

# Self-Care & Dependent-Care & Nursing

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## From the President

The 7th International Self-Care Deficit Nursing Theory conference is now completed. More than 120 persons attended. Papers from the conference will be included in future issues of this journal. We were privileged to have a large representation from the German SCDNT Network. The invitation to the next, 8th international Conference, was issued by Gerd Bekel. The conference will take place in Ulm, Germany during Sept. 29 to October 2, 2004. Put these dates on your calendar now. The focus of the conference is the science of self-care and its meaning for practice, research and education. The Call for Abstracts will be distributed early in 2003.

In her keynote address, Dr. Jacqueline Fawcett urged and challenged all of us to go forward with the development of theory in multiple ways. There is a great need to continue to develop scientific nursing theory and develop evidence-based practice. The link to nursing theory must be made explicit. It is the only way to determine the meaning of evidence, and in fact, what constitutes evidence of effective nursing care.

The work on general theories or models of nursing begun by nursing scholars in the 1960-70's is relevant today. It is not just of historical interest. It is up to today's scholars to demonstrate the meaning and relevance of discipline specific nursing theory to practice and education as well as research. The work that is done by members of the IOS and others using the SCDNT is important work. We do not have a discipline without a structured body of knowledge.

For decades, scholars have been decrying the piecemeal nature of nursing research. We have the opportunity to show the relationships of the studies done through the use of SCDNT in our writings and reporting of research. This begins with linking the work each of us is doing to published theoretical work and other related research. It is particularly important that the links to prior knowledge be included in interpretation of findings or discussing the meaning of theoretical work. We can move the work of creating a discipline of nursing-specific knowledge by placing our own work into the structure that SCDNT provides. ■

Susan G. Taylor, PhD, RN, FAAN  
President IOS

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## Information For Authors

The editor of *Self-care, Dependent-care, and Nursing*, The Journal of the International Orem Society for Nursing Science and Scholarship, welcomes manuscripts that address the mission of the Journal. Send the manuscript via email attachment to [m.j.morgan@wayne.edu](mailto:m.j.morgan@wayne.edu) Use Microsoft Word or WordPerfect format for the attachment. For surface mail, send to *Michael J. Morgan, MPH, PhD, RN*, Editor, *Self-care, Dependent-care, and Nursing*, WSU College of Nursing, 374 Cohn, 5557 Cass Avenue, Detroit, MI 48202 USA

Manuscripts may be forwarded to associate editors. In general, manuscripts from the Americas and East Asia will be reviewed by the editor. Manuscripts from Europe, Africa, and Western and South Asia will be reviewed by *Associate Editor, Georges C.M. Evers, RN, PhD, FEANS*, Centre for Health Services and Nursing Research, Faculty of Medicine, Catholic University Leuven, Kapucijnenvoer 35, B-3000 Leuven, Belgium. His email is: [georges.evers@med.kuleuven.ac.be](mailto:georges.evers@med.kuleuven.ac.be).

### M i s s i o n

*To disseminate information related to the development of nursing science and its articulation with the science of self-care.*

### V i s i o n

*To be the venue of choice for interdisciplinary scholarship regarding self-care.*

### V a l u e s

*We value scholarly debate, the exchange of ideas, knowledge utilization, and development of health policy that support self- and dependent-care.*

## MANUSCRIPT PREPARATION

Use standard English. The cover page must include the author's Full Name, Title, Mailing Address, Telephone number, and email address. *No identifying information is to be found on subsequent pages.* Include a brief abstract followed by MeSH key words to facilitate indexing.

The use of metric and International Units is strongly encouraged. Titles should be descriptive but short. Full-length articles should not exceed 15 double-spaced pages. Use of the *Publication Manual of the American Psychological Association*, 5<sup>th</sup> edition, is strongly encouraged but not mandatory. When required by national legal or ethical regulations, research-based manuscripts should contain a statement regarding protection of human subjects.

## REVIEW PROCESS

Manuscripts are reviewed anonymously. Authors are cautioned to not identify themselves in the body of the manuscript. Identifying information appears only on the cover page.

The lead author will be notified by email of the editor's decision regarding publication. ■

## INTELLECTUAL PROPERTY

Authors submit manuscripts for consideration solely by SCDCN editors. Accepted manuscripts become the property of SCDCN, which retains exclusive rights to articles, their reproduction, and sale. It is the intention of the editor to facilitate the flow of information and ideas. Authors are responsible for checking the accuracy of the final draft. One author must be clearly identified as the lead, or contact, author who must have email access.

# Association of Cancer Patients' Quality of Life, Symptoms, Moods, and Self-care Self-efficacy with Family Care Givers' Depression, Reaction and Health.

Elise L. Lev and Steven V. Owen

## ABSTRACT

This study investigated to what extent cancer patients' quality of life, symptoms, moods, and self-care self-efficacy explain variation in care givers' depression, reaction, and health. Data were obtained from a longitudinal investigation of adjustment of 307 cancer patients. Data for this study were provided by 65 patients diagnosed with cancer and a designated family caregiver. Sequential canonical analyses showed that patients' quality of life, symptoms, and moods were not significantly related to caregivers' depression, reaction or health. There was a canonical relationship between subscores of a patients' self-care self-efficacy measure and caregivers' outcomes ( $R^2 = .54$ ; Chi-square =  $.81.69$ ,  $df = 60$ ,  $p = .03$ ). Results suggest that aspects of patients' self-care self-efficacy may be mediators of caregiver stress.

## ASSOCIATION OF CANCER PATIENTS' QUALITY OF LIFE, SYMPTOMS, MOODS, AND SELF-CARE SELF-EFFICACY WITH FAMILY CAREGIVERS' DEPRESSION, REACTION, AND HEALTH

Because people today live longer than in previous generations, they are more at risk for chronic illnesses such as cancer. Cancer is the second leading cause of death in the U.S. In 2000, about 1,220,100 new cancer cases were diagnosed. The 5-year survival rate for all cancers is 60% ([www.cancer.org](http://www.cancer.org)).

Changes in the contemporary health care system have resulted in early discharge of hospital patients and increased numbers of cancer patients cared for at home and receiving medical treatments as outpatients. Family caregivers thus assume a growing responsibility for care of the patient at home (Siegel, Reveis, Houts, & Mor, 1991).

Researchers have reported that although the care giving experience shows variability in caregivers' reactions (Folkman, 1997; Keller et al., 1996; Williamson, & Schulz, 1993), caregivers may be at risk for poorer health outcomes than non-caregiving peers (Schulz, O'Brien, Bookwala, & Fleissner, 1995; Wright, Clipp, & George, 1993). Researchers have reported that the care giving experience is affected by not only the physical health of the patient but also the anxiety and mood of the patient and partner (Given, Given, Helms, Stommel, & DeVoss, 1997; Moen, Robinson, & Dempster-McClain, 1995), as well as the coping responses of the caregiver (Folkman, 1997). Strong correlations between patients' physical and psychological status and caregivers' perceived burden have been reported (Beckham, Burker, Rice, & Talton, 1995; McCorkle, Yost, Jepson, Malone, Baird, & Lusk, 1993).

Increasingly, researchers are studying how personal expectations are related to caregiver stresses and

## Departments

### Original Manuscripts

Scientific or theoretical interest. Subjected to full peer review.

### Brief Reports

Abstracts of dissertations (abstracts will be required to contain results); clinical case reports regarding self-care, self-care deficit, or nursing care systems; project reports.

### IOS News

News of the International Orem Society for Nursing Science and Scholarship

### Conference Notices

Reports of proceedings; calls for abstracts related to self-care are encouraged.

### Book reviews

In-depth reviews will include the strengths and weaknesses of a book and must contain the author's specific recommendation regarding the book.

### Editorial

Letters to the editor are encouraged. Occasionally, editorials will be invited. ■

patient stress responses. Self-efficacy expectations, people's confidence in their capability to accomplish specific behaviors, have begun to dominate this line of research. People initially gain knowledge about their efficacy from experiences with family, and fluctuations of self-efficacy may be related in part to experiences in one's family system (Bandura, 1997). Several researchers have suggested that patients' self-efficacy mediates the relationship between family caregivers' stressors and outcomes (Bartholomew, Czyzewski, Parcell, Swank, et al., 1997; Solomon, & Draine, 1995; Schumacher, Stewart, & Archbold, 1998). Reisma and associates (1998) found that patients with low self-efficacy received more assistance from family caregivers. More assistance implies increased care giver burden. Beckham, Burker, Rice, & Talton (1995) found such an association. As patients' self-efficacy decreased, family care givers' perceived burden increased.

### **Self-efficacy**

Bandura (1997) reported that perceptions of self-efficacy operate as cognitive mediators of performance in general. Thus stress may be mediated by perceived self-efficacy, thought to have beneficial health effects. Stress reduction effects, according to Bandura (1997), are explained more by a person's perceived self-efficacy than by direct behavioral reduction of stress. According to self-efficacy theory, knowledge itself may not be associated with changing behavior but a person's perception of his or her capabilities is an important characteristic to be considered in predicting behavioral responses. Bandura (1997) suggested that a sense of perceived control over life can buffer negative health effects of stress. Like perceived control, self-efficacy mediates the relationship between health-related stressors and outcome variables (Mowat & Laschinger, 1994; Schumacher, Stewart, & Archbold, 1998). Although a threatening event may still be present, the threat is transformed subjectively to a less aversive event when a perception of agency occurs.

People with self-efficacy, confidence in their ability to perform a specific behavior, are likely to perform the behavior; people without self-efficacy related to a specific behavior are not likely to perform the behavior. Self-care self-efficacy is defined as a person's confidence in being able to perform relevant self-care behaviors in a particular situation (Lev & Owen, 1996). Thus, people with self-care self-efficacy are likely to perform self-care behaviors. Interventions designed to increase self-care self-efficacy given to women with breast cancer resulted in patients with increased self-care self-efficacy, higher quality of life, and less symptom distress (Lev & Owen, 2000).

### **Pearlin Model**

Pearlin, Mullan, Semple, and Skaff (1990) examined relationships among stressors in a study of 555 caregivers of Alzheimer's patients. Factors explaining variation in caregiver stress included (a) stressors that caregivers perceive as problematic, such as indicators of the patients' physical and psychological status; (b) biographic characteristics of the caregivers; (c) role strains and intrapsychic strains produced in caregivers; and (d) outcomes indicative of the health of the caregiver. Pearlin and associates emphasized that the model should be regarded as exploratory, invited others to expand and extend the model (Pearlin, Mullan, Semple, & Skaff, 1990).

### **Purpose**

The following research question was examined: To what extent do cancer patients' quality of life, symptoms, moods, and self-care self-efficacy explain variation in family caregivers' depression, reaction, and health?

## **METHOD**

### **Sample and setting**

Data for the analysis were obtained from a larger study, a longitudinal investigation of 307 cancer patients (Lev, Paul, & Owen, 1999). Of the 307 patients in the primary study, 95 subjects identified family caregivers. Persons related by blood, marriage or other long-term relationships such as friendship or shared living

space were included as family caregivers. Eighty-three patient and caregiver dyads gave informed consent, and completed data collection questionnaires which were available for analysis.

Inclusion criteria for patients in this study were patients who were (1) receiving cancer treatment (chemotherapy or radiotherapy); (2) between age 18 and age 70; (3) English speaking; (4) Not diagnosed with a cancer of the brain or a psychotic disorder as defined in the DSM-IV; and who gave (5) informed consent to participate in the study. Inclusion criteria for the caregivers were persons who were (1) identified as a family caregiver by a subject participating in the study, and who (2) gave informed consent to participate in the study.

Patients' average age was 58 years, 80% were white, 53% were Catholic, 66% were married and 65% were female. Patients reported their diagnoses as metastatic cancer (25%), breast cancer (18%), lung cancer (12%), and their treatment with chemotherapy for cancer (85%). The average time since patients' initial diagnosis was 1 year, and 9 months, and the time since diagnosis ranged from 1 month to 12 years, 7 months. Caregivers' average age was 46 years, 81% of caregivers were female, 85% were white, 70% were married, and 60% were Catholic. Caregivers were mainly related to the patient as spouse (52%) or adult child (23%). The majority of caregivers were white (84%), Catholic (43%), and married (67%).

Subjects were recruited from 10 settings in New Jersey where outpatient cancer treatment is administered. Four hospitals provided 87% of the subject referrals; the remainder were provided by 6 private group practices, professional corporations. The Institutional Review Board in each setting approved procedures for informed consent.

## Measures

Empirical indicators were congruent with the Pearlin et al. (1990) model and included: (a) measures of patients' physical and psychological status; (b) biographic data of caregivers; (c) role strain and intrapsychic strain of care-

givers; and (d) health outcomes of caregivers.

## Patient measures

Patients completed measures of their biographic data and the following indicators of physical and psychological status:

The Functional Assessment of Cancer Treatment (FACT) was used to measure patients' quality of life (Cella, et al., 1993). The 37-item FACT includes five subscales: physical well-being, social well-being, emotional well-being, relationship with doctor, and fulfillment/contentment. The reported internal consistency (coefficient alpha) for the FACT ranged from .65 to .89. Subjects are asked to respond to each item on a 5-point response scale ranging from "Not At All" to "Very Much." Sample items are, "I have a lack of energy," and "My work (include work in home) is fulfilling." The FACT is scored by reversing negatively worded items and summing responses to yield a total score. High scores indicate high quality of life (Cella, 1997).

The Symptom Distress Scale (SDS), a self-report instrument, was used to identify patient's symptom distress (McCorkle & Young, 1978). The alpha reliability for the total scale was 0.82 for 53 patients with chronic illness. The scale measures physical symptoms common in patients with cancer including nausea, appetite, insomnia, pain, bowel patterns, breathing, cough, and psychological factors such as concentration, appearance, mood and outlook. Respondents are asked to rate each item on a 5-point response format ranging from 1 (normal or no distress) to 5 (extensive distress). Higher scores indicating increased levels of symptom distress.

The Profile of Mood States (POMS) was used to measure patients' mood states, defined as the person's perception of his or her feeling and affect (McNair, Lorr, & Droppleman, 1971). Six identifiable mood states are measured: tension-anxiety; depression-dejection; anger-hostility; vigor-activity; fatigue-inertia; and confusion-bewilderment. Subjects are asked to read the list of words that describe feelings people have, then fill in

one space under the answer which best describes how they have been feeling. Responses are scored from 0 to 4: 0 = Not at all; 1 = A little; 2 = Moderately; 3 = Quite a bit; 4 = Extremely. High scores indicate mood distress.

Self-care self-efficacy was defined as an individual's confidence in using strategies to promote health. Patients' self-care self-efficacy was measured by Strategies Used by Patients to Promote Health (SUPPH; Lev & Owen, 1996), a self-report instrument based on self-efficacy theory. Internal consistency reliability, as measured by Cronbach's alpha, was estimated at .94 at occasion 1 (baseline) and .96 on occasion 2 (retest). Test-retest estimates (2-week interval) to explore stability yielded .94. Through exploratory factor analysis, four factors were identified: coping, stress reduction, making decisions, and enjoying life. Item examples for each of the four factors are: (1) Coping ("Keeping my stress within healthy limits"), (2) Stress Reduction ("Practicing stress reduction techniques even when I'm feeling sick"), (3) Making Decisions ("Choosing among treatment alternatives recommended by my physician the one that seems right for me"), (4) Enjoying Life ("Helping other people going through cancer treatment"). The respondent is asked to rate the degree of confidence he or she has in carrying out specific self-care behaviors. Each item of the SUPPH is rated on a 5-point scale of confidence from 1 = "very little" to 5 = "quite a lot."

### Caregiver measures

Caregivers completed biographic

measures, measures of role strain associated with caregiving (caregivers reaction), intrapsychic strain (depression), and health outcomes.

Caregivers' role strain was measured using the Caregiver Reaction Assessment (CRA), a 27-item scale that measures caregivers' reactions to caring for adult patients (Given, et al., 1992). The instrument evolved to address unresolved issues in caregiver burden research. Respondents are asked to indicate the following for each item: "strongly disagree," "agree," "neither agree nor disagree," "disagree," "strongly disagree." Higher scores indicate increased caregiver burden. Five unidimensional subscales are: caregiver esteem; support or lack of support from family; impact on finances; impact on schedule and impact on health. Alpha coefficients of the subscales range from .80 for impact on health to .90 for impact on esteem. Correlations of the five subscales with patient dependence and caregiver depression supported the construct validity of the CRA (Given, et al., 1992).

Caregivers' depression was measured using the Center for Epidemiologic Studies Depression Scale (CES-D) scale, developed to measure symptoms of depression in community populations (Markush & Favero, 1974). CES-D is a self-report scale in which respondents are asked to rate the frequency over the past week of 20 symptoms by choosing one of four response categories ranging from "rarely or none of the time" to "most or all of the time." Results of psychometric testing demonstrated high internal consistency, acceptable test-retest stability, excellent concurrent validity, and evi-

dence of construct validity (Radloff, 1977; Weissman, et al., 1977).

Caregivers' health outcomes were measured using the Medical Outcome Study Short Form Health Survey (MOS SF-36) (Ware & Sherbourne, 1992; Ware, 1993), developed from the Health Perception Questionnaire (HPQ) (Ware & Karmos, 1976). The SF-36 is a 36-item scale constructed to survey health status. The scale assesses eight health concepts: physical functioning, role limitations due to physical health, role limitations due to mental health, social functioning, bodily pain, general mental health, vitality, and general health.

### Analysis

We used a canonical correlation model, which is able to treat sets of predictor and outcome variables simultaneously. To streamline the process, the canonical approach was repeated three times, each occasion using the entire collection of caregiver variables regressed on a subset of predictors. The first occasion used as predictors the five FACT scores, plus the SDS score; the second, the six POMS scores; and the third, the four SUPPH scores.

### Results

Sixty-five dyads with complete data were used in the canonical analyses. Means and standard deviations for all predictor and outcome variables for these 65 dyads are shown in Table 1. In the first analysis, the set of five FACT scores and the SDS were ineffectual in explaining the set of 14 caregiver variables (Chi-square = 91.66,  $df = 90$ ,  $p = .44$ ). The second canonical analysis, using the six POMS scores, produced similar insignificant results (Chi-square = 79.92,  $df = 90$ ,  $p = .77$ ). However, the

final canonical analysis, using the four SUPPH scores, did show significance for the first canonical correlation (Chi-square = 81.69,  $df = 60$ ,  $p = .03$ ). The canonical correlation was .73 ( $R^2 = .54$ ). Although structure coefficients (loadings) are often used in interpreting canonical patterns, Rencher (1995) has argued convincingly that these coefficients are univariate and potentially misleading. The standardized canonical weights are fully multivariate and are preferred for interpretation, Rencher (1995) suggested. Standardized weights are given in Table 2.

The largest standardized weights within each set of variables were used to define the pattern linking important patient and caregiver attributes. The linkages are dominated by these themes: Patients with poor coping self-efficacy, but who believe they can enjoy life, tend to have caregivers who lack body pain, have good social functioning, report poor mental health, but do not suffer role limitations because of mental health. Caregivers also report positive esteem, and say that caregiving has little impact on their own health.

## DISCUSSION

The current study focused on the extent to which cancer patients' quality of life, symptoms, moods, and self-care self-efficacy contribute to variation in caregivers' depression, reaction and health. In this study, cancer patients' quality of life, symptoms, and moods were not related to caregivers' depression, reaction or health. However, aspects of patients' self-care self-efficacy were associated with care-

givers' outcomes. The current study supports previous researchers (Bandura, 1997; Bartholomew et al., 1997; Solomon, & Draine, 1995; Schumacher, Stewart, & Archbold, 1998) who suggested self-efficacy mediates relationships between care giving stressors and outcomes.

Theoretical differences may account for variance in patients' outcomes. A mediator represents a mechanism through which an independent variable is able to influence dependent variables of interest. Interventions appear to work by means of mediating variables (Baranowski, Anderson, & Charmack, 1998; Bandura, 1997). Self-efficacy is hypothesized to be one of the most important mediators of health behavior (Calfas, Sallis, Oldenburg, & French, 1997) and is a potent element in quality of life research (Amir, Roziner, & Knoll, 1999). A growing body of research has focused on personal beliefs about exercising some control over conditions that affect one's life. Research supports the idea that self-efficacy links an individual's psychosocial factors with outcomes such as quality of life, moods, symptom distress, and stress (Bandura, 1997; Lev, 1997). Pearlin and colleagues (1990) suggested that stressors that caregivers perceive as problematic, such as indicators of patients' physical and psychological status, explain variation in caregivers' stress. Pearlin and colleagues (1990) reported patients' coping and social support were mediators of caregivers' stress. Results of the current study suggest that patients' self-care self-efficacy may be another mediator of caregivers' stress.

As a child matures, he or she achieves separation or individuation

from the mother or nurturing person, a capacity for mutually satisfying relations with others, and increased autonomy. Various psychiatric disorders are linked with adults who lack the capacity to achieve autonomy (Blanck & Blanck, 1994). Caregivers who report poor mental health may lack autonomy and may be especially influenced by patients with poor self-care self-efficacy. Individuals who have healthy autonomous relationships with others have less difficulty relinquishing relationships than individuals with less autonomy (Bowlby, 1980). Thus, caregivers who report poor mental health may be at risk for anticipatory grief as well as poor bereavement outcomes (Robinson, Nuamah, Lev, & McCorkle, 1995). Statistical support for a negative relationship between self-care self-efficacy and grief has been reported (Lev & Owen, 1996); that is, stronger self-efficacy tends to correspond to less grief.

## Limitations

There are limitations due to the cross sectional design of the study as well as the gender of the caregivers. The data reported here were collected on only one occasion. Therefore, changes that may occur over time during the course of the illness could not be studied. Although some researchers have reported that an increase in time spent in care giving activities was associated with increased reports of caregiver burden (Stoller, & Pugliesi, 1989), other researchers reported caregivers showed a decrease in burden during the first year after diagnosis (Blood, Simpson, Dineen, Kauffman, & Raimondi, 1994). Plainly, the issue deserves more study.

Because the sample of caregivers

who participated in this study was mostly female, findings may not reflect male caregivers. Women are frequently perceived in society as caregivers and women's moral judgment includes issues of responsibility and caring for others (Gilligan, 1982). Although such a perception may be beneficial to those women who find satisfaction in care giving, women who perceive care giving as a burden may find their reaction induces feelings of guilt. Reactions of males who are caregivers have not been well described. It may be that the study of masculinity has not kept pace with that of feminism.

Finally, because of a relatively small number of dyads and a large number of variables, the canonical results should be treated as tentative. Additional data, with larger numbers of male caregivers, are needed to replicate or extend the findings reported here.

#### Further Research

Further studies are needed to examine mediators of family caregivers' stress, the mediational role of patients' self-care self-efficacy, and its contribution to beneficial outcomes in caregivers. Another question needing investigation is whether efficacy enhancing interventions given to patients will influence caregiver outcomes. Efficacy enhancing interventions given to patients have been shown to increase patients' self-care self-efficacy (Lev, Daley, Conner, Reith, Fernandez, & Owen, 2001). Reports from previous studies suggest that comprehensive care given to cancer patients and family members during the patient's illness affects families' members by decreasing their psychological distress (Lev & McCorkle, 1998; McCorkle, Robinson, Nuamah, et al., 1997; Parkes & Weiss, 1983). Longitudinal studies are needed to investigate changes that may occur in both patients and family caregivers over time. Longitudinal study of interventions given to patients could determine whether interventions given to increase patients' self-care self-efficacy effect family caregivers' depression, burden and health.

#### Implications for practice

When an individual in a family experiences cancer diagnosis and treatment, changes occur in family caregivers. Although changes in health care are needed to allow family caregivers to be the recipient of care rather than limiting services to the patient alone, assessment of caregivers' health status is suggested. Caregivers with poor mental health have a greater need for intervention than caregivers who report few emotional difficulties. Caregivers with poor mental health are at high risk for negative bereavement outcomes, and these caregivers can be identified (Robinson, Nuamah, Lev, & McCorkle, 1995). Providing interventions to the family caregiver during the course of the patients' illness may help prevent negative health outcomes in family caregivers, decrease grief, and decrease psychological distress in family caregivers.

Caregivers who adapt poorly may not only be more vulnerable to psychological and physical distress but may also be less capable of providing high-quality patient care (Williamson, Shaffer, & Schulz, 1998). Thus preventing a decrease in the health and well-being of the family caregiver may prevent a decrease in care for the cancer patient that can be associated with poor caregivers' health. Maximizing long-term mental and physical health outcomes for caregivers may prevent the negative health effects associated with caregiver experiences (Goode, Haley, Roth, & Ford, 1998). ■

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TABLE 1

Means and Standard Deviations for Predictor (Patient) and Outcome (Caregiver) Variables

	Mean	S.D.
PATIENT PREDICTORS		
FACT: Physical well being	21.81	5.31
FACT: Social well being	22.59	5.11
FACT: Emotional well being	15.75	3.55
FACT: Relationship with doctor	7.29	1.30
FACT: Fulfillment	17.79	6.02
SDS	24.00	7.07
POMS: Tension-anxiety	6.33	4.02
POMS: Anger-hostility	5.00	5.13
POMS: Vigor-activity	13.69	5.97
POMS: Fatigue-inertia	6.31	5.26
POMS: Confusion-bewilderment	3.55	3.48
POMS: Depression-dejection	4.56	5.06
SUPPH: Coping	64.07	14.30
SUPPH: Stress reduction	23.77	8.09
SUPPH: Making decisions	10.98	4.24
SUPPH: Enjoying life	10.66	3.04
CAREGIVER OUTCOMES		
CES-D	0.66	0.45
Caregiver reaction: Esteem	12.00	2.85
Caregiver reaction: Family support	20.57	3.22
Caregiver reaction: Impact on finances	10.57	2.58
Caregiver reaction: Impact on schedule	15.93	3.65
Caregiver reaction: Impact on health	16.64	2.32
SF-36: Physical functioning	26.82	3.72
SF-36: Role limits	6.79	1.51
SF-36: Role limits-Mental health	5.09	1.16
SF-36: Social functioning	8.20	1.68
SF-36: Bodily pain	6.68	0.94
SF-36: Mental health	21.96	4.27
SF-36: Vitality	16.70	3.42
SF-36: General health	19.65	3.41

TABLE 2

Standardized Canonical coefficients for Patients SUPPH scores (predictor variables) and caregivers' outcome variables

Variables	Standardized weights*
PREDICTOR VARIABLES	
SUPPH: Coping	<b>-1.00</b>
SUPPH: Stress reduction	-0.45
SUPPH: Making decisions	-0.21
SUPPH: Enjoying life	<b>-1.25</b>
OUTCOME VARIABLES	
CES-D	-0.26
Caregiver reaction: Esteem	<b>-0.46</b>
Caregiver reaction: Family support	0.31
Caregiver reaction: Impact on finances	-0.24
Caregiver reaction: Impact on schedule	-0.14
Caregiver reaction: Impact on health	<b>-0.67</b>
SF-36: Physical Functioning	0.18
SF-36: Role limits-Physical health	-0.34
SF-36: Role limits-Mental health	<b>0.42</b>
SF-36: Social functioning	<b>0.53</b>
SF-36: Bodily Pain	<b>-0.51</b>
SF-36: Mental health	<b>-0.55</b>
SF-36: Vitality	-0.01
SF-35: General health	0.20

Standardized Canonical coefficients for Patients SUPPH scores (predictor variables) and caregivers' outcome variables (continued)

\*Weights used in pattern interpretation are boldfaced.

Note. Higher SUPPH scores and higher SF-36 scores represent positive states, whereas higher Caregiver Reaction scores reflect higher perceived burden.

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## REFERENCES

American Cancer Society. [www.cancer.org](http://www.cancer.org) accessed 1/4/00.

Amir, M., Roziner, I., Knoll, A., & Neufeld, M.Y. (1999). Self-efficacy and social support as mediators in the relation between disease severity and quality of life in patients with epilepsy. *Epilepsia*, *40*, 216-224.

Bartholomew, L.K., Czyzewski, D.I., Parcell, G.S., Swank, P.R. et al. (1997). Self-management of cystic fibrosis: Short-term outcomes of the Cystic Fibrosis Family Education Program. *Health Education and Behavior*, *24*, 652-666.

Bandura, A. (1997). *Self-efficacy The exercise of control*. New York: W.H. Freeman and Co.

Beckham, J.C., Burker, E.J., Rice, J.R., & Talton, S.L. (1995). Patient predictors of caregiver burden, optimism, and pessimism in rheumatoid arthritis. *Behavioral Medicine*, *20*, 171-178.

Blanck, G., & Blanck, R. (1994). *Ego psychology: Theory and practice*. New York: Columbia University Press.

Blood, G.W.; Simpson, K.C., Dineen, M., Kauffman, S.M., & Raimondi, S.C. (1994). Spouses of individuals with laryngeal cancer: Caregiver strain and burden. *Journal of Communication Disorders*, *27*, 19-35.

Bowlby, J. (1980). *Attachment and loss: Loss, sadness and depression (Vol. 3)*. New York: Basic Books.

Calfas, K.J., Sallis, J.F., Oldenburg, B., & Ffrench, M. (1997). Mediators of change in physical activity following an intervention in primary care: PACE. *Preventive Medicine*, *26*, 297-304.

Cella, D. (1997). *Manual of the Functional Assessment of Chronic Illness Therapy (FACIT) measurement system*. Evanston, IL: Center on Outcomes, Research and Education.

Cella, D.F., Tulsky, G.S., Gray, G., Sarafian, B., Linn, E., Bonomi, A., Silberman, M., Yellen, S.B., Winicour, P., Brannon, J., Eckberg, K., Lloyd, S., Purl, S., Blendowski, C., Goodman, M., Barnicle, M., Stewart, I., McHale, M., Bonomi, P., Kaplan, E., Taylor, S., Thomas, C.R., & Harris, J. (1993). The functional assessment of cancer therapy scale: Development and validation of the general measure. *Journal of Clinical Oncology*, *11*, 570-579.

Folkman, S. (1997). Positive psychological states and coping with severe stress. *Social Science and Medicine*, *45*, 1207-1221.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge, MA: Harvard University Press.

Given, B.A., Given, C.W., Helms, E., Stommel, M., & DeVoss, D.N. (1997). Determinants of family caregiver reaction. *Cancer Practice*, *5*, 17-24.

Given, C.W., Given, B., Stommel, M., Collins, C., King, S., & Franklin, S. (1992). The caregiver reaction assessment (CRA) for caregivers to persons with chronic physical and mental impairments. *Research in Nursing and Health*, *15*, 271-283.

Goode, K.T., Haley, W.E., Roth, D.L., & Ford, G.R. (1998). Predicting longitudinal changes in caregiver physical and mental health: A stress process model. *Health Psychology*, *17*(2), 190-198.

Keller, M., Henrich, G., Sellschopp, A., & Beutel, M. (1996). Between distress and support: Spouses of cancer patients. In *Cancer and the Family*. Ed. Lea Baider, Cary L. Cooper, & Atara Kaplan De-Nour. New York: John Wiley & Sons.

Lev, E.L. (1997). Bandura's theory of self-efficacy: Applications in oncology. *Scholarly Inquiry for Nursing Practice: An International Journal*, *11*, 21-36.

Lev, E.L., & Owen, S.V. (2000). Counseling women with breast cancer using principles developed by Albert Bandura. *Perspectives in Psychiatric Care*, *36*(4), 131-138.

Lev, E.L., & Owen, S.V. (1996). A measure of self-care self-efficacy. *Research in Nursing & Health*, *19*, 421-429.

Lev, E.L., & McCorkle, R. (1998). Loss, grief and bereavement in family members of cancer patients. *Seminars in Oncology Nursing*, *14*, 145-151.

- Lev, E.L., Paul, D.B., & Owen, S.V. (1999) Age, self-efficacy, and change in patients' adjustment to cancer. *Cancer Practice*, 7, 170-176.
- Lev, E.L., Daley, K., Conner, N., Reith, M. Fernandez, C., & Owen, S.V. (2001). Interventions to enhance self-efficacy increase quality of life and self-care self-efficacy and decrease symptoms in breast cancer patients. *Scholarly Inquiry for Nursing Practice: An International Journal*, 15, 277-294.
- McCorkle, R., Robinson, L., Nuamah, I., Lev, E., & Benoliel, J.Q. (1998). The effects of home nursing care for patients during terminal illness on the bereaved's psychological distress. *Nursing Research*, 47, 2-10.
- McCorkle, R., Yost, L., Jepson, C., Malone, D., Baird, S., & Lusk, E. (1993). A cancer experience: relationship of patient psychosocial responses to care-giver burden over time. *Psycho-Oncology*, 2, 21-32.
- McCorkle, R. & Young, K. (1978). Development of a symptom distress scale. *Cancer Nursing*, 1, 373-378.
- McNair, D., Lorr, M., & Droppleman, L. (1971). Edits Manual: *Profile of Mood States*. San Diego: Educational and Industrial Testing Services.
- Moen, P., Robinson, J., Dempster-McCain, D. (1995). Caregiving and women's well-being: A life course approach. *Journal of Health and Social Behavior*, 36, 259-273.
- Mowat, J., & Laschinger, H.K. (1994). Self-efficacy in caregivers of cognitively impaired elderly people: A concept analysis. *Journal of Advanced Nursing*, 19, 1105-1113.
- Parkes, C.M. & Weiss, R.S. (1983). *Recovery from Bereavement*. New York: Basic Books.
- Pearlin, L.I., Mullan, J.T., Semple, S.J., & Skaff, M.M. (1990). Caregiving and the stress process: An overview of concepts and their measures. *Gerontologist*, 30, 583-591.
- Radloff, L.S. (1977). The CES-D scale: a self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385-401.
- Reisma, R.P., Klein, G., Taal, E., Rasker, J.J., Houtman, P.M., van Paasses, H.C., & Wiegman, O. (1998). The supply of and demand for informal and professional care for patients with rheumatoid arthritis. *Scandinavian Journal of Rheumatology*, 27, 7-15.
- Rencher, A.C. (1995). *Methods of multivariate analysis*. New York: Wiley.
- Robinson, L.A., Nuamah, I.F., Lev, E.L., & McCorkle, R. (1995). A prospective longitudinal investigation of spousal bereavement examining Parkes and Weiss' bereavement risk index. *Journal of Palliative Care*, 11, 5-13.
- Schumacher, K.L., Dodd, M.J., & Paul, S.M. (1993). The stress process in family caregivers of persons receiving chemotherapy. *Research in Nursing & Health*, 16, 395-404.
- Schulz, R., O'Brien, A.T., Bookwala, J., & Fleissner, K., (1995). Psychiatric and physical morbidity effects of Alzheimer's disease caregiving: Prevalence, correlates, and causes. *The Gerontologist*, 35, 771-791.
- Siegel, K., Raveis, V.H., Mor, V., & Houts, P. (1991). The relationship of spousal care-giver burden to patient disease and treatment-related conditions. *Annals of Oncology*, 2, 511-516.
- Solomon, P. & Draine, J. (1995). Subjective burden among family members of mentally ill adults: Relations to stress, coping, and adaptation. *American Journal of Orthopsychiatry*, 65, 419-427.
- Stoller, E. P., & Pugliesi, K.L. (1989). Other roles of caregivers: competing responsibilities or supportive resources. *Journal of Gerontology*, 44, 5231-5238.
- Ware, J.E. (1993). *SF-36 Health Survey Manual & Interpretation Guide*. Boston, MA. The Health Institute, New England Medical Center.
- Ware, J.E., & Karmos, A. (1976). *Development and validation of scales to measure perceived health and patient role propensity. Vol. II: Final report*. Springfield, VA: National Technical Information service (# 288-331).

- Ware, J.E., & Sherbourne, C.D. (1992). The MOS 36-item short-form health survey (SF-36). *Medical Care*, 30, 473-483.
- Weissman, M.M., Sholomskas, D., Pottenger, M., Prusoff, B.A., & Locke, B.Z. (1977). *American Journal of Epidemiology*, 106, 203-214.
- Williamson, G.M., & Schulz, R. (1993). Coping with specific stressors in Alzheimer's disease caregiving. *The Gerontologist*, 33, 747-755.
- Williamson, G.M., Shaffer, D.R., & Schulz, R. (1998). Activity restriction and prior relationship history as contributors to mental health outcomes among middle-aged and older spousal caregivers. *Health Psychology*, 17(2), 152-162.
- Wright, L.K., Clipp, E.C., & George, L.K. (1993). Health consequences of caregiver stress. *Medicine, Exercise, Nutrition, and Health*, 2, 181-195.

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