LIFE SATISFACTION OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

by

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TABLE OF CONTENTS

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LIST OF TABLES

CHAPTER I

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) and lung cancer have emerged as major health problems during the past two decades (Williams, 1975). Chronic obstructive pulmonary disease specifically has been identified as second only to cardiac disease as a cause of permanent and total disability (Nett & Petty, 1970; Agle, Baum, Chester, & Wendt, 1972).

The research available on COPD is minimal compared to that on cardiac disease. The lag in interest may be due to discouragement as the rehabilitation of the patient with COPD is less spectacular (Haas & Cardon, 1969). The bulk of the research to date has attempted to evaluate the physical rehabilitation and treatment of the individual with COPD. Techniques employed have emphasized breathing exercises, progressive activity, and other physiological procedures (Agle et al., 1973; Bither, 1973; Pierce, 1964).

To date, the social and psychological aspects have been explored only superficially and non-systematically. The quality of the lives of these patients has not been thoroughly examined.

Life satisfaction is one indicator of quality of life. Factors consistently recognized as having significant effects on life satisfaction include perceived health and social participation, particularly informal relationships. Also, the individual's

sense of control over his life (e.g. locus of control) has been related to one's satisfaction (Palmore & Luikart, 1972).

It was the aim of this research to explore selected social and psychological and health factors that affect the life satisfaction of the patient with chronic obstructive pulmonary disease.

Review of the Literature

In the following review, the nature of chronic obstructive pulmonary disease is discussed and the current treatment strategies identified. Secondly, the concept of life satisfaction is described and its relationship to chronic disability is explored. Finally, the effects of selected health, social psychological, and demographic variables on life satisfaction are presented. These selected variables include: locus of control, dependency, age, sex, marital status, education, income, occupational status, and employment.

Chronic Obstructive Pulmonary Disease

The Nature of COPD

Chronic obstructive pulmonary disease represents a spectrum of diseases from purely obstructive airway disease with bronchitis and no emphysema, to severe emphysema without significant bronchitis. Although the term COPD may apply to patients with chronic bronchitis, asthma, or anatomic emphysema characterized by persistent obstruction to bronchial air flow, most patients have a combination of chronic bronchitis and emphysema. Several

etiological factors are involved in the emphysema-chronic bronchitis syndrome, but smoking has been identified as the most important cause (Morris, 1973). Other pulmonary insults such as air pollution or repeated deep chest infections add to the progression of the disease (Nett & Petty, 1970).

There are two main physiological abnormalities responsible for COPD; generalized narrowing of the bronchi, and destruction of the pulmonary parenchyma. Mucous glands and cilia are affected. The spongy lung tissue loses its elasticity and the walls of the alveoli break down. These physiological changes result in dyspnea, excessive mucous production, persistent cough and expectoration, and oftentimes wheezing.

This chronic and progressive disease occurs most frequently in male cigarette smokers between the ages of 50 and 60, who may or may not have a long history of chronic bronchitis (Howell, 1975). It is unusual for one to seek medical advice early in the course of the disease. Reasons for this are obscure. According to Nett and Petty (1970), delay is probably due to denial; fear that the physician will take away his source of pleasure, smoking. By the time the individual does seek help, his disease has significantly advanced, and he now faces progressive disability. As time passes, and the damage from smoking, air pollution, and chest infections persist, physiological functioning worsens. Bronchial airways continue to narrow, the production of sputum increases, lung elasticity is lost, and breathing becomes more difficult (Morris, 1973).

As the disability progresses, the patient finds himself unable to keep up with his colleagues under normal life activities (Nett & Pett, 1970). "The frustrations of having to work to breathe, the knowledge that one faces a chronic, unrelenting disease . . . plague at the now tired and frustrated mind" (pp. 1252-1253). Changes occur in activity, one's work life, intrafamily and social relationships (Barstow, 1974). The male patient must often stop work during his most productive years. If financial difficulites arise, the wife may seek employment. This may produce further difficulties. The wife may resent this role change, while the husband might suffer a lowered self-esteem.

Abram (1972), while focusing on chronic heart disease, renal failure, lung disease, and diabetes mellitus, states the patient not only perceives his illness as a threat to his "bodily integrity" (p. 659), but becomes affected by the changes and restrictions on his present lifestyle. These changes produce behavioral responses which Abram (1972) identifies as psychological defense mechanisms. Psychological reactions of the chronically ill include depression, overdependency, and nonadherence to treatment regimens. Regarding dependency, Abram (1972) states that the patient receives secondary gains from being ill and thus finds the effort toward health difficult. Both Kassebaum and Baumann (1965) and Parets (1967) agree that dependency is a pattern of emotional reaction in the patient with a long-term illness.

Nett and Petty (1970) refer to the curtailment of physical activities as a sort of "self-exile" into a more sedentary lifestyle. When the disease becomes severe, the patient suffers a variety of problems; employment is interrupted, recreation suffers, activities narrow and are less fulfilling, productivity with loss of self-esteem result, sexual life is affected (Miller, 1971), and appetite and sleep disturbances occur (Nett & Petty, 1970).

As respiratory disturbances increase, the patient can no longer afford to exhibit emotional changes of any kind (anger, depression, happiness), as this may lead to physiological decompensation and further respiratory embarrassment. The patient with obstructive lung disease often will isolate himself to avoid emotional confrontation. "Patients with severe pulmonary disease live in an emotional 'straitjacket'" (Dudley, Wermuth, & Hague, 1973).

Treatment Strategies

Neff and Petty (197) state that patients with chronic airway obstruction need both physical and psychological support. In reference to emphysema specifically, Miller (1971) emphasizes the need for rehabilitation. Although emphysema is an irreversible disorder, "it is neither inevitably progressive nor hopeless" (p.2) if appropriate rehabilitative measures, both physical and psychological, are instituted. Current medical treatment methods include: "(1) removal of irritants and

treatment of infections; (2) bronchodilitation; (3) bronchial toilet and mucolytics; (4) physical rehabilitation training; (5) oxygen therapy" (Hadley, 1977, p. 4).

A program for physical reconditioning was undertaken on patients with severe emphysema by Pierce, Taylor, Archer and Miller (1963). They concluded that patients can be benefited by regular physical exercise. These conclusions are supported by Neff and Petty (1970) when they emphasize a program aimed at relieving dyspnea, providing higher levels of activity, returning the patient to gainful employment if possible, and, "in most, to correct underlying psychological problems" (p. 1253).

An observational study by Agle et al. (1973) on 21 male veterans found a rehabilitation program resulted in "some" changes in psychological but not physiological factors. They also concluded that the degree of psychological distress may not necessarily be related to the degree of physical impairment. Both social and psychological factors affect one's response to the rehabilitation program. The key to rehabilitation according to Nett and Petty (1970) is in understanding the psychological milieu of the emphysematous patient before embarking on a physiologically oriented program.

In summary, chronic obstructive pulmonary disease, usually a disease of progressive chronicity, is characterized by both physiological and psychological disturbances. The research thus far has primarily emphasized physiological approaches to

rehabilitation (Bither, 1973; Haas & Cardon, 1969; Pierce et al., 1963), while minimal and non-systematic research has been undertaken for understanding the quality of life of the patient with chronic obstructive pulmonary disease. Physiological rehabilitation is no doubt of great importance, yet the underlying psychological and social problems must not be overlooked. Both Nett and Petty (1970) and Farrington (1971) emphasize a program of total patient rehabilitation.

Life Satisfaction

General satisfaction has been defined by Henley and Davis (1967, p. 67) as "a perceived state of mind that reflects relative contentment and freedom from anxiety," and can be reported, qualitatively, by patients. Satisfaction results from reactions of an individual to a wide range of inner and environmental pressures.

Adams (1971) has pointed out that in attempts to operationalize an individual's psychological "well-being," a wide variety of concepts have been employed; satisfaction, happiness, morale, successful aging, adjustment, adaptation, and positive self-image. There has been no general agreement that the above concepts can be used interchangeably. Nevertheless, researchers, while conceptualizing "well-being" in various ways, have continued to explore similar biological, sociological, and psychological characteristics.

Much of the literature has dealt with life-satisfaction in the aged population. In the last five years further attempts

have been made to deal with similar variables of life satisfaction as they relate to the middle-aged (Palmore & Luikart, 1972), and to the chronically ill (Brown & Rawlinson, 1976; Garrity, 1973).

Palmore and Luikart (1972) explored numerous variables as they relate to life satisfaction in a middle-aged (45-69 years) sample of 502 men and women. Using linear correlation and step-wise multiple regression, significant relationships were found. The strongest indicators of life satisfaction in order of predictability were self-rated health, organizational activity (religious activities and voluntary association participation), and internal control orientation. Variables previously thought to be related to life satisfaction were found to have little or no relationship: age, sex, total social contacts, career anchorage, marital status, and intelligence. The Cantril-ladder (Cantril, 1965) was used to measure both perceived health and life satisfaction.

Using a sample of non-institutionalized individuals 65 years and older, Cutler (1973) found a spurious relationship between voluntary organizational participation and life satisfaction since the relationship vanished when socioeconomic status was held constant. Adams (1971) supported this finding.

Spreitzer and Snyder (1974), using multiple correlation regression analysis, again found self-assessed health to be the strongest predictor of life satisfaction, especially for individuals over 65 years of age. Financial adequacy and

perceived social class were also found to be significant correlates. Social participation was not measured.

In a correlational study, Adams (1971) found that health, the extent of social participation, and socioeconomic status were predictors of satisfaction for an elderly population. Edwards and Klemmack (1973) support these findings. Using zero-order and partial correlations, they explored the relationship of 22 different variables on life satisfaction. Informal participation with nonkinsmen, perceived health status, and socioeconomic status were found to be the best predictors. Locus of control was not among the variables explored. Again, holding socioeconomic status constant, variables found significant in other studies were eliminated as predictors of life satisfaction: that is, age, marital status, and family size.

Brown and Rawlinson (1976), exploring the morale of patients one or more years following cardiac surgery found the tendency to depression, coping style, and perceived health as prime predictors of satisfaction. Again, in a multiple regression analysis, variables such as medically assessed condition, age, work status, income, and time since surgery were found to add little to the understanding of morale.

In summary, a number of variables have been identified in the literature as predictors of life satisfaction. Among those most commonly mentioned are: perceived health (Brown & Rawlinson, 1976; Edwards & Klemmack, 1973; Garrity, 1973; Palmore & Luikart, 1972); social participation (Adams, 1971; Edwards &

Klemmack, 1973; Ellison, 1969); and socioeconomic status (Adams, 1971; Edwards & Klemmack, 1973; Palmore & Luikart, 1972). Internal control also has been related to satisfaction, adjustment and health (Cummings, Dean & Newell, 1958, cited in Adams, 1971; Kinsman, Jones, Matus, & Schum, 1976; Palmore & Luikart, 1972).

The present study attempted to explore the relations of a number of the above variables to the life satisfaction of the patient with chronic obstructive pulmonary disease; specifically, perceived health, dyspnea, social participation, locus of control, and dependency. Also examined were age, marital status, living arrangements, employment, and socioeconomic status.

Effects of Selected Variables on Life Satisfaction

Perceived Health

Health has been identified as a strong predictive measure of one's life satisfaction (Edwards & Klemmack, 1973; Garrity, 1973; Henley & Davis, 1967; Palmore & Luikart, 1972). Both Palmore and Luikart (1972) and Garrity (1973) state that self-rated health is the best predictor of satisfaction. Palmore and Luikart (1972) also reported that self-rated health, measured by the Cantril-ladder technique (Cantril, 1965), was strongly correlated with the physician's assessment of the patient's health status. Maddox (1964) also had evidence to support this conclusion.

Freidsam and Martin (1963) not only found that the patient's subjective health rating closely correlated with the physician's objective rating of the patient's health, but that the self-rating was a better predictor of a future rating by the physician.

Lowenthal and Boler (1965) indicated that poor health, when it resulted in social isolation, tended also to decrease satisfaction with life. This finding has been further supported by Ellison's (1969) research. Ellison measured the morale of a sample of retired steelworkers by a Will-to-Live Scale. A greater percentage of "social isolates" manifested a low will-to-live than nonisolates.

The research examined thus far seems to agree that health is definitely related to life satisfaction. Adams (1971) states that health, whether measured by objective or subjective assessments, physical disability or loss of mobility, is consistently related to life satisfaction. Adams (1971) comments that loss of "physical vigor" (p. 65) may affect satisfaction indirectly through its effect on social life.

Johnson (1977), in an investigation of morale in aged patients with implanted cardiac pacemakers, concluded that good health is sufficient to produce high morale, but poor health does not result in low morale unless social participation is also low.

The direction of the relationship between health and satisfaction has been questioned (Ellison, 1969). While Lowenthal and Boler (1965) identify poor health as leading to isolation

and therefore to less satisfaction, Henkle and Schmale (1964, cited in Ellison, 1969) describe social isolation as leading to low satisfaction which can then be manifested by adopting the sick role.

In summary, the literature thus far seems to support the direct and positive relationship between perceived health and life satisfaction. However, there may be confounding factors, such as extent of social contacts, that need to be taken into consideration.

Social Participation

There have been various accounts of social participation as being a predictor of life satisfaction (Ellison, 1969; Palmore & Luikart, 1972; Phillips, 1961).

Palmore and Luikart (1972) identify voluntary organizational activities as being important. Similar conclusions have been reported by Kutner (1961), Tobin and Neugarten (1961), and Maddox (1973). While health plays an explanatory role, activity is the most powerful determinant of morale (Maddox, 1973).

A finding by Lemon, Bengtson, and Peterson (1972) and Cutler (1973) showed that involvement in voluntary organizations or formal activities does not contribute strongly to life satisfaction. When both health and economic status were held constant, voluntary associational participation was only weakly related to satisfaction (Cutler, 1973).

Upon closer examination, Bell and Force (1956) found that persons at a higher economic level participated in social activities significantly more than did lower income persons. Also, age was correlated positively with social participation, but only for higher income groups. Socioeconomic status was also found by Garrity (1973) to be predictive of participation in community organizations.

Edwards and Klemmack (1973), on the other hand, identified nonfamilial participation as a better indicator than organizational involvement. By their definition, nonfamilial activity, or informal participation, consisted of interaction and communication with neighbors, friends, and relatives. Lemon et al. (1972) tended to support this conclusion when they found little relation between informal participation with kin and perceived satisfaction. While Edwards and Klemmack (1973) primarily emphasize "neighboring," Lemon et al. (1972) identify "friends" as most significantly correlated with satisfaction. Also, Lowenthal and Haven (1968) and Palmore and Luikart (1972) state that "having a confidant" is important in predicting one's satisfaction.

It may not be activity in general, but only particular types of activity, that lead to satisfaction. Also, total social contacts were found to have little or no relationship to one's satisfaction (Palmore & Luikart, 1972). Henley and Davis (1967) report that subjects with decreased social contacts were less satisfied than those with greater contacts, yet the

differences were not statistically significant. Although referring to the family, Henley and Davis (1967) emphasize it was the quality of the relationship rather than the actual structure or number of contacts as the factor that was significantly related to life satisfaction.

In a study by Lowenthal and Boler (1965), subjects who voluntarily withdrew from social interactions (e.g. contact with friends, relatives, or organizations), rated as high on the morale dimension as those not having withdrawn. On the other hand, those persons "deprived" (e.g. widowed, retired, or physically disabled within the last seven years) with or without a decrease in social interaction, scored low on morale; those with less social contact scored lowest.

In summary, the use of diverse indicators of social participation (e.g. kin involvement, friendships, frequency of communication with others, and number of visits to neighbors) make interpretation and generalization difficult. Noting that friendship associations appear to be most highly and consistently related to satisfaction, Adams (1971) emphasizes it is the nature of the interaction that seems to affect satisfaction.

Locus of Control

The concept of internal-external locus of control grew out of Rotter's Social Learning Theory. The locus of control orientation describes the degree to which an individual believes that reinforcements are contingent upon his own behavior. Those

believing they have some control over their own destinies are labeled "internalizers," while those persons who believe the outcomes are determined by forces outside their control (e.g. fate, chance, luck, the unpredictable, or powerful others), are identified as "externalizers."

Attempts have been made to correlate locus of control with confidence, success-failure outcomes, effects of direct reinforcement and self-reinforcement, and with competence, hopelessness, helplessness, mastery, and alienation (Lefcourt, 1973).

The findings of Palmore and Luikart (1972) identify the degree of internality as the third strongest predictor (after health and organizational involvement) of life satisfaction: "Persons believing they control their lives may engage in lifestyles that provide more satisfaction, and persons who have more satisfying experiences may develop a stronger belief that they control their lives" (p. 78).

In other studies, characteristics similar to internal-external locus of control have been examined in relation to the behaviors and attitudes of chronically ill persons. These characteristics are responsibility and mastery.

Kassebaum and Baumann (1965) explored dimensions of the sick role in chronically ill individuals. Both the sick person and the aging person were identified as less "responsible" and the combination of chronic illness and advanced age, did not appear to produce any specific characteristics. Cummings, et al.

(cited in Adams, 1971) refer to both "the ability to change means, and if necessary, goals, and the ability to accept responsibility for one's own behavior without excessively blaming himself and others" (p. 65), as important measures in determining one's satisfaction.

Using cluster analysis, Kinsman et al. (1976) have identified dimensions of patient attitudes of asthmatic patients. Two of these dimensions were optimism, the extent to which a positive outlook has been retained toward the ability to master the illness, and "external control," the extent to which the individual assumes responsibility for his own illness or, in contrast, tends to regard his treatment program as being exclusively in the hands of others. Further research in testing these characteristics is advised (Kinsman et al., 1976).

A great deal of research has dealt with the smoker and the degree of internal-external locus of control. Straits and Sechrest (1963) and James, Woodruff, and Werner (1965) gave evidence that smokers appear to be more "externally" oriented than nonsmokers. Further research has demonstrated inconclusive findings (Hjelle & Clouser, 1970). The bulk of the work with smoking has been in matching the individual's treatment program to his internal or external orientation (Best & Steffey, 1971, 1973). Best and Steffey (1971) concluded, that further research was needed to predict treatment outcome following individualized therapy.

Balch and Ross (1973) observed that internally oriented

persons more frequently completed and succeeded in a group weight reduction program than externally oriented persons. Kilmann, Albert, and Sotile (1975) hypothesized that matching a person's treatment (unstructured versus structured) with his internal-external orientation would result in more satisfaction and greater weight loss. The findings demonstrated a significant relationship between locus-of-control orientation and treatment outcome; internalizers lost more weight in an unstructured group while externalizers lost more weight within a structured group setting. Rozensky and Bellack (1976) similarly found persons rating high on "self-reinforcement" lost more weight in a self-control program. However, persons rating low on "self-reinforcement" did not necessarily perform better in an externally controlled program.

Robinson and Shaver (1973) have identified the wide range of the internal-external construct to predict and explain behavior, such as birth control practices, rioting, and reaction to disability. They also state that "antecedent" factors affecting the development of the internal-external orientation will add much to our present knowledge. Robinson and Shaver (1973) emphasize that the onset and continuous exposures that affect a prolonged incapacitating disability may influence one's internal-external orientation. Robinson and Shaver conclude that "people are handicapped by external locus of control orientation. The prevailing belief is that it is desirable to change people, especially those who are not doing well in our society,

in the direction of internality" (p. 170). Accordingly, internal-external change techniques have begun to be developed (Robinson & Shaver, 1973).

In 1976, Wallston and Wallston introduced the Health Locus of Control (HLC) Scale, specifically developed to predict health-related behaviors. While use of the HLC scale continues to increase, Wallston and Wallston suggest a measure of health value is also necessary to explain health-related behavior outcomes. While the area specific HLC scale appears to have functional utility as a measure of generalized expectancy (Wallston & Wallston, 1976) in health situations, more research is needed.

MacDonald and Hall (1969, 1971) explored the internal-external orientation in relationship to one's perception of adverse effects of disability on the self-concept. They hypothesized that externalizers would consider "physical disability" as both more debilitating to their "feelings" about themselves and to their social relationships, whereas internalizers would consider "emotional disorders" as more debilitating both personally and socially (MacDonald & Hall, 1971). Using nondisabled students, they found some support for the first two hypotheses in that "external" males considered physical disability as more debilitating to themselves than either externally oriented females or internal oriented males and females. Although caution should be employed in generalizing these findings to the disabled, the data suggest that one's control

orientation may influence adjustment to disease. In 1971, Goldstein and Resnikoff hypothesized that persons undergoing chronic renal hemodialysis would be more externally oriented than a control group of medical patients; their hypothesis was confirmed.

In summary, the findings thus far give support to the usefulness of the internal-external concept as a conceptual tool, yet further research is necessary in order to predict health-related behaviors.

Demographic Variables

Age. An inverse relationship between age and satisfaction has been shown by Phillips (1961) and Cavan (1962). Tallmer and Kutner (1970) and Spreitzer and Snyder (1974) questioned the linearity of the relationship, and Havighurst and Albrecht (1953, as cited in Henley and Davis, 1967), Edwards and Klemmack (1973) and Brown and Rawlinson (1976), found age unrelated to satisfaction. It has been emphasized by Maddox and Eisdorfer (1962), that our focus on age as an independent variable should be shifted to the factors (e.g. poor health, loss of one's work role, loss of spouse) with which chronological age is associated.

Sex. Kutner, Fanshel, Togo, and Langner (1956) found morale to differ significantly between the sexes. On the other hand, Spreitzer and Snyder (1974), Henley and Davis (1967), Tallmer and Kutner (1970), and Palmore and Luikart (1972) all failed to identify any significant difference in satisfaction as between the sexes.

Marital status. Marital status has been mentioned intermittently in the above review. It appears that marital status as an isolated variable has little if any relationship to life satisfaction (Edwards & Klammack, 1973; Henley & Davis, 1967; Palmore & Luikart, 1972; Tallmer & Kutner, 1970). Regarding widowhood, Blau (1961) remarks that it appears to have an adverse effect on social participation only when it places an individual in a position different from that of his age and sex peers. Additionally, a confidant (Lowenthal & Have, 1968; Palmore & Luikart, 1972) or significant other may serve the same function as the spouse in satisfying important social needs (Palmore & Luikart, 1972).

Socioeconomic Measures

The literature indicates that variations in income, education, occupational status, and employment are related to life satisfaction. Of the socioeconomic variables income, education, and occupational status, Adams (1971) identifies education as the most important factor to affect satisfaction. Henley and Davis (1967), on the other hand, found that neither higher levels of education nor employment were significantly associated with satisfaction. Again, Palmore and Luikart (1972) found little relationship between education and life satisfaction, but did find differences in satisfaction by income levels. While Cavan (1962) places little emphasis on one's financial situation, Henley and Davis (1967) and Spreitzer and Snyder (1974) emphasize one's perceived financial status and its meaning to the individual. Spreitzer and Snyder (1974) found

perceived financial adequacy to be a stronger predictor of satisfaction than were objective indices of socioeconomic position.

In addition to the socioeconomic variables, lack of employment, whether voluntary or involuntary, may have effects similar to those of retirement on one's life satisfaction. For the chronically ill, especially the patient with chronic obstructive pulmonary disease, a change in one's work role may result due to his disability. An "involuntary retirement" with a decrease in activity level may come sooner than expected, and thus may tend to decrease one's satisfaction (Adams, 1971; Maddox, 1963). On the other hand, this "retirement" may be contingent on other factors. Blau states that for men, the effect of retirement varies according to the prevalence of retirement among age-sex-class peers. Kutner et al. (1956) also state that retirement and life satisfaction may be conditioned by socioeconomic status. While Palmore and Luikart (1972) state that employment is significantly related to satisfaction among men, Garrity (1973) and Brown and Rawlinson (1976) comment that insofar as chronically ill populations are concerned, there would seem to be little difference in morale between those who are employed and those not employed.

In summary, the literature appears consistently to identify age, sex, and marital status as poor predictors of life satisfaction, while discrepancies persist regarding socioeconomic measures. As the bulk of previous research has not dealt with

the chronically ill patient, specifically the patient with chronic obstructive pulmonary disease, the present investigator chose to include in this study both demographic and socio-economic measures to determine whether results similar or dissimilar to the above would be obtained.

Purpose of the Study

From the review of literature, chronic obstructive pulmonary disease has been identified as a chronic physically debilitating disease which produces profound physiological and psychological changes, and alters the style of living and life satisfaction of those affected. It was the intent of this research to determine the extent to which specific factors affect the life satisfaction of such patients, namely, perceived health, social participation, locus of control, dyspnea, and dependency.

Hypotheses

It is hypothesized that:

1. The better his health as perceived by the patient, the greater will be his life satisfaction.
2. The greater the social participation of the patient, the greater will be his life satisfaction.
3. The more "internally" oriented is the patient, the greater will be his life satisfaction.
4. The better the health of the patient, as indicated by the dyspnea rating by the physician, the greater will be the life satisfaction of the patient.
5. The less the dependency of the patient, the greater will be his life satisfaction.

CHAPTER II

METHODOLOGY

Setting

The study was conducted in two outpatient clinics. The first setting was located in a 527 bed Veterans' Administration Hospital. The clinic was held one afternoon each week to provide follow-up care for previously hospitalized respiratory patients. The number of COPD patients who visit this clinic each week varied from 20 to 40. Each patient was cared for by either a staff or resident physician.

The second outpatient clinic was located at the University of Oregon Health Sciences Center. Care was provided one afternoon a week to COPD patients of both sexes and all ages. Approximately 15 patients visited this clinic each week and were generally referred from physicians in the community.

The two facilities were used in this research to assure an adequate number of subjects for the sample. Both hospitals were teaching facilities for the University of Oregon Health Sciences Center.

Subjects

All subjects taking part in this study had pre-scheduled appointments at either of the two outpatient clinics between August 8, 1977, and October 31, 1977. Thirty-two patients were selected for this research.

Only those subjects were included in the study who were 68 years of age or less at the time of entry (to maximize eligible subjects yet minimize the number of "elderly" patients), male, outpatient, non-institutionalized, and free from major disabling chronic diseases such as cancer, Parkinson's disease, crippling arthritis, neurological disorders, and major psychiatric illnesses. Those either on psychotropic drugs or receiving psychiatric care were excluded.

Thirty-four subjects met these criteria. The majority were informed of the study either by letter (Appendix B), or by phone call prior to their scheduled clinic appointment. The purpose of such notification was to minimize patient inconvenience, and to avoid disruption of the patient's appointment. Upon arrival at the clinic, formal consent to participate in the research was obtained from 32 patients (94%). The two subjects who refused to participate gave no reason for their decision.

Data Collection Instruments

Measurement of the Dependent Variable

Life satisfaction in this research was estimated by means of the Cantril-ladder technique (Cantril, 1965). The advantages of this technique are that it results in a theoretically continuous, equal-interval measure thus permitting the use of parametric statistics; it is easy to administer, and it is also self-anchoring. Scores of 0 to 3 represent low satisfaction, 4 to 6 moderate satisfaction, and 7 to 9 high satisfaction.

Each respondent was shown a picture of a 9-rung ladder labeled "the most satisfied I could be" at the top (9), and "the least satisfied I could be" at the bottom (0). He was then asked to indicate on this ladder the extent of his own satisfaction with life right now in comparison to his satisfaction before developing breathing problems, to the satisfaction of the average person his age, and of the sick person his age. Others who have used this measure include Garrity (1973), Palmore and Luikart (1972), and Johnson (1977). According to Palmore and Luikart (1972), the ladder provides both a stable and global assessment of one's satisfaction.

Measurement of the Independent Variables

Health related measures. In this research two measurements of health were employed. The first measure (Appendix D) was the patient's health perception, as determined by the Cantril ladder (Cantril, 1965). The top of the ladder (9) represents "best possible health," and the bottom (0) represents "worst possible health," hence scores may vary from 0 to 9. Perceived health was measured by the patient's response to the following question: "On which step would you say your health is right now?" Using the same technique, additional questions were posed regarding the patient's perception of his own health before developing breathing problems, and six months from now, and his views of the health status of the "average person," and of the "sick person." This information enables

comparisons with the patient's perception of his health "right now."

The second measure of health was the physician's assessment of the patient's degree of disability. As there are limited assessment tools for the patient with COPD, the investigator chose the Dyspnea Classification (Johnston, 1973), reproduced in Appendix H. This index represents a continuum of five degrees of disability as measured by the severity of dyspnea. It ranges from Class I which represents "no significant restriction" in normal activities, to a Class V representing "entirely restricted." Thus scores may vary from 1 to 5 with 1 signifying the least disablement and 5 the most disablement.

Social participation. Social participation was measured by the use of two instruments. The first measure was Phillips' (1969) Social Participation Index (Appendix E). This index offers information regarding informal sociability, neighboring activities, and participation in formal organizations. Subjects may receive scores from 3 to 8 points. The less socially active received "low" scores (3 or 4), the moderately active received "medium" scores (5 or 6), and the most socially active received "high" scores (7 or 8).

The second measure of social participation (Appendix F) was obtained by means of the subject's response to a 9-rung Cantril ladder (Cantril, 1965) labeled "most active social life" at the top (9) and "least active social life" at the bottom (0), thus scores may vary from 0 to 9. Social participation was

measured by the subject's response regarding his social life "right now." In addition, the subject was requested to estimate his social life before developing breathing problems, six months from now, and the extent of the social life of others his own age, both "healthy" and "sick." This information permitted comparisons with his present social participation.

Locus of control. Internal-external locus of control, representing a psychological trait, measures the extent to which the individual believes events in his life are influenced by his own actions (internal) or are the result of forces outside of himself (external). The instrument used in this study was Wallston's Health Locus of Control (HLC) Scale (Appendix G). The subject responds to an 11-item scale, using a 6-point Likert-type format. The scores may vary from 11 to 66 with 11 representing the most "internal" person, e.g. one believing his life is affected by his own actions, and 66 the most "external" person, e.g. one believing his health is beyond his control.

According to Wallston (1976), the HLC scale shows preliminary evidence of construct validity. Evidence of concurrent validity of the HLC scale is indicated by a correlation of .33 with Rotter's original I-E Scale. The alpha reliability is .72.

Additional Data

Additional information was collected by means of the Interview Schedule for descriptive purposes. The demographic

and socioeconomic measures included age, marital status, living arrangements (alone, or with others), education, income, employment, and occupation. The subject's socioeconomic status was determined according to the Duncan and Reiss Socioeconomic Index (1960). These items were included to permit a description of the sample, and to identify changes that may have occurred as a result of the presence of a chronic disabling disease. Items 1 through 13 and items 17 through 19 of the Interview Schedule (Appendix I) provide information on these variables.

Health related measures included "duration of illness," (item 20), and "absence or presence of other major illness," (items 27 and 28). A level of the subject's anxiety was measured by item 21. Information regarding the subject's perception of his dyspnea are provided in items 24, 25, and 26.

Items 14 and 15 provide knowledge of the subject's smoking habits; whether the subject smokes now or has smoked in the past. Also, the patient's perception of an association between smoking and the presence of breathing difficulties was assessed by item 16.

A measure of the subject's attitude toward medical care and illness was assessed by the following: Skepticism of Medical Care and Dependency in Illness (Suchman, 1965). "Skepticism of medical care: represented an effective response of the individual and measures the doubts one has on professional medicine. "Dependency in illness" represented a behavioral response; the need a sick person has to rely on other lay persons.

Scores on Skepticism (item 29, a, b, c) can vary from 0 to 3 (least to most skeptical), and scores on Dependency (items 29, a, b, c) can vary from 0 to 2 (least to most dependent).

Data Analysis

This study was correlational in nature. Pearson's *r* was the statistic used. The median test was also utilized to test certain additional relationships. Six independent variables were entered into a stepwise multiple regression analysis. The final evaluation of importance of these variables was determined from the regression analysis.

CHAPTER III

RESULTS AND DISCUSSION

This chapter contains both the results and discussion of the study and is presented in the following sections. First, the demographic, socioeconomic, and health characteristics of the sample are identified. Second, descriptive data of the dependent and major independent variables are presented, in addition to the correlations between the dependent variable and selected demographic, social, and health characteristics. Thirdly, the statistical analysis relating to the five hypotheses are reported. And finally, the results of the regression analysis are presented, indicating the relative contributions of the selected variables in explaining life satisfaction.

Subjects

The study population consisted of 32 subjects, the majority of whom were from the University Clinic (N=28), and the remainder from the V.A.H. Clinic (N=4). Information regarding the demographic, socioeconomic, and health characteristics of the subjects is presented in Table 1. The mean age of this sample was 58.8 years, with a range of 37 to 68 years, representing a group in late middle life approaching retirement age. Those subjects who were married and living with their spouses represented nearly one half of the sample. Subjects, living with another individual, whether married or not, represented about

Table 1

CHARACTERISTICS OF COPD PATIENTS

Characteristics	Values for the Subjects (N = 32)
Demographic and Socioeconomic:	
Age (mean)	58.8
(S.D.)	7.2
Percent married and living with spouse	46.9
Percent living with others	59.4
Percent with confidant	68.8
Education (mean)	9.6
(S.D.)	2.7
Yearly income (median[a])	$4874.00
Socioeconomic level (mean)	29.5
Percent employed	12.5
Time unemployed in years (mean)	4.5
(S.D.)	3.5
Health	
Duration of illness in years (mean)	8.7
(S.D.)	7.5
Percent with other chronic illnesses	34.4
Percent that presently use cigarettes	53.1
Skepticism Score (mean)	1.1
(S.D.)	1.0
Dependency Score (mean)	0.7
(S.D.)	0.9

a. Median income calculated on 31 subjects.

60% of the sample. Also, those subjects stating they had a confidant represented nearly 70% of the sample. Thus, although slightly less than 50% were married, more subjects reported having someone to whom they talked to about their problems.

For this sample, the mean education of 9.6 years indicated this group was considerably less educated than the general American population of the same age bracket. The mean score on the Duncan and Reiss (1960) Socioeconomic Index was 29.5, on a 100-point scale, indicating a low socioeconomic status for these patients. The socioeconomic index combined the levels of education and income (Duncan & Reiss, 1960).

The annual median family income for these patients was $4,874. According to the U.S. Bureau of the Census for 1976, the median family income was $14,841 for families headed by persons 55-64 years of age, and $8,063 for those headed by persons 65 years and over. Thus, the sample in this present study represented persons of a lower financial status, in fact at the poverty level.

The majority (87.5%) of persons were found to be unemployed, while only four subjects were employed. When asked whether they had intentions of returning to work, two out of the 28 unemployed stated they "hoped to." The remaining 26 patients had no plans for future employment.

Further, it was found that the average patient became unemployed 4.5 years prior to this interview. At the time of first unemployment, the average patient was in his early 50s,

considerably younger than the usual retirement age. In that the mean duration of respiratory illness for these subjects was 8.7 years, and the mean years of unemployment 4.5 years, it may be concluded that the average subject maintained employment approximately four years after he first became aware of his breathing difficulties. This may speak to the progressively debilitating nature of COPD.

Health characterisitics of the subjects included duration of illness in years (the length of time the subjects had been aware of their breathing difficulties), the presence of other chronic illnesses, and smoking habits. At least one-third of the subjects reported having another chronic illness or disease process. It is interesting to note that approximately one-half (53%) of all patients continued to smoke, and of these, the majority (59%) stated that they believed there was a positive relationship between their breathing difficulties and smoking.

Regarding skepticism of medical care, four subjects indicated they were strongly skeptical by agreeing with all the three items on the Suchman Scale. They had doubts regarding some things doctors can do; they demanded to know details pertaining to their care; and they believed in trying out different doctors to find which one would give the best care. Another six of the subjects showed moderate skepticism by agreeing with two out of three of these items on the scale. The remaining 22 agreed on only one statement or none at all, showing minimal or no skepticism. Thus, the majority of subjects appeared to show

little skepticism in regard to their medical care. This may be accounted for in that the group was being followed in a clinic. If these subjects were very skeptical, they probably would not continue in follow-up care.

On the "Dependency in Illness" measure, 25% (showing most dependency) of subjects agreed that when they were sick they found it comforting to talk to someone about it, and when getting well they found it difficult to give up having things done for them by other persons. Agreement with either statement, indicating some dependency, received 15.6% support, while 59.4% of subjects disagreed with both statements, showing no dependency. Thus, the majority of subjects did not subscribe to statements which imply a need for dependency.

In summary, the sample consisted of a late middle-aged unemployed group with less than one-half of them married, but over two-thirds with a confidant. Their educational level and mean family income was in the relatively low bracket, as was their socioeconomic status. They also reported to be limited in participation of many activities, to be minimally skeptical of medical care, and to be minimally dependent in relation to their illness.

Descriptive Information on the Dependent and Major Independent Variables

Life Satisfaction

The instrument used to measure life satisfaction in this study was a Cantril ladder (Cantril, 1965). The mean satisfaction

score for the total group of COPD patients was 5.3, representing their satisfaction "right now" (Table 2). Since the scale on the ladder ranges from 0 (least satisfaction) to 9 (most satisfaction), the obtained mean score of 5.3 represented moderate satisfaction, according to the classification system set by Robinson and Shaver (1973). About 15.6% of subjects perceived their life satisfaction as "low," 67.5% as "moderate," and only 18.8% as "high." This finding signified a sample of chronically ill subjects who are predominately "moderately" satisfied with life.

The number of persons in the present study who reported a lower level of life satisfaction did not differ from data reported from a normal population of individuals. In the present study, 15.6% of chronically ill patients with COPD stated they had "low" satisfaction, while Robinson and Shaver (1973), reported 10 to 17% of Americans stated a general dissatisfaction with life. Further studies (Bradburn & Caplovits, 1965; Converse & Robinson, cited in Robinson & Shaver, 1973; Gurin et al., 1960, cited in Robinson & Shaver, 1973; National Survey Research Center, cited in Robinson & Shaver, 1973), found that approximately 11 to 24% of the general population of age 45-69 years expressed themselves as "not too happy," or "not very satisfied." It may be noted that Henley and Davis (1964) similarly found that the percentage of dissatisfied in their sample of chronically ill elderly subjects, did not vary significantly from the percentage in the general

Table 2

MEAN VALUES OF DEPENDENT AND INDEPENDENT VARIABLES

Variable	Mean Score (N = 32)	Standard Deviation
Dependent		
Life Satisfaction (Cantril-ladder)		
Right now	5.3	2.05
Before developing breating problems	7.5	
Average person	6.6	
Sick person	2.2	
Independent		
Perceived Health (Cantril-ladder)		
Right now	3.9	2.1
Before developing breathing problems	7.9	
6 months from now	4.0	
Average person	5.9	
Sick person	2.0	
Social Participation (Phillips's Index)	5.4	1.36
Social Participation (Cantril-ladder)		
Right now	3.8	2.26
Before developing breathing problems	6.6	
6 months from now	3.9	
Average person	6.0	
Sick person	2.6	
Health Locus of Control	37.7	8.1
Dyspnea Classification	3.2	

population.

With respect to those classified as "moderately" satisfied, the results of 65.7% in the present study again are comparable to results of the general population. Converse and Robinson (1965, cited in Robinson & Shaver, 1973), reported 65%, and the National Survey Center (1968, cited in Robinson & Shaver, 1973), reported 66% for subjects over 65 years of age were moderately satisfied.

In contrast, fewer patients with COPD reported "high" satisfaction (18.8%) than subjects in the general population. Both Converse and Robinson (1965, cited in Robinson & Shaver, 1973) and the National Survey Center (1968, cited in Robinson & Shaver, 1973) reported 24% of subjects less than 65 years of age that stated to be "completely" satisfied. Interestingly, Johnson (1977) found that the majority of elderly pacemaker patients reported a fairly high morale (6.28 on a scale 0-28, with 0 representing highest morale). Additional research using the same measures would aid in clarifying these differences among samples of chronically ill individuals.

While the majority of patients with COPD reported a "moderate" satisfaction with life, they also perceived themselves as less satisfied now than prior to developing breathing problems. While they believed themselves less satisfied than average persons their age, still they thought of themselves as more satisfied than sick individuals their age (see Table 2).

Level of Perceived Health

Level of perceived health was operationalized by the responses to the Cantril ladder (Cantril, 1965), and viewed from five perspectives (Appendix D). For the total subjects, the mean score on perceived health "right now" was 3.9 with a range of 0-8 (0-9 potential range). Thus, the subjects in this study tend to perceive their health as relatively low. These results contrast with those of Palmore and Luikart (1972), who calculated a mean perceived health of 6.8 on a Cantril ladder (Cantril, 1965) for subjects from the general population aged 45-69 years. In addition, subjects with COPD perceived themselves as significantly less healthy now than "before developing breathing difficulties," and they anticipated minimal change in the next six months (see Table 2). Also, the subjects assessed themselves as less healthy than the "average" person their age, which supported the findings of Palmore and Luikart (1972) mentioned above. In contrast, Johnson (1977) found that the majority of patients with pacemakers perceived their health on a Cantril ladder as equal to that of the average person their age, e.g. mean age 68. Again, Ellison (1969) reported only 17% of his sample of retired steelworkers admitted to less than average health, and the majority (43%) reported better than average health. This finding is less surprising than Johnson's (1977) finding that chronically ill patients perceive their health as average.

Finally, the patient with COPD perceived himself to be

only somewhat healthier than the sick individual (see Table 2). This estimation of poor health does not seem surprising in light of the fact that these subjects have a chronic unrelenting disease affecting many areas of their lives: employment, recreation, productivity, appetite, sleep (Nett & Petty, 1970), and sexual life (Miller, 1971). Also, these patients may suffer repeated chest infections yearly due to the disease process of COPD (Nett & Petty, 1970).

Social Participation

It may be recalled from the previous chapter that social participation was measured by means of two instruments. The first instrument, a more objective measure, was Phillips' Social Participation Index. As shown in Table 2, the mean score was 5.4 on a scale of 3 to 8 (8 representing the most active social life). Twenty-two percent of the subjects reported "low," 50% "moderate," and 28% "high" social participation. Inspection of the individual scale items revealed that the average number of subjects had at least two to three friends, and three to four neighbors to whom they related. Only two subjects actively participated in an organization or club, not surprising in light of their low socioeconomic status. Persons with low income (Bell & Force, 1956) and those with a low socioeconomic status (Garrity, 1973) tend to participate less in social activities and community organizations. Thus, the majority of subjects reported a moderately active social life

according to the Phillips' Index, in which social life is operationally defined according to objective criteria based on the number of social contacts.

These results contrast to Phillips' (1967) original study of adult subjects, and also to Johnson's (1977) sample of elderly pacemaker patients. The distribution of responses of these COPD patients differed from the distribution reported by Phillips (1967) for his sample of the general population and reported by Johnson (1977) for her sample of pacemaker patients. In the present study, the proportion of subjects with "high" social participation (28%) was less than the proportion reported by Phillips (40%) or by Johnson (56%).

The relatively low level of social participation of COPD patients is again documented when the results of the more subjective measure of social participation are examined. A mean score on the Cantril ladder was 3.8 (see Table 2) with a range from 0 to 8 (0-9 possible). Subjects perceived their current social life to be fairly inactive, and less active than before developing breathing problems. They anticipated minimal change in their social life in the next six months, and they assessed their social life as significantly less than the average person their age (see Table 2). In contrast, Johnson (1977) reported that the majority (42%) of elderly patients with pacemakers viewed their social life to be the same as that of the average person their age.

Health Locus of Control

The mean score of the subjects on the Health Locus of Control Scale was 37.7. The subjects' responses ranged from a score of 24 (more internal) to 61 (more external) with a potential range of 11 to 66 points. Thus, the scores fell close to the normative Health Locus of Control data provided by Wallston et al. (1976). The mean score of 37.7 for subjects with COPD was approximately midpoint indicating that as a group they did not lean toward externality. This finding ran counter to expectation. Kassebaum and Baumann (1965) and Kinsman et al. (1976) described the chronically ill person as externally oriented and reported a slight tendency toward an external orientation for a group of hypertensive outpatients.

Dyspnea Classification

The Dyspnea Classification represented the subject's health rating by the physician: a measure of the subject's activity level based on his degree of dyspnea. The mean score was 3.2 on a 5 point scale. While no subject was free of dyspnea (score 1), 25% received a score of 2, 43.8% a score of 3, 25% a score of 4, and 6.3% were classified as having the most severe dyspnea and the least activity level. Thus, the majority of subjects experienced dyspnea with some activities of daily living, and most were unable to keep the walking pace of others their age. When asked if there was one symptom most bothersome to the subject, the majority (50%) reported

breathlessness (item 26, Appendix I), while 25% stated anxiety, and the remaining 25% fatigue. In addition, according to the physician's rating these subjects were judged as being generally unemployable.

Life Satisfaction in Relation to Selected Demographic, Social, and Health Characteristics

In this study, additional data were collected which included various demographic, social, and health characteristics. The correlation coefficient between life satisfaction and these selected characteristics are presented in Table 3. None was significant. Consistent with the literature, age (Brown & Rawlinson, 1976; Edwards & Klemmack, 1973; Havighurst & Albrecht, 1953) and martial status (Edwards & Klemmack, 1973; Henley & Davis, 1967; Palmore & Luikart, 1972; Tallmer & Kutner, 1970) were found to be poor predictors of life satisfaction. In contrast, having a confidant has been emphasized as important in predicting one's life satisfaction (Lowenthal & Haven, 1968; Palmore & Luikart, 1972).

The literature regarding the socioeconomic characteristics was inconsistent. The present findings correspond to those of Cavan (1962) regarding levels of income, and to Henley and Davis (1967) and Palmore and Luikart (1972) in relation to the level of education. Also, similar results were found between the present study and those reported by both Henley and Davis (1967) and Brown and Rawlinson (1976) in relation to employment. In short, the present findings are in agreement with those reported

Table 3

ZERO-ORDER CORRELATIONS OF LIFE SATISFACTION TO SELECTED DEMOGRAPHIC, SOCIAL, AND HEALTH CHARACTERISTICS

Characteristics	Correlation with Life Satisfaction (Pearsonian r)
Age	.068
Marital Status	-.007
Living Arrangements	-.137
Presence of a Confidant	.271
Education	.034
Income	.165
Occupation	-.255
Employment	.062
Presence of chronic disease	.225
Use of cigarettes	-.007

in the literature except for the nonsignificant finding regarding the relation of having a confidant to life satisfaction.

Evidence for and Against the Hypotheses

Hypothesis 1: The better his health as perceived by the patient, the greater will be his life satisfaction.

The zero-order correlation between perceived health and life satisfaction was not significant ($r = .188$), thus the first hypothesis was rejected. Those patients who rated their health higher on the Cantril ladder (Cantril, 1965), reported no greater life satisfaction.

This result contrasts with those of Palmore and Luikart (1972) and Edwards and Klemmack (1973) who emphasize subjectively assessed health to be strongly predictive of one's satisfaction for adult subjects 45 years and over. Additional research has emphasized self-assessment in health as predictive on one's level of morale (Garrity, 1973; Lowenthal & Boler, 1965).

As presented in an earlier section, the majority of COPD patients perceived their health as low, and only slightly better than the "sick" individual. The restricted range of responses on this independent variable may, in part, account for the low correlation between perceived health and life satisfaction. It is possible that more variability might be obtained with a larger sample size or a sample of COPD patients with different background characteristics, e.g. education, sex, age, socio-economic status. Such research is recommended.

Hypothesis 2: The greater the social participation of the patient, the greater will be his life satisfaction.

Social participation, as measured by Phillips' Social Participation Index, was found to be unrelated to life satisfaction ($r = -.054$). On the other hand, social participation as measured subjectively by the Cantril ladder was significantly related to life satisfaction ($r = .573$, $p < .01$). Therefore, the hypothesis was accepted in relation to the more subjective measure. It appears that these two instruments measure somewhat different aspects of this concept and therefore may not be used interchangeably as a measure of social participation. Apparently it is not the number of social contacts, friends, or neighbors or organizational memberships which are personally satisfying, but the quality of these relationships. Perhaps the subjective measure of social participation is more sensitive to variations along these qualitative dimensions than is Phillips' Index. This conclusion is in accord with the views of several investigators such as Adams (1971) and Henley and Davis (1967).

Hypothesis 3: The more "internally" oriented is the patient, the greater will be his life satisfaction.

The Pearsonian correlation between health locus of control and life satisfaction did not achieve the level of statistical significance ($r = .080$), thus the hypothesis was rejected. Results from the present study suggest that for the chronically ill, locus of control does not by itself significantly influence

life satisfaction. Yet, when considered in combination with other variables, the health locus of control may be important. This aspect will be considered later in the discussion of the results of the multiple regression analysis.

This finding contrasts with that of Palmore and Luikart (1972), who report a positive relationship between locus of control and satisfaction for a sample of persons aged 45-69 years, with average health. However, it might be noted that locus of control was operationalized by a different measure, the "Internal-External" Control of Reinforcement Scale (Jessor, 1968, cited in Palmore & Luikart, 1972).

Hypothesis 4: The better the health of the patient as indicated by the dyspea rating by the physician, the greater will be the life satisfaction of the patient.

The physician's health rating significantly correlated with life satisfaction ($r = -.399$, $p < .05$), thus the fourth hypothesis was accepted. According to the scoring technique, the inverse relationship indicates the less the dyspnea, the greater the life satisfaction.

This result is in harmony with the previously cited literature. Adams (1971) reported that health assessed either on an objective or subjective basis was correlated with satisfaction. Some investigators (Palmore and Luikart, 1972; Edwards & Klemmack, 1973) have found perceived health to be the strongest predictor of life satisfaction. However, other investigators have claimed subjective measures closely correspond to physician's objective

ratings of health (Adams, 1971; Friedsam & Martin, 1963). Indeed, in this study, the two types of measures were related. The correlation between perceived health and dyspnea was -.40 ($p < .05$).

The observed association of dyspnea and life satisfaction may be attributed both to the physical discomfort of dyspnea and to the anxiety engendered by the breathlessness. That anxiety accompanies dyspnea has been amply demonstrated in the literature. Among the present subjects, 25% identified anxiety as their major problem.

Results of a Stepwise Multiple Regression Analysis

The six variables listed in Table 4 were entered into a stepwise multiple regression to determine the order of their importance in affecting the dependent variable, life satisfaction. Five of the variables have consistently shown significant correlation to life satisfaction in previous research: health, both subjectively and objectively measured, social participation, occupation as representative of one's socioeconomic status (Duncan & Reiss Socioeconomic Index, 1960), and the Health Locus of Control. The sixth variable, dependency, was added since other studies emphasize the dependent characteristics of the chronically ill person (Abram, 1972; Barstow, 1974; Busse, 1962; Kassebaum & Baumann, 1965).

A multiple correlaton coefficient (R) of .712 was obtained when the simultaneous effects of all six variables on life satisfaction were assessed. Social participation, dependency,

Table 4

STEPWISE MULTIPLE REGRESSION OF SIX VARIABLES IN RELATION TO LIFE SATISFACTION (N = 32)

Variable	Multiple Correlation	Cumulative Variance	Partial Correlation	Beta Coefficient
Social Participation (Cantril-ladder)	.573	.328	.583*	.529
Dependency (Suchman's, 1966)	.634	.402	.106	.092
Dyspnea (Dyspnea Classification)	.676	.457	-.358*	-.336
Health Locus of Control	.703	.494	.201	.184
Socioeconomic Status (Duncan & Reiss, 1960)	.711	.506	-.158	-.135
Perceived Health (Cantril-ladder)	.712	.507	-.036	-.029

dyspnea, and health locus of control emerged in that order and accounted for 49.4% of the variance. The addition of occupation and perceived health increased the cumulative variance explained by only 1.3%.

The two variables with the strongest influence on life satisfaction, as indicated by the beta coefficients, are social participation and dyspnea. In addition, social participation and dyspnea are the two variables with a statistically significant relationship to life satisfaction when the other variables are held constant.

Perceived health emerged as the least important variable. This is a surprising finding in light of the literature supporting the view that perceived health is the most powerful predictor of life satisfaction (Adam, 1971; Brown & Rawlinson, 1976; Edwards & Klemmack, 1973; Garrity, 1973; Palmore & Luikart, 1972).

It was previously noted that the subjects' scores on the Suchman (1965) measure of dependency did not give evidence of a strong need for dependency. In addition, statistical significance was not reached by the correlation between the measure of dependency and life satisfaction ($r = .274$). Nevertheless, the data in Table 4 reveal the measure of dependency as the second of the six variables to emerge in the regression analysis. These results seem to indicate that the measure of dependency served as a moderator variable. It was apparently an important variable when this particular group of variables were considered together in accounting for the total variance.

The health locus of control also failed to show statistical significance at the zero-order level. However, when considered in combination with this group of variables, the locus of control measure contributed in accounting for the variance in life satisfaction. Also, it may have served as a moderator variable in the stepwise multiple regression analysis.

In conclusion, when predicting which patients will have more life satisfaction, more than 49% of the variance can be accounted for by the following variables: increased social participation, less dependency, less dyspnea, and being internally controlled. In addition, the beta coefficient demonstrated that social participation and dyspnea, when taken singly, had the strongest influence on life satisfaction.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Chronic obstructive pulmonary disease has been recognized as a chronic illness characterized by permanent and total disability, yet little research has dealt with the social and psychological aspects of persons with COPD. The present research focused on the variations in life satisfaction of such patients in relation to variations in their health, assessed both subjectively and objectively, their social participation, and their locus of control.

The subjects in this study included 32 male outpatients with COPD between the ages of 37 to 68 years. By means of interview, data were collected concerning various demographic, social, and health characteristics.

The patients in this sample expressed a moderate degree of life satisfaction. However, they perceived their satisfaction as less than the "average" person their age. None of the demographic characteristics, were found to be related to life satisfaction. These results are fairly consistent with the available literature.

Four hypotheses were tested which posited relationships between the independent variables of perceived health, social participation, locus of control, and dyspnea and the dependent variable of life satisfaction. The first hypothesis was

rejected, in that, patients who perceived their health as better did not experience greater life satisfaction. In that the majority of the subjects assessed their health in the lower categories, the measure of perceived health may lack discriminatory power. There was only partial confirmation for the second hypothesis relating greater life satisfaction to greater social participation. When a subjective estimate of social participation was used, the relationship was significant. However, the hypothesis was not upheld when a more objective measure of social participation was used. It was concluded that the objective and subjective measures of social participation assess somewhat different dimensions, with the subjective measure being somewhat broader in scope. Therefore these measures should not be used interchangeably. There was no relationship between locus of control and life satisfaction. Therefore, the third hypothesis that internally oriented persons would have greater life satisfaction was not confirmed. Finally, the degree of dyspnea was significantly related to life satisfaction as anticipated from the research indicating the importance of objectively rated health.

In the stepwise multiple regression analysis, the five independent variable measures and a measure of dependency were assessed for their relative importance in affecting the dependent variable, life satisfaction. The four variables that had the greatest effect on the dependent variable, life satisfaction, in order of importance, were the following: social participation, dependency, dyspnea, and locus of control.

Conclusions

The present findings indicate that when considered together the following factors predict greater life satisfaction: a greater social activity; less dyspnea; less need for dependency; and a more internal orientation. While the present study identified the subject's global assessment of his social life as most influential on his satisfaction, the specific factors operating to produce this effect remain unknown. As the number of social contacts one has did not seem to affect the subject's satisfaction, perhaps it is the quality of the relationship that is important. This may be supported by the fact that despite the subject's perception of a relatively inactive social life, he continued to express himself as "moderately" satisfied. Further, despite the subject's perception of relatively poor health, he states a "moderate" satisfaction with life. The present study identified one aspect of health, the level of dyspnea, which directly influences the subject's interpretation of his life satisfaction. And finally, the specific role that dependency and locus of control play remains unexplained. They both, however, contribute in accounting for over 49% of the variance. Additional factors contributing to the degree of satisfaction remain unidentified.

The results of this research indicate that, in addition to health, many areas of these patients' lives are affected, socially as well as psychologically. Thus, it seems important

for nursing personnel, who may spend a great deal of time with these patients, to have a broader understanding of both the social and psychological aspects of their lives. The need for dependency, in addition to the fears and anxiety related to their dyspnea, specifically indicate areas for involvement of nursing personnel to contribute to more optimal adjustment of these patients to their illness.

Recommendations

The results of the present study provide a number of recommendations for future research in the life satisfaction of the patient with COPD.

First, a larger sample of patients with COPD from diverse populations would provide evidence of the generalizability of the present findings. Second, using a larger group of COPD patients may reveal a relationship between self-assessed health and life satisfaction. Further, this information might provide additional data regarding the perceived health of those with a chronic illness. Third, as the social life of these subjects was important, further study is advised to determine the components of social interaction that may be the main contribution to a sense of well-being. Fourth, a need to use additional psychological measures, e.g. dependency and anxiety, for determining their influence on satisfaction is recommended. Finally, additional use of the health locus of control scale is indicated to clarify its usefulness in understanding patients' responses to chronic illness.

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APPENDIX A

Consent Form for Human Research

I, _____ herewith agree to serve as subject in the investigation named, Life Satisfaction of Patients with Chronic Obstructive Pulmonary Disease by Nancy Hilles R.N. under the supervision of Dr. Rawlinson. The investigation aims at exploring the quality of life of patients who have chronic obstructive pulmonary disease.

It is my understanding that I will be asked to answer questions about my views of my satisfaction with my life, my health, social participation, and my work status. The time required of me is about one half hour.

All information that I give will be handled confidentially. My anonymity will be maintained on all documents, which will be identified by means of code numbers.

I may not receive any direct benefit from participating in this study, but understand that my contribution will help increase our knowledge about the rehabilitation of persons who have chronic obstructive pulmonary disease.

Nancy Hilles R.N. has offered to answer any questions I might have about the tasks required of me in this study.

I understand I am free to refuse to participate or to withdraw from this study at any time without this decision otherwise affecting my medical treatment.

I have read the above explanation and agree to participate as a patient in the study described.

Signature _____

Witness _____

Date _____ Time _____

APPENDIX B

Letter of Request

Dear _____ Date _____

This letter is to request your participation in a research study. I am a graduate student in nursing at the University of Oregon Health Sciences Center. I am very interested in individuals with chronic obstructive pulmonary disease and my current research is an effort to learn more about persons being treated for this illness.

Your participation in this study would require approximately 30 minutes of your time and would involve your answering some questions about yourself. This could be done on the day you are to come to the Monday afternoon outpatient clinic, _____, either before or after your appointment.

Dr. _____ has given me permission to write to you, but in no way does your participation or refusal, affect in any way your medical care at the clinic.

I would appreciate it if you would read the enclosed card, ( ) check the appropriate line, and return it promptly. I would like to contact you by telephone should you desire to participate or if you desire additional information. Thank you for your time.

Yours,

Nancy C. Hilles

Card to read:

If you choose to participate, please indicate one of the following answers with a ( ) check. Thank you.

_____ I would be able to come early to the clinic to be interviewed before my appointment. My telephone number is _____.

_____ I would be willing to be interviewed after my appointment. My telephone number is _____.

_____ I would like to be contacted by telephone to learn more about this study. My telephone number is _____.

Mark here if you would prefer not to participate _____.

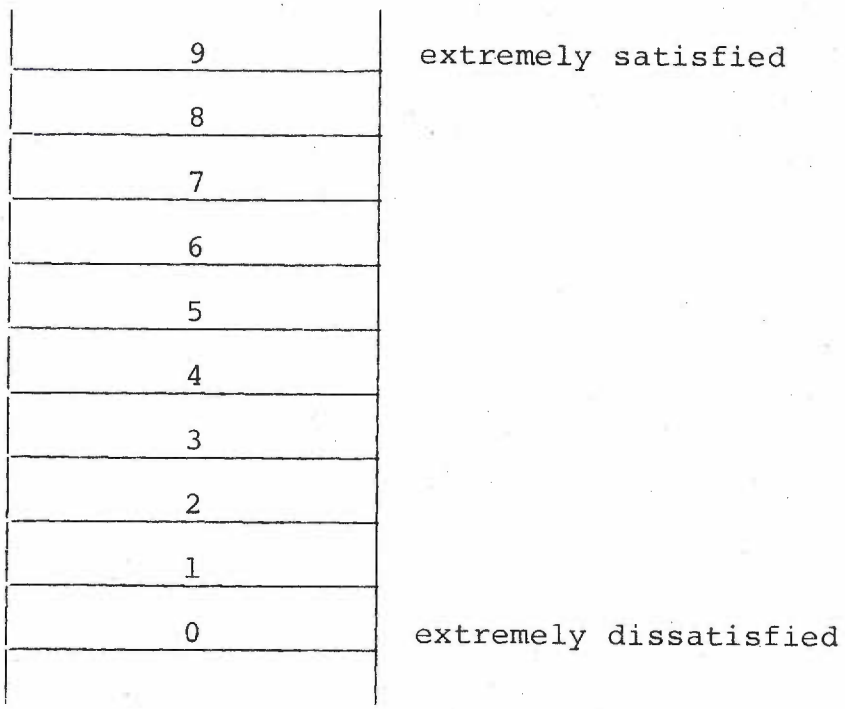
APPENDIX C

Cantril Ladder

for Life Satisfaction

(Cantril, 1965)

Life Satisfaction



Above is a picture of a ladder. Suppose we say that the top of the ladder represents the most satisfied you can be. Suppose that a person who is entirely satisfied with his life would be at the top of the ladder, and a person who is extremely dissatisfied with his life would be at the bottom of the ladder.

On which step would you say your satisfaction with life is right now? _____

On which step would you say your satisfaction was before you developed breathing problems? _____

On which step would you say the satisfaction of the average person your age is? _____

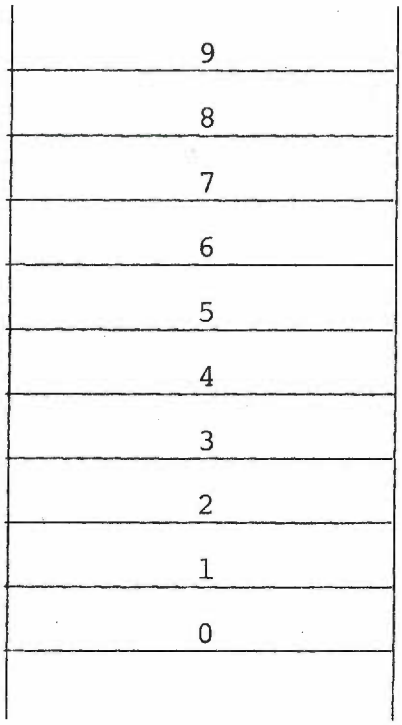
On which step would you say the satisfaction of a "sick person" your age is? _____

(Please try to answer these with "educated guesses.")

APPENDIX D

Cantril Ladder
for Perceived Health
(Cantril, 1965)

Health Perception



Attached is a picture of a ladder. Suppose we say that the top of the ladder represents perfect health, and the bottom represents the most serious illness.

On which step would you say your health is right now? _____

On which step would you say your health was before you developed breathing problems? _____

On which step would you say your health will be six months from now? _____

On which step would you say the health of the average person your age is? _____

On which step would you say the "sick person" your age is? _____

(Please try to answer these even if they are "educated guesses.")

APPENDIX E

Social Participation Index

(Phillip's, 1967)

Social Participation Index

1. During the past two or three weeks, how many times did you get together with friends--I mean things like going out together, or visiting in each other's houses? (CIRCLE ANSWER)

0 1 2 3 4 5 6 7 8 9 10

2. About how many neighbors do you know well enough to visit with? (CIRCLE ANSWER)

0 1 2 3 4 5 6 7 8 9 10

3. How many organizations, such as clubs, labor groups, civic, fraternal clubs, etc., do you take an active part in? (CIRCLE ANSWER)

0 1 2 3 4 5 6 7 8 9 10

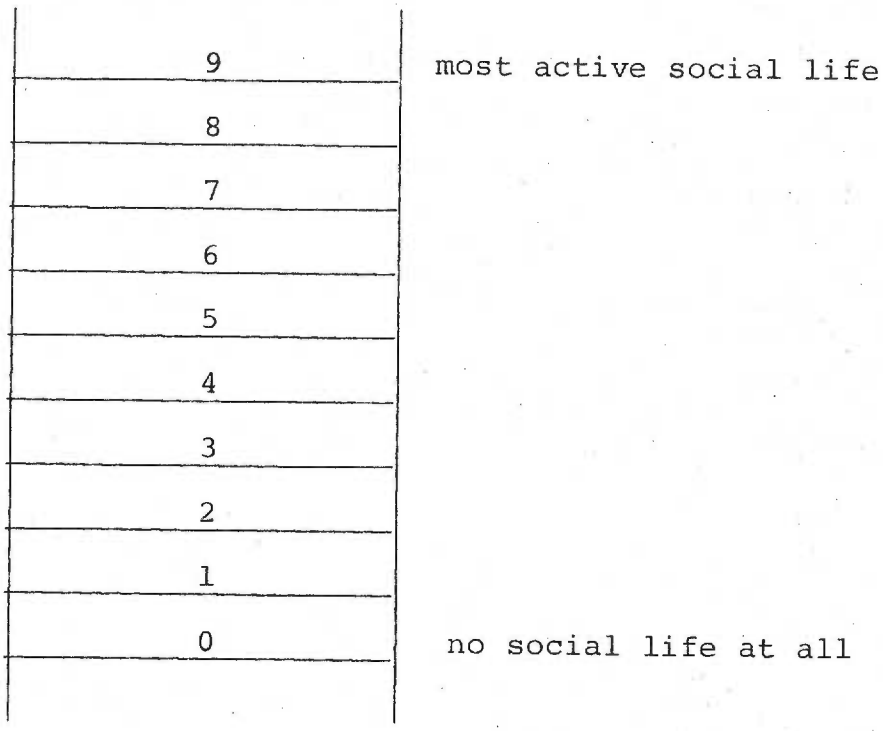
APPENDIX F

Cantril Ladder

for Social Participation

(Cantril, 1965)

Social Participation



Above is a picture of a ladder. Suppose we say that the top of the ladder represents the most active social life for you, and the bottom represents having no social life at all. The top is when you see all your friends and relatives very often and the bottom is when you don't see your friends and relatives at all.

On which step would you say your social life is right now?
_____

On which step would you say your social life was before you developed breathing problems? _____

On which step would you say your social life will be six months from now? _____

On which step would you say the social life of the average person your age is? _____

On which step would you say the social life of the "sick person" your age is? _____

(Please try to answer these with "educated guesses.")

APPENDIX G

Health Locus of Control

(Wallston & Wallston, 1976)

Health Locus of Control Scale

What extent would you agree or disagree with each of the following statements:

	1 Strongly Disagree	2 Moderately Disagree	3 Slightly Disagree	4 Slightly Agree	5 Moderately Agree	6 Strongly Agree
1. If I take care of myself, I can avoid illness.						
2. Whenever I get sick it is because of something I've done or not done.						
3. Good health is largely a matter of good fortune.						
4. No matter what I do, if I am going to get sick, I will get sick.						
5. Most people do not realize the extent to which their illnesses are controlled by accidental happenings.						
6. I can only do what my doctor tells me to do.						
7. There are so many strange diseases around, that you can never know how or when you might pick one up.						
8. When I feel ill, I know it is because I have not been getting the proper exercise or eating right.						
9. People who never get sick are just plain lucky.						
10. People's ill health results from their own carelessness.						
11. I am directly responsible for my health.						

APPENDIX H

Dyspnea Classification

(Johnston, 1973)

Dyspnea Classification

Based on your assessment of the patient, would you classify the patient. (please check one)

_____	CLASS I	No significant restriction in normal activities; employable (if applicable); dyspnea occurs only on more than normal or strenuous exertion.
_____	CLASS II	Independent in essential activities of daily living but restricted in some other activities; employable (if appropriate) only where job is sedentary or under special circumstances; dyspneic on climbing stairs or incline, but not level walking.
_____	CLASS III	Dyspnea usually occurs during activities such as showering or dressing; not dyspneic at rest, can walk several blocks at his own pace, but cannot keep up with others of his own age; does not require physical assistance; is probably not employable (if appropriate) in any occupation.
_____	CLASS IV	Dependent on some help in essential activities of daily living; dyspneic on minimal exertion and must pause on climbing one flight, walking over 100 yards, or dressing; often restricted to home if on his own.
_____	CLASS V	Entirely restricted to home and often limited to bed or chair; dyspneic at rest; dependent on help for most of his needs.

APPENDIX I

Total interview schedule

Identification No. _____ Please check ( ) your answers.

1. Sex: _____ Male _____ Female
2. Date of birth _____ Age at last birthday _____
3. Present marital status (check)
   _____ 1. Married: living with spouse
   _____ 2. Married: not living with spouse
   _____ 3. Divorced or separated legally
   _____ 4. Widowed
   _____ 5. Never married
4. Has your marital status changed since the time when you first were aware that you had breathing difficulties (emphysema, COPD, etc) ?
   _____ 1. No
   _____ 2. Yes (specify how)
5. Do you live alone now?
   _____ 1. Yes
   _____ 2. No
6. If "No," please list members of your household (such as your wife, number and ages of children, any others).
7. Did you live alone before you developed breathing difficulties (emphysema, COPD, etc.)?
   _____ 1. Yes
   _____ 2. No
8. Highest grade of school completed (circle)
   1 2 3 4 5 6 7 8 9 10 11 12
   College: 13 14 15 16
   Postgraduate: 17+ Highest degree attained_____
9. What was your major occupation when you first were aware that you had breathing problems (emphysema, COPD, etc.)? Give the title of the position, and state the general duties of the job.

10. Would you classify your usual occupation as:

_____ 1. Professional
_____ 2. Manager of owner of business
_____ 3. Farmer (owner or manager of at least 100 acres)
_____ 4. Clerical, sales, technician
_____ 5. Skilled craftsman, foreman
_____ 6. Operative, semi-skilled
_____ 7. Service worker
_____ 8. Unskilled
_____ 9. Farm labor (owner of less than 100 acres)
_____ 10. Other

11. Are you presently gainfully employed?

_____ 1. Full time
_____ 2. Part time
_____ 3. Not at all

12. If not employed now, how long has it been since you had gainful employment?

_____ 1. Less than 1 month
_____ 2. 1 to 6 months
_____ 3. 6 months to 1 year
_____ 4. 1 to 2 years
_____ 5. Over 2 years (specify how long)

13. If not gainfully employed at present, do you plant to return to work in the near future?

_____ 1. Yes
_____ 2. No

14. Do you presently smoke cigarettes?

_____ 1. No. Never smoked. (Skip item 15)
_____ 2. No, not presently
_____ 3. Yes (Skip item 15)

15. How long has it been since you stopped?

_____ 1. Less than 6 months
_____ 2. 6 months to 1 year
_____ 3. 1 to 2 years
_____ 4. Over 2 years (please specify)

16. Do you feel smoking has had anything to do with your developing breathing problems?

_____ 1. No

_____ 2. Yes (please specify)

17. Would you please try to estimate your total income (including spouse's income, if any) from all sources for the past 12 months?

_____ 1. $50,000 or more
_____ 2. $25,000 to $49,999
_____ 3. $15,000 to $24,999
_____ 4. $12,000 to $14,999
_____ 5. $10,000 to $11,999
_____ 6. $9,000 to $9,999
_____ 7. $8,000 to $8,999
_____ 8. $7,000 to $7,999
_____ 9. $6,000 to $6,999
_____ 10. $5,000 to $5,999
_____ 11. $4,000 to $4,999
_____ 12. $3,500 to $3,999
_____ 13. $3,000 to $3,499
_____ 14. $2,555 to $2,999
_____ 15. $2,000 to $2,499
_____ 16. $1,500 to $1,999
_____ 17. $1,000 to $1,499
_____ 18. Less than $1,000

18. Since you first developed breathing difficulties (emphysema, COPD, etc.) has your total family income

_____ 1. Dropped a lot
_____ 2. Dropped moderately
_____ 3. Dropped slightly
_____ 4. Stayed the same
_____ 5. Gone up slightly
_____ 6. Gone up moderately
_____ 7. Gone up a lot

19. Do you think this change in income was due to your health condition in any way?

_____ 1. Yes
_____ 2. No

20. When were you first aware that you had breathing problems?

_____ 1. Less than 1 month
_____ 2. 1 to 3 months
_____ 3. 3 to 6 months
_____ 4. 6 months to 1 year
_____ 5. 1 to 2 years
_____ 6. Over 2 years (specify how long)

21. How anxious would you say you are in comparison to most people your age?

_____ 1. Much more anxious
_____ 2. Somewhat more anxious
_____ 3. About average
_____ 4. Somehwat less anxious
_____ 5. Much less anxious

22. How often do you presently take tranquilizers?

_____ 1. Never
_____ 2. Only occasionally
_____ 3. About once a week
_____ 4. Regularly every day

23. Do you now take medicine for your breathing?

_____ 1. No
_____ 2. Only occasionally
_____ 3. Regularly,every day

24. Do you use oxygen

_____ 1. Never
_____ 2. Occasionally; not every day
_____ 3. Regularly every day
_____ 4. Almost all the time

25. Do you find yourself short of breath

_____ 1. Never
_____ 2. Occasionally
_____ 3. Frequently
_____ 4. Almost all the time

26. Is there one symptom that bothers you most? (fatigue, breathlessness, anxiety, etc.)

_____ 1. No
_____ 2. Yes (please specify) _____

27. Besides your breathing problem, do you have any other chronic diseases, health problems, or disabilities (such as heart disease, diabetes, arthritis, cancer, kidney problems, etc.)?

_____ 1. No
_____ 2. Yes (please specify what these problems are)

28. Have these health problems (item #26) arisen in the last

_____ 1. 6 months

_____ 2. 6 months to 1 year

_____ 3. 1 to 2 years

_____ 4. Over 2 years (please specify)

29. Please indicate whether you agree or disagree with the following statements. (CIRCLE ANSWER)

		CIRCLE	
a.	I have my doubts about some things doctors say they can do for you	agree	disagree
b.	When I am ill, I demand to know all the details of what is being done to me	agree	disagree
c.	I believe in trying out different doctors to find which one I think will give me the best care	agree	disagree
d.	When I think I am getting sick, I find it comforting to talk to someone about it	agree	disagree
e.	When a person starts getting well, it is hard to give up having people do things for him	agree	disagree

30. Attached is a picture of a ladder. Suppose we say that the top of the ladder represents the most satisfied you can be. Suppose that a person who is entirely satisfied with his life would be at the top of the ladder, and a person who is extremely dissatisfied with his life would be at the bottom of the ladder.

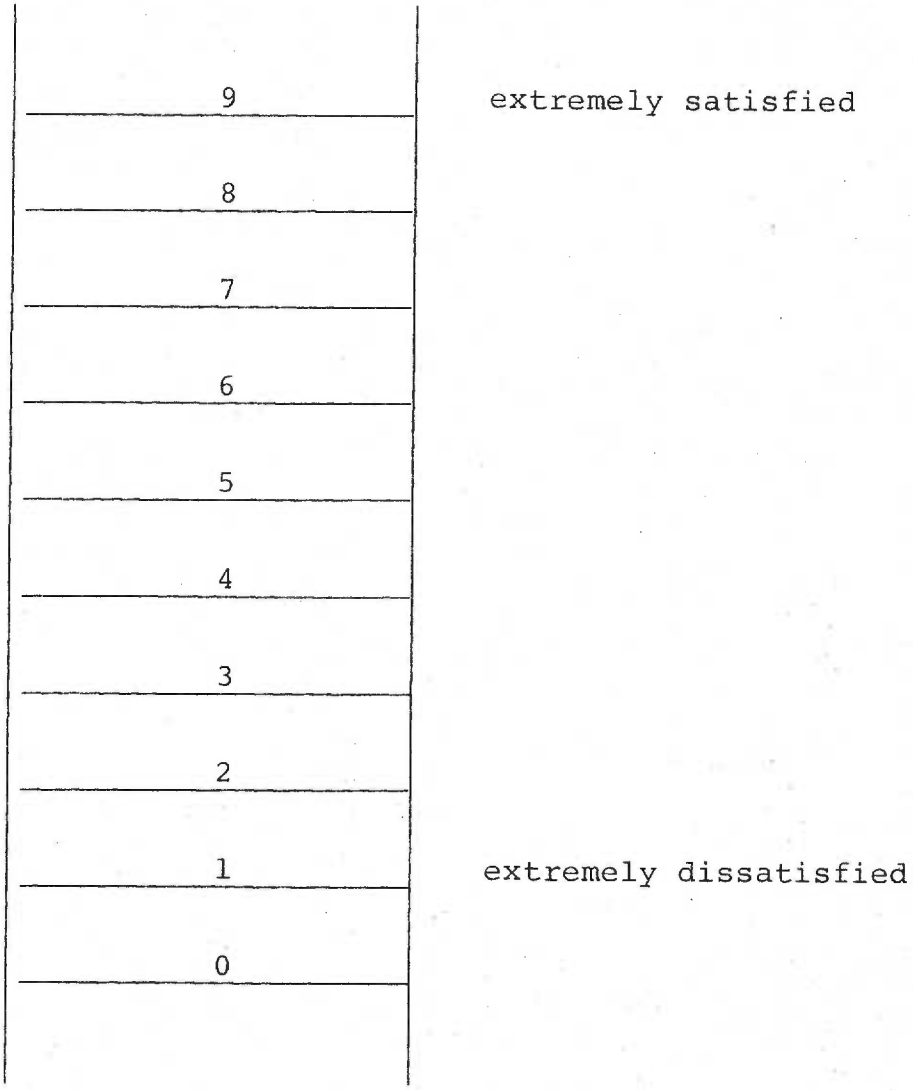
On which step would you say your satisfaction with life is right now? _____

On which step would you say your satisfaction was before you developed breathing problems? _____

On which step would you say the satisfaction of the average person your age is? _____

On which step would you say the satisfaction of a "sick person" your age is? _____

(Please try to answer these with "educated guesses.")


9
extremely satisfied
8
7
6
5
4
3
2
1
extremely dissatisfied
0

31. Attached is a picture of a ladder. Suppose we say that the top of the ladder represents perfect health, and the bottom represents the most serious illness.

On which step would you say your health is right now?

_____

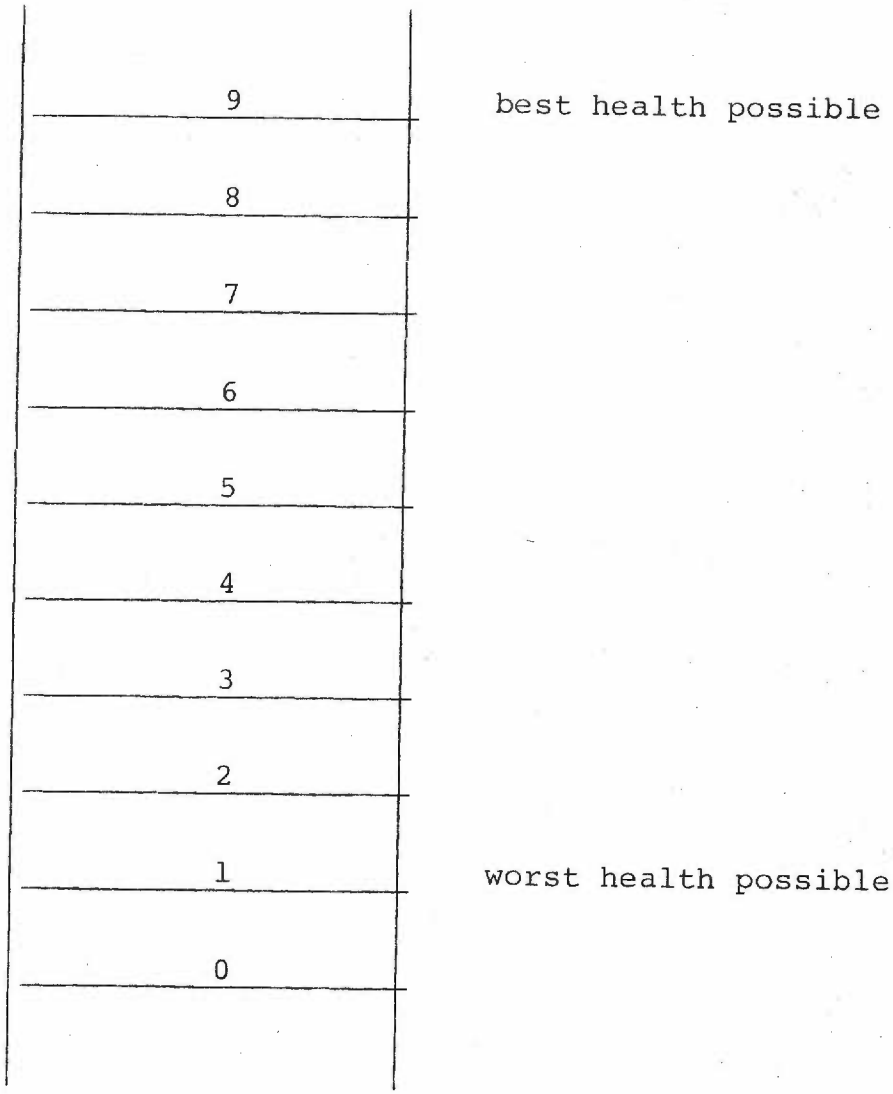
On which step would you say your health was before you developed breathing problems? _____

On which step would you say your health will be six months from now? _____

On which step would you say the health of the average person your age is? _____

On which step would you say the "sick person" your age is? _____

(Please try to answer these even if they are "educated guesses.")


9
best health possible
8
7
6
5
4
3
2
1
worst health possible
0

32. During the past two or three weeks, how many times did you get together with friends--I mean things like going out together, or visiting in each other's houses? (CIRCLE ANSWER)

0 1 2 3 4 5 6 7 8 9 10

33. About how many neighbors do you know well enough to visit with? (CIRCLE ANSWER)

0 1 2 3 4 5 6 7 8 9 10

34. How many organizations, such as clubs, labor groups, civic, fraternal clubs, etc., do you take an active part in (CIRCLE ANSWER)

0 1 2 3 4 5 6 7 8 9 10

35. Is there any one person in particular you confide in or talk to about yourself and/or your problems?

_____ 1. No
_____ 2. Yes

If yes, who is this person?

_____ 1. Wife
_____ 2. Relative (specify as son, sister, etc.)
_____
_____ 3. Friend

36. Attached is a picture of a ladder. Suppose we say that the top of the ladder represents the most active social life for you, and the bottom represents having no social life at all. The top is when you see all your friends and relatives very often and the bottom is when you don't see your friends and relatives at all.

On which step would you say your social life is right now? _____

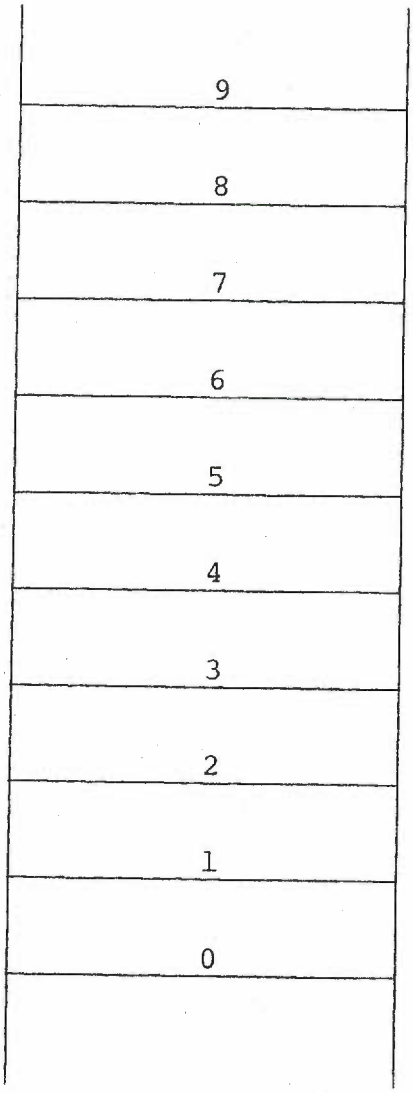
On which step would you say your social life was before you developed breathing problems? _____

On which step would you say your social life will be six months from now? _____

On which step would you say the social life of the average person your age is? _____

On which step would you say the social life of the "sick person" your age is? _____

(Please try to answer these with "educated guesses.")


9
most active social life
8
7
6
5
4
3
2
1
no social life at all
0

Health Locus of Control Scale

What extent would you agree or disagree with each of the following statements:

	1 Strongly Disagree	2 Moderately Disagree	3 Slightly Disagree	4 Slightly Agree	5 Moderately Agree	6 Strongly Agree
1. If I take care of myself, I can avoid illness.						
2. Whenever I get sick it is because of something I've done or not done.						
3. Good health is largely a matter of good fortune.						
4. No matter what I do, if I am going to get sick, I will get sick.						
5. Most people do not realize the extent to which their illnesses are controlled by accidental happenings.						
6. I can only do what my doctor tells me to do.						
7. There are so many strange diseases around, that you can never know how or when you might pick one up.						
8. When I feel ill, I know it is because I have not been getting the proper exercise or eating right.						
9. People who never get sick are just plain lucky.						
10. People's ill health results from their own carelessness.						
11. I am directly responsible for my health.						

APPENDIX J

Complete Questionnaire Coding Key

Columns	Entry
1-3	Identification Number
4	Sex (Q1) 0 = male 1 = female
5-6	Age at last birthday in years (Q2)
7	Marital Status (Q3) 1 = married, living with spouse 0 = all others
8	Change in marital status since development of breathing difficulties (Q4) 0 = yes 1 = no
9	Living arrangements now (Q5) 0 = alone (yes) 1 = living with others (no)
10	Living arrangements prior to breathing difficulties (Q4) 0 = yes (alone) 1 = no
11-12	Education in years (Q8)
13-14	Occupation (Q9, 10) Scores according to Socioeconomic Index by Duncan and Reiss (1960)
15	Employment (Q11) 2 = full time 1 = part time 0 = not at all
16-17-18	Length of time unemployed in months (Q12)
19	Plans for future employment (Q13) 0 = no 1 = yes
20	Use of cigarettes presently (Q14) 0 = yes 1 = no
21-22-23	Length of time of cessation of smoking in months (Q15)
24	Positive relationship between smoking and breathing difficulties (Q16) 0 = no 1 = yes
25-26	Present family income (Q17) Scores 1-18
27	Change in family income (Q18) Scores 1-7
28	Attributes change in income to health condition (Q19) 0 = yes 1 = no
29-30-31	Length of time (in months) patient aware of breathing problems (Q20)

32	Estimated anxiety (Q21) Score 1-5
33	Use of tranquilizers (Q22) Score 1-4
34	Medication for breathing (Q23) Score 1-3
35	Use of Oxygen (Q24) Score 1-4
36	Presence of shortness of breath (Q25) Score 1-4
37	Most bothersome symptom (Q26) 0 = no 1 = yes
38	Presence of other major chronic diseases (Q27) 0 = no 1 = yes
39-40-41	Length of time (in months) chronic diseases present (Q28)
42	Suchman's Skepticism about doctors (Q29, a,b,c) 0 = Disagree with a, b, c of Q29 1 = Agree with 1 of 3 items 2 = Agree with 2 of 3 items 3 = Agree with 3 of 3 items
43	Suchman's Dependency in illness (Q29, d,e) 0 = Disagree with d and e 1 = Agree with either d or e 2 = Agree with both d and e
44	Life satisfaction right now (Q30) Score 0-9
45	Life satisfaction before (Q30) Score 0-9
46	Life satisfaction of average person (Q30) Score 0-9
47	Life satisfaction of sick person (Q30) Score 0-9
48-49	Difference in satisfaction of patient <u>now</u> and a <u>sick person</u> (Q30). Patient's score <u>minus</u> sick person. Scores can vary from +9 <u>to</u> -9. To get rid of negative scores, we must add 9 to all these scores, transforming them from 0 to 18. Thus, 9 will represent no difference between <u>sick person's</u> satisfaction and <u>patient's</u> satisfaction.
50-51	Difference in <u>present</u> satisfaction and satisfaction <u>before</u> (Q30). Scores can vary from +9 to -9. To get rid of negative scores, transform by addition of 9. Scores can vary from 0 to 18.
52-53	Difference in <u>present</u> satisfaction and satisfaction of <u>average</u> person. Scores can vary from +9 to -9. Transform by adding 9.

54-55 Differences in satisfaction before and sick person (Q30). Scores can vary from +9 to -9. Transform by adding 9.

56 Perception of health right now (Q31) Scores 0-9.

57 Perception of health before (Q31) Scores 0-9.

58 Perception of health in 6 months (Q31) Scores 0-9.

59 Perception of health of average person (Q31) Scores 0-9.

60 Perception of health of sick person (Q31) Scores 0-9.

61-62 Difference in health of patient now, and a sick person (Q31). Scores can vary from +9 to -9. Transform by adding 9.

63-64 Difference in health right now and health before (Q31). Scores can vary from +9 to -9. Transform by adding 9.

65-66 Difference in health right now and health of average person. Scores can vary from +9 to -9. Transform by adding 9.

67-68 Difference in health now and 6 months from now. Scores can vary from +9 to -9. Transform by adding 9.

69-70 Difference in health before and sick person (Q31). Scores can vary from +9 to -9. Transform by adding 9.

71 Phillips' Social Participation Index (Q32, 33, 34). Scores can vary from 3-8.

Q32	0 contacts with friends	Score 1
	1-2 contacts with friends	2
	3 or more contacts with friends	3
Q33	knows 0 neighbors	Score 1
	knows 1-3 neighbors	2
	knows 4 or more neighbors	3
Q34	organizations-0	Score 1
	active in 1 or more organizations	2

72 Confidant (Q35) 0 = no
1 = yes

73 Who is that confidant (Q35) Score Wife = 3
Relative = 2
Friend = 1

74 Social life (ladder) right now (Q36) Score 0-9

75	Social life (ladder) before (Q36) Score 0-9
76	Social life (ladder) in 6 months (Q36) Score 0-9
77	Social life (ladder) of average person (Q36) Score 0-9
78	Social life (ladder) of sick person (Q36) Score 0-9
79-80-81	Identification Number
82-83	Difference in social activity right now, and sick person's activity (Q36). Scores can vary from +9 to -9. Transform by adding 9.
84-85	Difference in social activity right now, and social activity before (Q36). Scores can vary from +9 to -9. Transform by adding 9.
86-87	Difference in social activity right now, and in 6 months from now (Q36). Scores can vary from +9 to -9. Transform by adding 9.
88-89	Difference in social activity right now and social activity of average person (Q36). Scores can vary from +9 to -9. Transform by adding 9.
90-91	Difference in social activity before and sick person's social activity (Q36). Scores can vary from +9 to -9. Transform by adding 9.
92	Health Locus of Control (Q37) Item 1 6 = strongly disagree to 1 = strongly agree
93	HLC Item 2
94	HLC Item 3
95	HLC Item 4
96	HLC Item 5
97	HLC Item 6
98	HLC Item 7
99	HLC Item 8
100	HLC Item 9
101	HLC Item 10
102	HLC Item 11
103-104	Health Locus Score. Add scores on 11 items (cols. 92-102). Scores may range from 11 (most internal) to 66 (most external).
105	Physician's rating of subject. Classification I to V. Scores can vary 1-5.

APPENDIX K

Partial Questionnaire Coding Key

Columns	Entry
1-3	Identification Number
4-5	Age at last birthday in years (Q2)
6	Martial Status (Q3) 1 = married, living with spouse 0 = all other
7	Living arrangements now (Q5) 0 = alone (yes) 1 = living with others (no)
8-9	Education in years (Q8)
10-11	Occupation (Q9, 10). Scores according to Socioeconomic Index by Duncan and Reiss (1960)
12-13-14	Length of time unemployed in months (Q12)
15	Use of cigarettes presently (Q14) 0 = yes 1 = no
16-17	Present family income (Q17) Score 1-18
18-19-20	Length of time (in months) patient aware of breathing problems (Q20)
21	Presence of other major chronic diseases (Q27) 0 = no 1 = yes
22	Suchman's Skepticism about doctors (Q29, a,b,c) 0 = Disagree with a,b,c 1 = Agree with 1 of 3 items 2 = Agree with 2 of 3 items 3 = Agree with 3 of 3 items
23	Suchman's Dependency in illness (Q29, d,e) 0 = Disagree with d and e 1 = Agree with either d or e 2 = Agree with both d and e
24	Life satisfaction right now (Q30) Score 0-9
25	Perception of health right now (Q31) Score 0-9
26-27	Difference in health of patient now, and a sick person (Q31). Socres can vary from +9 to -9. Transform by adding 9.

28 Phillips' Social Participation Index
(Q32, 33, 34) Scores can vary from 3-8

Q32	0 contacts with friends	Score 1
	1-2 contacts with friends	2
	3 or more contacts with friends	3
Q33	knows 0 neighbors	Score 1
	knows 1-3 neighbors	2
	knows 4 or more neighbors	3
Q34	organizations-0	Score 1
	active in 1 or more organizations	2

29 Confidant (Q35) 0 = no
1 = yes

30 Social life (ladder) right now (Q36) Score 0-9

31-32 Health Locus Score (Q37). Add scores on 11 items (cols. 92-102). Scores may range from 11 (most internal) to 66 (most external).

33 Physician's rating of subject. Classification I to V on Dyspnea Classification Scale. Scores can vary 1-5.

AN ABSTRACT OF THE THESIS BY

Nancy C. Hilles

For the Master of NURSING

Date of receiving this degree: June 9, 1978

Title: LIFE SATISFACTION OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Approved: _____
May Rawlinson, Ph.D. Thesis Advisor

Chronic obstructive pulmonary disease has been recognized as a chronic illness characterized by permanent and total disability, yet little research has dealt with the social and psychological aspects of persons with COPD. The present research focused on the variations in life satisfaction of such patients in relation to variations in their health, assessed both subjectively and objectively, their social participation, and their locus of control.

The subjects in this study included 32 male outpatients with COPD between the ages of 37 to 68 years. By means of interview, data were collected concerning various demographic, social, and health characteristics.

The patients in this sample expressed a moderate degree of life satisfaction, but less than the satisfaction reported for other samples of the general population. None of the demographic characteristics were found to be related to life

satisfaction. These results are fairly consistent with the available literature.

Four hypotheses were tested which posited relationships between the independent variables of perceived health, social participation, locus of control, and dyspnea and the dependent variable of life satisfaction. The first hypothesis was rejected, in that, patients who perceived their health as better did not experience greater life satisfaction. In that the majority of the subjects assessed their health in the lower categories, the measure of perceived health may lack discriminatory power. There was only partial confirmation for the second hypothesis relating greater life satisfaction with greater social participation. When a subjective estimate of social participation was used, the relationship was significant. However, the hypothesis was not upheld when a more objective measure of social participation was used. It was concluded that the objective and subjective measures of social participation assess somewhat different dimensions, with the subjective measure being somewhat broader in scope. Therefore these measures should not be used interchangeably. There was no relationship between locus of control and life satisfaction. Therefore, the third hypothesis that internally oriented persons would have greater life satisfaction was not confirmed. Finally, the degree of dyspnea was significantly related to life satisfaction as anticipated from the research indicating the importance of objectively rated health.

In the stepwise multiple regression analysis, the five independent variable measures and a measure of dependency were assessed for their relative importance in affecting the dependent variable, life satisfaction. The four variables that had the greatest effect on the dependent variable, life satisfaction, in order of importance, were the following: social participation, dependency, dyspnea, and locus of control. Thus, it was concluded that a greater social life, less dyspnea, less need for dependency, and a more internal orientation promotes a greater life satisfaction for these patients with COPD.

Inasmuch as minimal research has been done using patients with COPD, further study was suggested to determine the generalizability of these findings for other patients with COPD. Finally, implications to the practice of nursing were presented.