66 and above. The chi-square analysis was not significant. \( x^2=6.92677 \text{ with } 6 \text{ df at } 0.3277. \) The 31-50
Figure 4. Frequency Distribution of Scores on the ESCA Scale

Note. Maximum score = 172
Skewness: -0.653
Total Sample = 132
Table 3

Chi-Square Matrix of Age
Crosstabulated with Scores on ESCA Scale

<table>
<thead>
<tr>
<th>Age</th>
<th>20-30</th>
<th>31-50</th>
<th>51-65</th>
<th>66-89</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCA Scores&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>16</td>
<td>10</td>
<td>9</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>25.7%</td>
<td>39.0%</td>
<td>38.5%</td>
<td>30.0%</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>13</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>42.9%</td>
<td>24.4%</td>
<td>19.2%</td>
<td>43.3%</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>11</td>
<td>15</td>
<td>11</td>
<td>8</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>31.4%</td>
<td>36.6%</td>
<td>42.3%</td>
<td>26.7%</td>
<td></td>
</tr>
<tr>
<td>Column Totals</td>
<td>35</td>
<td>41</td>
<td>26</td>
<td>30</td>
<td>132</td>
</tr>
</tbody>
</table>

<sup>a</sup>Percentages listed are column percentages.

\[ x^2 = 6.92677 \]
\[ d/f = 6 \]
Significance = 0.3277
year group tends to dominate the lower third scores, although for their entire group there is an almost equal percentage who scored in the top third. The 51 to 65 group follows a similar high/low pattern whereas the under 30 and over 65 groups cluster more to middle scores.

Employment was subdivided into (1) those who do not work, (2) those who work part-time, and (3) those who are employed full-time. Again, statistically, the numbers are not significant. \( (x^2=1.26047 \text{ with } 4 \text{ df at } 0.8680) \) In the lowest scoring, 40% fall in the unemployed category. But, as a category, unemployed women are almost equally divided into each third of scores. (See Table 4)

The four categories of education (Table 5) were (1) 11 years or less, (2) high school graduates, (3) 13-15 years education, and (4) 16 years or more (college graduates). In spite of statistical insignificance \( (x^2=7.16684 \text{ with } 6 \text{ df at } 0.3057) \) these percentages demonstrate an interesting trend. Of the women who have less than a high school education three and a half times as many score low (52.4%) as do high (14.3%). In the college graduate or more group, twice as many score high (44.1%) as do low (23.5%). The middle educational levels' scores are evenly distributed.

Numbers of children (Table 6) were divided, into (1) no children, (2) one or two children, and (3) three or more children. The nine cells are absolutely evenly divided.

Number 1 residence is rural and 2 is urban. Again
Table 4
Chi-Square Matrix of Employment
Crosstabulated with Scores on ESCA Scale

<table>
<thead>
<tr>
<th>Employment</th>
<th>Unemployed</th>
<th>Part-Time</th>
<th>Full-Time</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESCA Scores</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>22</td>
<td>9</td>
<td>13</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>37.3%</td>
<td>31.0%</td>
<td>29.5%</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>18</td>
<td>11</td>
<td>14</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>30.5%</td>
<td>37.9%</td>
<td>31.8%</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>19</td>
<td>9</td>
<td>17</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>32.2%</td>
<td>31.0%</td>
<td>38.6%</td>
<td></td>
</tr>
<tr>
<td>Column Totals</td>
<td>59</td>
<td>29</td>
<td>44</td>
<td>132</td>
</tr>
</tbody>
</table>

\(^a\)Percentages listed are column percentages.

\[ x^2 = 1.26047 \]
\[ d/f = 4 \]
Significance = 0.8680
Table 5
Chi-Square Matrix of Education
Crosstabulated with Scores on ESCA Scale

<table>
<thead>
<tr>
<th>Years of Education</th>
<th>&lt;11</th>
<th>12</th>
<th>13-15</th>
<th>16&gt;</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCA Scores (^a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>11</td>
<td>15</td>
<td>10</td>
<td>8</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>52.4%</td>
<td>35.7%</td>
<td>28.6%</td>
<td>23.5%</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>7</td>
<td>13</td>
<td>12</td>
<td>11</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>33.3%</td>
<td>31.0%</td>
<td>34.3%</td>
<td>32.4%</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>3</td>
<td>14</td>
<td>13</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>14.3%</td>
<td>33.3%</td>
<td>37.1%</td>
<td>44.1%</td>
<td></td>
</tr>
<tr>
<td>Column Totals</td>
<td>21</td>
<td>42</td>
<td>35</td>
<td>34</td>
<td>132</td>
</tr>
</tbody>
</table>

\(^a\)Percentages listed are column percentages.

\(x^2 = 7.16684\)

\(d/f = 6\)

Significance = 0.3057
Table 6
Chi-Square Matrix of Numbers of Children
Crosstabulated with Scores on ESCA Scale

<table>
<thead>
<tr>
<th>Children</th>
<th>None</th>
<th>1 or 2</th>
<th>3&gt;</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESCA Scores</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>8</td>
<td>14</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>32%</td>
<td>30.4%</td>
<td>36.1%</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>8</td>
<td>16</td>
<td>19</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>32%</td>
<td>34.8%</td>
<td>31.1%</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>9</td>
<td>16</td>
<td>20</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>36%</td>
<td>34.8%</td>
<td>32.8%</td>
<td></td>
</tr>
<tr>
<td>Column Totals</td>
<td>25</td>
<td>46</td>
<td>61</td>
<td>132</td>
</tr>
</tbody>
</table>

aPercentages listed are column percentages.

\[ x^2 = 0.43901 \]
\[ d/f = 4 \]
Significance = 0.9792
one-third of each group fell into each scoring level. (See Table 7)

In the last crosstab of marital status (Table 8), 50% of the cells contained less than five which demonstrated the need to combine smaller groups. The married group (1) scored evenly in each category, and only 1/5 of the widows (2) scored high. Two-thirds of the divorced women (3) scored in the lowest group and 80% of the single women (4) scored medium to high.

Zero Order Correlation

All variables of this study were entered into a zero order correlation (coefficients of partial determination) to note any influence one variable might have in explaining any of the others. (See Table 9) This produced 14 correlations greater than .20. Age and work each correlated to 50% of the other variables. Some of these might be expected such as older women having more children than younger, having less education, and yet more likely working. Interestingly, education correlated negatively with numbers of children, working, and satisfaction. The writer inferred that in this sample better educated women have fewer numbers of children but stay home to take care of them at cost to their self-esteem or ambition. An urban residence correlated negatively with working. As several farm wives noted in their questionnaire responses, if they did not have jobs away from the farm the
Table 7
Chi-Square Matrix of Marital Status
Crosstabulated with Scores on ESCA Scale

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Married</th>
<th>Widowed</th>
<th>Divorced</th>
<th>Single</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCA Scores&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>30</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>31.9%</td>
<td>36.4%</td>
<td>66.7%</td>
<td>20.0%</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>29</td>
<td>9</td>
<td>1</td>
<td>4</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>30.9%</td>
<td>40.9%</td>
<td>16.7%</td>
<td>40.0%</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>35</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>37.2%</td>
<td>22.7%</td>
<td>16.7%</td>
<td>40.0%</td>
<td></td>
</tr>
<tr>
<td>Column Totals</td>
<td>94</td>
<td>22</td>
<td>6</td>
<td>10</td>
<td>132</td>
</tr>
</tbody>
</table>

<sup>a</sup>Percentages listed are column percentages.

\[ x^2 = 5.58338 \]

\[ d/f = 6 \]

Significance = 0.4714

Note. Six out of 12 cells have a frequency less than 5.
Minimum expected frequency = 1.955.
Table 8
Chi-Square Matrix of Geographic Residence
Crosstabulated with Scores on ESCA Scale

<table>
<thead>
<tr>
<th>Residence</th>
<th>Rural</th>
<th>Urban</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESCA Scores$^a$</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>25</td>
<td>19</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>35.2%</td>
<td>31.1%</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>22</td>
<td>21</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>31.0%</td>
<td>34.4%</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>24</td>
<td>21</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>33.8%</td>
<td>34.4%</td>
<td></td>
</tr>
<tr>
<td>Column Totals</td>
<td>71</td>
<td>61</td>
<td>132</td>
</tr>
</tbody>
</table>

$^a$Percentages listed are column percentages.

$x^2 = 0.28550$

d/f = 2
Significance = 0.8670
Table 9
Zero Order Correlation of Primary Variables

<table>
<thead>
<tr>
<th></th>
<th>AGES</th>
<th>EDUC</th>
<th>KIDS</th>
<th>RESD</th>
<th>OCCW</th>
<th>SATS</th>
<th>ESCA</th>
<th>CATH</th>
<th>MART</th>
<th>WORK</th>
<th>FINC</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDUC</td>
<td>-0.36619</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>KIDS</td>
<td>0.34557</td>
<td>-0.28835</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RESD</td>
<td>-0.13443</td>
<td>0.08552</td>
<td>-0.10646</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OCCW</td>
<td>-0.29202</td>
<td>-0.09655</td>
<td>0.05512</td>
<td>-0.01136</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SATS</td>
<td>0.02205</td>
<td>-0.21569</td>
<td>0.11786</td>
<td>0.14890</td>
<td>0.06096</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>ESCA</td>
<td>-0.00605</td>
<td>0.18439</td>
<td>-0.04134</td>
<td>-0.07487</td>
<td>0.10208</td>
<td>-0.10916</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CATH</td>
<td>0.00484</td>
<td>0.05649</td>
<td>-0.25919</td>
<td>-0.03937</td>
<td>-0.09337</td>
<td>-0.25147</td>
<td>-0.04405</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MART</td>
<td>0.42712</td>
<td>-0.03549</td>
<td>-0.04687</td>
<td>0.06350</td>
<td>-0.08975</td>
<td>-0.00415</td>
<td>-0.01654</td>
<td>0.03602</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORK</td>
<td>0.42330</td>
<td>-0.28517</td>
<td>0.15430</td>
<td>-0.21395</td>
<td>-0.56904</td>
<td>0.04349</td>
<td>-0.09458</td>
<td>0.05850</td>
<td>0.14507</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FINC</td>
<td>0.15600</td>
<td>-0.03447</td>
<td>0.13704</td>
<td>-0.14742</td>
<td>-0.24718</td>
<td>0.02789</td>
<td>0.09594</td>
<td>-0.06975</td>
<td>-0.02426</td>
<td>0.21981</td>
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</table>
family wouldn't economically survive on a farm. More children and less satisfaction correlated with a Catholic religious affiliation. Working correlated with a higher family income but negatively with education and the Census Bureau (Duncan Index) weighting of occupations. Marriage correlated with increased age. Of interest to this study are the negative correlations of satisfaction to education (-0.21569) and scores on the ESCA Scale (-0.10916). In other words, the higher the education the higher the scores (0.18439) but the less satisfied the women are with themselves. The ESCA Scale was the only variable which produced no correlation above .20.

**Multiple Regression**

Two stepwise multiple regressions were done to determine if significant correlations exist between the five primary independent variables and the dependent variable scores on the ESCA Scale.

In the first regression age (AGES)*, education (EDUC)*, numbers of children (KIDS)*, marital status (MART)*, and employment (WORK)* were entered into the analysis. All variables were coded as in the crosstabs except marital status was recoded (1) married and (2) unmarried, a combination of the last crosstab categories. Overall, the $F$ at 1.21368 was not significant at $p$ less than .05. The summary (Table 10) does demonstrate a

*Computer codes
Table 10
Multiple Regression of 5 Independent Variables
with ESCA Scale as Dependent Variable
Set 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>R Square</th>
<th>R SQ Change</th>
<th>Simple R</th>
<th>B</th>
<th>Beta Weight</th>
<th>STD Error B</th>
<th>F</th>
<th>d/f</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGES</td>
<td>0.00605</td>
<td>0.00004</td>
<td>0.00004</td>
<td>-0.00605</td>
<td>0.1166126</td>
<td>0.13283</td>
<td>0.10266</td>
<td>1.290</td>
<td></td>
</tr>
<tr>
<td>EDUC</td>
<td>0.19587</td>
<td>0.03837</td>
<td>0.03833</td>
<td>0.18439</td>
<td>1.139075</td>
<td>0.20219</td>
<td>0.54544</td>
<td>4.361</td>
<td></td>
</tr>
<tr>
<td>KIDS</td>
<td>0.19595</td>
<td>0.03840</td>
<td>0.00003</td>
<td>-0.04134</td>
<td>-0.1583306</td>
<td>-0.01883</td>
<td>0.81166</td>
<td>0.038</td>
<td></td>
</tr>
<tr>
<td>MART</td>
<td>0.20133</td>
<td>0.04053</td>
<td>0.00214</td>
<td>-0.01654</td>
<td>-2.035141</td>
<td>-0.05505</td>
<td>3.67730</td>
<td>0.306</td>
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</tr>
<tr>
<td>WORK</td>
<td>0.21436</td>
<td>0.04595</td>
<td>0.00542</td>
<td>-0.09458</td>
<td>-2.774447</td>
<td>-0.08226</td>
<td>3.28060</td>
<td>0.715</td>
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<tr>
<td>(CONSTANT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>111.0234</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

111.0234
1.21368 5/126
noticeable increase when education enters the regression. Even so it accounts for only about 4% of the variance.

The second regression (Table 11) consisted of residence (RESD)*, occupation (OCCW)*, (recoded to include only actual Census Bureau designations), satisfaction (SATS)*, family income (FINC)*, and religion (CATH* 1= Catholic; CATH* 2=all Protestant denominations; the others were dropped). There was no significant variance with the entry of any variable.

Other than education which accounts for about 4% of the variance in the scores on the ESCA Scale no demographic variable is a predictively significant influence on those women's reported self-care behavior.

*Computer codes
Table 11
Multiple Regression of 5 Independent Variables
with ESCA Scale as Dependent Variable
Set 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>R Square</th>
<th>R SQ Change</th>
<th>Simple R</th>
<th>B</th>
<th>Beta Weight</th>
<th>STD Error B</th>
<th>F</th>
<th>d/f</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESD</td>
<td>0.07487</td>
<td>0.00561</td>
<td>0.00561</td>
<td>-0.07487</td>
<td>-0.4298969</td>
<td>-0.03814</td>
<td>1.00623</td>
<td>0.183</td>
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<tr>
<td>OCCW</td>
<td>0.12591</td>
<td>0.01585</td>
<td>0.01025</td>
<td>0.10208</td>
<td>0.6205731</td>
<td>0.13467</td>
<td>0.41800</td>
<td>2.204</td>
<td></td>
</tr>
<tr>
<td>SATS</td>
<td>0.16443</td>
<td>0.02704</td>
<td>0.01118</td>
<td>-0.10916</td>
<td>-0.9840768</td>
<td>-0.12943</td>
<td>0.69235</td>
<td>2.020</td>
<td></td>
</tr>
<tr>
<td>FINC</td>
<td>0.20512</td>
<td>0.04207</td>
<td>0.01504</td>
<td>0.09594</td>
<td>0.6033094</td>
<td>0.12325</td>
<td>0.00045</td>
<td>1.813</td>
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</tr>
<tr>
<td>CATH</td>
<td>0.21228</td>
<td>0.04506</td>
<td>0.00299</td>
<td>-0.04405</td>
<td>-1.649915</td>
<td>-0.05688</td>
<td>2.62818</td>
<td>0.394</td>
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</tr>
<tr>
<td>(CONSTANT)</td>
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</table>

126.6974

1.18913 5/126
Chapter 5

SUMMARY, FINDINGS, IMPLICATIONS, LIMITATIONS
AND RECOMMENDATIONS FOR FURTHER STUDY

Summary

The purpose of this study was to determine whether correlations exist between selected demographic variables and self-care behavior, specifically in women. These two factors were extracted from the constructs of Dorothea Orem's Self-Care Theory. (1971, 1980)

Demographic variables comprise two of the six broad determinants of self-care agency, a construct of the self-care theory. As the word determinant implies there should be something innately predictive about these factors for Orem to select them out of numerous possibilities. According to the theory, self-care behavior or exercise of self-care agency should be predicted or at least influenced by the demographic variables describing a person. A method of testing this assumption would necessitate quantifying self-care behavior in order to statistically correlate optimum or minimum behavior to the person's demographics. Kearney and Fleischer devised such a tool, the Exercise of Self-Care Agency (ESCA) Scale, "to measure exercise of self-care agency that exhibits high reliability and evidence of content and construct validity." (1979, p. 33)

To decide which demographic variables to select, a
literature search was undertaken. Unfortunately, the literature offers little research on predictors of women's health. Most articles utilize the medical illness orientation rather than health producing behaviors in any health discussion. However, by extrapolating inferences or trends to the literature it appears that demographic variables exert the following effects on women: there is conflicting evidence regarding the positive and negative effects marriage exerts on women; the addition of children causes increased detrimental stressors to women; advancing age produces still further chronic debilitating conditions. Employment is considered an integrating factor and thus produces less sick behavior. Education by all standards seems to be the most positive influence on women's illness status as well as health behaviors. Thus, well educated, working, women should score higher on the ESCA Scale than elderly, "single" mothers.

The following demographic factors were selected for study: age, marital status, education, employment and occupation, numbers of children, residence, religion, and family income. The last variable selected, self-satisfaction although not a demographic variable, should positively relate to high health behavior as indicated by Kearney and Fleischer in delineating the components of self-care agency. The variable was derived from open ended answers by the respondents to the study questionnaire.
One hundred thirty-two responses were obtained from 300 randomly selected women living across South Dakota. The answers to questions on demographic variables and to the ESCA Scale were coded for computer analysis with the Statistical Package for the Social Sciences. (Nie et al, 1975) Frequencies, central tendencies, chi-square, zero order correlations and multiple regressions were run using the demographic factors as independent variables and the ESCA Scale scores as the dependent variable (where applicable).

Findings, Implications, and Limitations

The major finding of this study is that there are no significant correlations between the selected demographic variables and scores on the ESCA Scale. There was a tendency for education to increase the respondent's scores, however, it accounted for only 4% of the variation. No new knowledge about what predicts health behavior in women has been found. The implication of this research leaves two choices: (1) Either the demographic variables do not predict behavior, or (2) The instrument does not measure actual behavior.

Considering that research in the social sciences has set precedence for the utilization of demographic factors as predictive variables it is difficult to fault their inclusion in a theory which is trying to explain a specific social situation. Psychology may offer explanatory concepts
which explain individual behavior by his/her interpretation or meaning placed on the variable at given times and places. This explanation agrees with Martha Rogers (1970) nursing theory of unitary man, which states that a person spirals through existence, affecting and affected by the environment of that point in time and space. Judith Bardwick (1971) particularizes this idea for the explanation of women's behavior. The individual value placed on various roles may fluctuate throughout life as a result of previous socializations, new concepts and current support for both. This produces contentment, dissatisfaction or ambivalence depending on the momentary interaction of all of the above. Thus, demographic variables as they relate to women's roles may be individually altered by momentary perception and therefore as a common group variable may be non-predictive.

The implication for nursing practice is that each women's status must be assessed in the totality of an objective and personally subjective measurement.

This relates to the second conclusion or question resulting from this study. Does this tool measure actual behavior or is it a measurement of perception of behavior? In addition, assuming that there is a valid relationship between the tool and its components of exercise of self-care agency, do these components incorporate or account for Orem's determinants of self-care agency?

It appears that the selection of components
incorporated into the ESCA Scale may have been subjectively conceptualized behavioral expectations, not necessarily aligned with the overall theoretical framework. If this is a measurement of the perception of exercise of self-care agency as Kearney and Fleischer (1979, p. 26) discuss in the development of the tool, then, perhaps it is more valid to say this tool is a measurement of the potential for behavior or self-care agency. It is therefore imperative to delineate exactly what the tool measures before using it in future research which searches for group commonalities. The Scale may well be an individual barometer but not be suitable for group predictive research. Use of this tool in the former mode is quite significant for the practice of nursing with individual clients. As this author read through each response, the combined information produced several individualized potential nursing diagnoses. Certainly, possessing the information contained in the demographic questionnaire and the ESCA Scale offers direction for selection of the nursing system and for prioritization of topics for nurse/client interaction.

A minor conflicting finding occurred as an offshoot of categorizing answers to an open ended question on self-satisfaction. The discussion must be tempered with the limitation imposed by a subjective categorization of respondent's answers. However, considering that self-worth is a component of the ESCA Scale it is puzzling that even a
minor negative correlation should exist between self-satisfaction and the ESCA Scale.

Recommendations for Further Study

In this study, the cumulative scores on the ESCA Scale were divided into equal thirds for entry into the chi-square matrix. Kearney (1982) had recommended that the high scores be considered those falling above two standard deviations from the mean and the low scores, those two standard deviations below the mean. In this sample (n=132) the numbers falling into the high and low groups were numerically too small to enter into statistical analysis. In a considerably larger sample this might be possible. Perhaps then some statistically significant correlations would fall out. Without a very large sample size one would question using such assignments.

The incongruities raised by this research demonstrates the need for continuing dialogue amongst theorists, researchers and nurses in clinical practice to clarify the constructs and their alignment within each conceptual framework. Perhaps the components within each construct needs to be weighted as to its relative influence or value. Because of the questions regarding the validity of the ESCA Scale's measurement of behavior the next step should be a factor analysis of the 43 statements on the tool. Thus, using the data already collected, the 43 variables might be reduced to a smaller set of factors (factor extraction phase)
and then loaded (factor rotation and scoring) for another statistical run with the demographic variables. At that point, more definitive statements could be made regarding the usefulness of the ESCA Scale.
References


Kearney, B.Y. Personal communication, July 15, 1982.


Morgan, M. Marital status health, illness and service use. Social Science and Medicine, 1980, 14A, 633-643.


Box 2275 A  
Graduate Program  
College of Nursing  
South Dakota State University  
December 1, 1982

Dear

I am a graduate student in the master's program in the College of Nursing at SDSU. Because so little research has been done on women's health in South Dakota, I am researching women's health for my thesis. It is my hope that once risk factors are identified this knowledge would be used in the health care of women.

Your name was one of only three hundred selected through a random sampling of South Dakota phone books. So, conclusions reached about facets of the health of South Dakota women depend on getting answers from you and the other women selected. I would be most grateful if you would take fifteen minutes to complete this questionnaire and return it in the stamped, self-addressed envelope. I need these returns by December 15 to meet my deadline.

Your name will not be used. Your answers and personal information will be pooled with the other women's answers to study the health of South Dakota women. By your completion of the questionnaire I will assume I have your permission to use the figures for my research analysis and future publication. I hope to publish the results in a professional nursing journal.

I thank you in advance for your trouble in helping with this research. May your coming holidays be filled with many happy moments.

Sincerely,

SUSAN M. HUBKA TODD, R.N.  
Candidate, MSN  
South Dakota State University

Enc.: Research Questionnaire

IF THERE IS NO WOMAN, with the above name living at this address, please X the box on this page and return the entire questionnaire in the stamped envelope provided. Thank you.

☐ NO WOMAN WITH THE ABOVE NAME LIVES HERE.
By completing this questionnaire I will assume I have your permission to use the results for my research analysis.

Column Number

1-4a This questionnaire is comprised of two parts. The first section involves questions which will give particular facts about you. Some questions will have their own directions. Please answer EVERY question. If it does not apply to you place a zero in the space.

5-6 What is your age on your birthdate 1982?

7 What is your present marital status? Check one.

- Married
- Widowed
- Divorced
- Never Married

8-9 How old were you at the time of your first wedding? Years

10 How many times have you been married?

11-12 How many years have you been married?

13-14 How many years have you been divorced?

15-16 How many years have you been widowed?

17-18 How many children do you have?

19 How many children are still at home?

20-24b Please list the age of each of your children.

25-32c If any of your children died please list their ages and how many years since their death.

33-34 What is your highest grade of schooling completed, including years in college or vo-tec school?
If you attended school beyond high school, please give your age each certificate or degree was completed:

35-36 __________ Vocational certificate
37-38 __________ Associate degree (2 years college)
39-40 __________ Baccalaureate degree
41-42 __________ Masters
43-44 __________ Doctorate, professional or academic

45d What was your major field of study? ______________________

46 Are you currently employed? (i) Yes (a) No

47-48 If yes, how many hours per week do you work? ____________

49-50e Briefly describe your job or title, including homemaking: ____________________________________________

51f If not employed briefly describe most time-consuming activities: __________________________________________

52-55g What is your annual income? ________________________________________________________________

56-57h If you are (or were) married what is your husband's occupation? ______________________________

58-61g What is the combined level of income for your family? ____________________________

62 What is your race? Check one.

(i) White (a) Native American (3) Black
(4) Oriental (5) Hispanic

63i What is your religion? __________________________

64 Where do you currently live?

(i) On a farm
(2) In a town less than 2500 people
(3) In a town of 2500 to 10,000 people
(4) In a town of 10,000 to 25,000 people
(5) In a city of 25,000 or more people

65j Briefly, would you please describe your current feelings of satisfaction with yourself and what you are doing. (Use as much space as you need) __________________________
DIRECTIONS: Section two is not a test with right or wrong answers. It is an instrument which helps you assess yourself in terms of the degree in which you take care of your health needs. Below are statements followed by five possible choices. Circle the letter under the question which best describes you, from letter A (very characteristic) through letter E (very uncharacteristic), as follows:

1-4a  [ ] 2
A VERY CHARACTERISTIC
B SOMewhat CHARACTERISTIC
C NO OPINION
D SOMewhat UNCHARACTERISTIC
E VERY UNCHARACTERISTIC

5. I would gladly give up some of my set ways if it meant improving my health.
   A B C D E

6. I like myself.
   A B C D E

7. * I often feel that I lack the energy to care for my health needs the way I would like to.
   A B C D E

8. I know how to get the facts I need when my health feels weakened.
   A B C D E

9. I take pride in doing the things I need to do in order to remain healthy.
   A B C D E

10. * I tend to neglect my personal needs.
    A B C D E

11. I know my strong and weak points.
    A B C D E

12. I seek help when unable to care for myself.
    A B C D E

13. I enjoy starting new projects.
    A B C D E
14.* I often put off doing things that I know would be good for me.

A B C D E

15. I usually try home remedies that have worked in the past rather than going to see a doctor or nurse for help.

A B C D E

16. I make my own decisions.

A B C D E

17. I perform certain activities to keep from getting sick.

A B C D E

18. I strive to better myself.

A B C D E

19. I eat a balanced diet.

A B C D E

20.* I complain a lot about the things that bother me without doing much about them.

A B C D E

21. I look for better ways to look after my health.

A B C D E

22. I expect to reach my peak wellness.

A B C D E

23.* When I have a problem, I usually want an expert to tell me what to do.

A B C D E

24. I deserve all the time and care it takes to maintain my health.

A B C D E

25. I follow through on my decisions.

A B C D E

26.* I have no interest in learning about my body and how it functions.

A B C D E
27. If I am not good to myself, I believe I can not be good for anyone else.
   A B C D E

28. I understand my body and how it functions.
   A B C D E

29.* I rarely carry out the resolutions I make concerning my health.
   A B C D E

30. I am a good friend to myself.
   A B C D E

31. I take good care of myself.
   A B C D E

32. Health promotion is a chance thing for me.
   A B C D E

33. I have a planned program for rest and exercise.
   A B C D E

34. I am interested in learning about various disease processes and how they affect me.
   A B C D E

35. Life is a joy.
   A B C D E

36.* I do not contribute to my family's functioning.
   A B C D E

37. I take responsibility for my own actions.
   A B C D E

38.* I have little to contribute to others.
   A B C D E

39. I can usually tell that I am coming down with something days before I get sick.
   A B C D E
40. Over the years I have noticed the things to do that make me feel better.
   A B C D E

41. I know what foods to eat and keep me healthy.
   A B C D E

42. I am interested in learning all that I can about my body and the way it functions.
   A B C D E

43.* Sometimes when I feel sick I ignore the feelings and hope it goes away.
   A B C D E

44. I seek information to care for myself.
   A B C D E

45. I feel I am a valuable member of my family.
   A B C D E

46. I remember when I had my last health check and return on time for my next one.
   A B C D E

47. I understand myself and my needs pretty well.
   A B C D E
Footnotes

a These numbers would be entered before mailing. The first three spaces correspond to each subject's assigned number 1 through 300. The fourth space contains a 1 or 2 to correspond to the two IBM punch cards.

b Each of the five number spaces was coded by age bracket. Birth to 2 years = 1, 3-5 years = 2, 6-12 years = 3, 13-17 years = 4, 18 plus = 5. The numbers of children falling into each bracket was entered in the corresponding column. For example, if the woman had two children, one 2 years and one 10 years a 1 would be entered in column 25 and a 1 in column 27.

c The child's age at death was entered in columns 25, 26, and 29, 30 if two children died. Death under one year was listed as 1. The number of years since death was listed in columns 27, 28 and 31, 32 for the second child.

d Technical or vocational training = 1, professional education (predominantly nursing and teaching) = 2, liberal arts education = 3.

e The number entered referred to the Census Bureau Index with the addition of homemaker, retiree and student. See Table 2.

f Homemaking/child care = 1, volunteer work = 2, recreation, hobbies and exercise = 3, watching television =
4, helping husband's business = 5, studying = 6.

The amount listed was rounded to the nearest zero and divided by 10 to fit into the allotted four spaces. The coded number then must be multiplied by 10. If $250.00 was listed, then 0025 was entered; if $10,000.00 was listed, then 1000 was entered. $100,000.00 was entered as 9990 to differentiate from 9999 which meant no answer.

Husband's occupation was coded as wife's with the addition of military (number 16).

Catholic = 1, Lutheran = 2, Other Protestants = 3, Other denominations = 4, Jew = 5.

The answers were coded into a five point satisfaction scale (1) very satisfied, (2) somewhat satisfied, (3) neutral, (4) somewhat unsatisfied, (5) very unsatisfied.

*These statements are negatively worded and thus inversely scored.

Note. Where applicable, numbers have been written in to indicate how that answer was coded. All answers with blank spaces which have not been explained by footnotes will be coded with the number the respondent answers.
Dear Susan,

Barbara L. Illusche and I are delighted that you are interested in using the "Exercise of Self-Care Aging Tool." Enclosed is a second copy of the tool.

We would appreciate feedback concerning the results of your study. Please contact me if you have any questions.

Sincerely,

Barbara Y. Kaufz