

PERCEIVED HEALTH AND SOCIAL ACTIVITY AS PREDICTORS OF MORALE  
FOR PATIENTS WITH IMPLANTED CARDIAC PACEMAKERS

by

Bette P. Johnson, R.N., B.S.N.

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APPROVED:

[REDACTED]

---

Julia S. Brown, Ph.D., Associate Professor, Clinical Investigation  
Advisor

[REDACTED]

---

May Rawlinson, Ph.D., Professor, First Reader

[REDACTED]

---

Marie Berger, M.S., Associate Professor, Second Reader

[REDACTED]

---

John M. Brookhart, Ph.D., Chairman of Graduate Council

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## TABLE OF CONTENTS

| CHAPTER  | PAGE |
|--|------|
| I. INTRODUCTION . . . . .  | 1    |
| Review of the Literature . . . . .   | 2    |
| Social and Psychological Adjustment of Pacemaker<br>Patients . . . . .                 | 2    |
| Social Participation and Morale . . . . .  | 5    |
| Perceived Health and Morale . . . . .  | 10   |
| Statement of the Problem . . . . .   | 13   |
| Hypotheses . . . . .   | 13   |
| Rationale for this Study . . . . .   | 14   |
| II. METHODOLOGY . . . . .  | 16   |
| Setting for the Study . . . . .  | 16   |
| Sample and Sampling Procedure . . . . .  | 17   |
| Procedure . . . . .  | 18   |
| Design . . . . .   | 18   |
| Data and Data-gathering Instruments . . . . .  | 19   |
| Measurement of the Dependent Variable . . . . .  | 19   |
| Measurement of the Independent Variables . . . . .                                     | 22   |
| Social Participation . . . . .   | 22   |
| Perceived Health . . . . .   | 23   |
| Analysis . . . . .   | 24   |
| III. FINDINGS AND INTERPRETATIONS . . . . .  | 26   |
| The Sample . . . . .   | 26   |
| Level of Morale . . . . .  | 29   |
| Will-to-live in Relation to Selected Social and<br>Demographic Variables . . . . .     | 33   |
| Level of Perceived Health . . . . .  | 35   |
| Perceived Health in Relation to Selected Social and<br>Demographic Variables . . . . . | 36   |
| Extent of Social Participation . . . . .   | 38   |
| Social Participation in Relation to Social and<br>Demographic Variables . . . . .      | 39   |
| The Evidence for and against the Hypotheses . . . . .                                  | 42   |
| IV. SUMMARY AND CONCLUSIONS . . . . .  | 56   |
| REFERENCES . . . . .   | 63   |
| APPENDICES . . . . .   | 68   |
| Appendix A Consent Form for Human Research . . . . .                                   | 69   |
| Appendix B Will-to-live Scale . . . . .  | 71   |
| Appendix C Social Participation Index . . . . .  | 73   |
| Appendix D Cantril Ladder for Perceived Health . . . . .                               | 75   |
| Appendix E Total Interview Schedule . . . . .  | 77   |
| ABSTRACT . . . . .   | 85   |

LIST OF TABLES

| TABLE   | PAGE |
|---|------|
| 1. Characteristics of Pacemaker Patients . . . . .  | 28   |
| 2. Correlates of Objective and Subjective Measures of Social Participation . . . . .                | 40   |
| 3. Perceived Health and Social Participation (Objective Measure) .                                  | 43   |
| 4. Perceived Health and Social Participation (Subjective Rating) .                                  | 44   |
| 5. Social Participation (Objective Measure) and Will-to-Live . . .                                  | 46   |
| 6. Social Participation (Subjective Rating) and Will-to-Live . . .                                  | 47   |
| 7. Perceived Health and Will-to-Live . . . . .  | 49   |
| 8. The Relation of Social Participation to Will-to-Live, Controlling for Perceived Health . . . . . | 51   |
| 9. The Relation of Perceived Health to Will-to-Live, Controlling for Social Participation . . . . . | 52   |

## Chapter I

### INTRODUCTION

In the past fifteen years many scientific advances have occurred in the treatment of chronic cardiac disease. Among these, the development of the implantable cardiac pacemaker has revolutionized therapy for those persons with a problem of heart block. Overall, since the first pacemaker operations in 1958, some 128,000 pacemakers have been inserted. Currently, approximately 10,000 persons each year receive pacemakers in the United States and Canada (Parsonnet, 1974).

Medical research into the results of these operations abounds. From these studies it appears clear that the pacemaker has significantly improved the survival chances of patients with heart block. Ongoing research into the mechanical, technical, and surgical problems associated with these devices will doubtless continue to lower the mortality rate. However, to date, the social and psychological aspects of the rehabilitation of these patients have rarely been examined. The quality of their lives remains relatively unknown.

The present investigation was conceived, in part, to help remedy this gap in our knowledge. Specifically, this research was undertaken to describe the morale of a sample of persons who had undergone pacemaker implantation, and then attempted to explain differences in morale among these patients on the basis of social participation and perceived

health. These two variables were chosen for consideration here in that a review of the literature on morale revealed considerable consensus as to their great importance. Social participation is held to be the major determinant of morale according to the "activity theory" so widely accepted in the field of gerontology. Health perception has also been recognized as exerting a significant effect on the subjective sense of well-being of the aged. Additionally, Garrity (1973), in a sophisticated multi-variate analysis, found that health perception was the strongest predictor of morale in patients following myocardial infarction.

### Review of the Literature

In the following review, that literature will first be summarized which touches on the social and psychological adjustment or well-being of pacemaker patients. Secondly, the state of the knowledge concerning the relationship of social participation to morale will be briefly sketched. Thirdly, literature concerning the relation of perceived health and morale will be covered.

### Social and Psychological Adjustment of Pacemaker Patients

The literature concerning the psychological adjustment of the pacemaker patient is sparse. Only eight articles could be found which contained any empirical data, and of these only two dealt with adjustment other than the intrapsychic state of patients. All agreed that psychological problems were marked, particularly anxiety and depression. From their study of hospitalized patients, Dlin, Winters, Fischer, and Koch (1966) concluded that the usual responses to cardiac monitoring after a

Stokes-Adams episode were moderate anxiety, mild depression, awareness of risks, and a determination to survive. Browne and Hackett (1967), on the basis of observing 19 patients, identified denial as a common response to the life-threatening cardiac condition. Blacher and Basch (1970), while recognizing differences in the responses of their 58 subjects, noted that anxiety, depression, and a sense of loss of control over their lives were common.

Greene and Moss (1969) assessed the adjustment of 60 pacemaker patients both in the period immediately following implantation and again following convalescence, from one to six months later. In the first period, 90% experienced a decrease in symptoms of confusion, weakness, and syncopal attacks, but many simultaneously admitted to depression and anxiety concerning the pacemaker. In the post-hospitalization period 72% attained a satisfactory adjustment, resuming daily activities and social relations. Better adjustment was noted for patients with ancillary good health, effective pacemaker functioning, a longer symptom prodrome, a history of successful adaptation to previous prosthetic devices, and with meaningful interpersonal relationships. Age, sex, and socioeconomic status did not appear to be important factors in patient adjustment.

Becker, Zucker, Parsonnet, and Gilbert (1967) and Edhag and Wedelin (1969) conducted somewhat broader studies of the psychological and social adjustment of pacemaker patients. Becker et al. (1967) evaluated the outcome of pacemaker surgery for 97 patients over the four year period, 1962-1966, in terms of their survival rates, emotional changes, and extent of rehabilitation. Of these patients, 19 died before the



completion of the investigation. For the remaining 78 patients, the modal psychological response was one of mild anxiety and mild depression. Extent of rehabilitation was determined by comparing the individual patient's current physical, occupational, and social activity with such activity prior to implantation. Becker et al. (1967) judged 40 patients (41%) to be "totally rehabilitated" in that they returned to their previous life styles; 34 or 35% showed "satisfactory" rehabilitation, and only 4 patients "unsatisfactory" rehabilitation. If the 19 who died are added to these 4, a total of 23 (24%) comprised outcome failures.

Using the same criteria of rehabilitation as did Becker et al. (1967), Edhag and Wedelin (1969) obtained similar results. They classified 47% of their 139 patients as totally rehabilitated, 44% as satisfactorily rehabilitated, and 9% as showing unsatisfactory rehabilitation.

While Edhag and Wedelin (1969) did not systematically examine the mental status of their patients, they noted: "...many had functional symptoms, usually in the form of arrhythmia elicited by apprehension. The number of functional symptoms can be estimated roughly from the fact that about one third of the patients interviewed regularly took sedatives or psychopharmacologic agents" (p. 90). Nonetheless, 73% reported a subjective feeling of improvement. Another 17% reported no improvement, and 7% a deterioration in condition.

From the studies cited above, the following conclusions may be drawn. Insofar as the studies considered psychological reactions and the subjective sense of well-being of patients, they were concerned

with the problems of morale, broadly conceived. Most patients following pacemaker implantation perceived themselves as subjectively improved, and their behaviors in daily activities would seem to be aligned with such perceptions. Among the factors promoting a positive sense of well-being and a return to normalcy in life styles were a positive health perception, effective pacemaker functioning, meaningful interpersonal relations, and a longer experiencing of symptoms prior to the operation. None of the existing studies attempted to measure the magnitude of the effects of these variables on "adjustment" or to determine their relative strengths.

#### Social Participation and Morale

The effect of social participation on the well-being of pacemaker patients has only been touched upon in the preceding studies. However, there is no lack of research on other populations (particularly the aged) that indicates a strong relationship between social activity and the individual's sense of well-being, morale, satisfaction, or adjustment. (All these constructs would appear kindred, with a common core of meaning.) In that the pacemaker population is decidedly a geriatric one, findings of the research on the association of social participation with morale of the elderly should prove useful.

In his excellent review of the literature on satisfaction among the elderly, Adams (1971, p. 67) has written: "Social relations (including that implied in the role of a spouse) have consistently demonstrated a positive relationship with satisfaction. The conclusion is that this constitutes one, if not the most important, area of determinants of

satisfaction." Generally it is believed that the more active a person is socially, either informally or in formal organizations, the better adjusted; that the extent of social participation is inversely related to socioeconomic position (Bell & Force, 1956); that social participation generally declines with advancing age (Blau, 1961; Rosow, 1962); that with aging, social participation is diverted from the formal to informal arenas, and from more to fewer associates (Rosow, 1970). Cummings and Henry (1961) disagreed, however, with the position that morale is maintained by high activity in old age. According to their disengagement theory, morale in old age is higher where social interaction is decreased.

Maddox (1963) attempted to test these alternative hypotheses. In a longitudinal study of 250 subjects over age 60, he found that morale was higher for those persons with higher activity levels. Rather surprisingly, it appeared to be activity in noninterpersonal areas rather than in the interpersonal realm that most strongly affected morale.

Ellison (1969a) investigated the effects of health and alienation on the morale of retired male steelworkers. He equated alienation with "social isolation", or the valuation of social ties and the gratification derived from them by the individual. Morale was measured by responses to a Will-to-Live Scale. From his study, Ellison concluded that the greater the social isolation the less the Will-to-Live. About 48% of his "social isolates" in contrast to 7% of his nonisolates demonstrated a low Will-to-Live.

Phillips (1967) examined the effect of social participation on happiness for 600 adults. His "Social Participation Index" combined

informal social activity, neighboring, and organizational participation. Analysis of his data lent support to his hypothesis that the greater the extent of participation, the greater the degree of happiness.

Palmore and Luikart (1972) attempted to assess the relative importance of several variables identified in the literature as correlates of life satisfaction. These correlates included, among others, activity, health, age, and socioeconomic status. In their study, activity was measured in terms of organizational participation, social activity hours, and total number of social contacts per month; and level of life satisfaction was estimated along a Cantril Ladder (Cantril, 1965).

For their sample of over 500 subjects, aged 46 to 71, Palmore and Luikart (1972) found that organizational participation emerged as the second strongest predictor of life satisfaction, exceeded only by the variable of self-rated health. The association of organizational participation with life satisfaction has been noted by others (Havighurst & Albrecht, 1953; Tobin & Neugarten, 1961; Kutner, 1956; Lemon, Bengtson, & Peterson, cited in Adams, 1971); hence this finding by Palmore and Luikart is not surprising. (However, it should be noted that interpretations of this association have differed. Some authors have stressed the causal role of participation on satisfaction, others have claimed that satisfaction leads to organizational activity, and still others have postulated a two-way effect.)

What is surprising about Palmore and Luikart's finding is that the individual's organizational participation proved a better predictor of life satisfaction than did informal social activity. This result does not accord with the importance generally attributed to social involve-

ment in maintaining morale. Thus, Adams (1971) has summarized the evidence as follows:

Of the types of social relations and activities, friendship association appears most highly and consistently related to satisfaction. Other types, such as relations with children, relatives, neighbors, and formal organizations, as well as solitary activities, have been shown in at least one study to be positively, but not significantly, related to satisfaction....It is suggested that these represent less dynamic forms of association than friendship in terms of membership "turnover" and changing role expectations, and that levels of activity, whether high or low, represent a compromise of mutual expectations worked out over past years of association. In other words, the individual may come, after a time, to take his level of familial and formal association for granted, and in so doing, it exerts less effect on his satisfaction level. (p. 67)

Edwards and Klemmack (1973) have also examined the relative influence on morale of different dimensions of social activity. In their investigation, informal interaction with kin, informal interaction with nonkinsmen, and formal organizational participation were all considered. Of these three, only one failed to be significantly related to life satisfaction, and that was participation with kin. High satisfaction was related to three of the indicators of nonfamilial informal participation (frequency of visiting neighbors, number of neighbors known, and frequency of telephoning others), and the magnitude of these associations increased when socioeconomic status was controlled. Edwards and Klemmack (1973) concluded that of the 22 independent variables selected, the three major determinants of life satisfaction were socioeconomic status, nonfamilial participation, and health status.

Finally, Garrity (1973) sought to explicate via regression analysis the relation of social involvement and activeness as predictors of

morale of patients following myocardial infarction. His dependent variable, morale, was measured along four dimensions: work involvement, participation in community organizations, sociability with friends and relatives, and activeness with nonassociational leisure pursuits. His prediction that heart patients who exhibited a high level of activity and social involvement would also demonstrate a high level of morale was not borne out by his data analysis. Instead, Garrity (1973) found that health perception alone was significant in predicting morale.

It should be clear from the foregoing discussion that the findings from the various studies of social participation and morale of the aged are not always conclusive, and not always in agreement. However, it might be noted that some of the contradictions may be more apparent than real, and attributable mainly to differences in the conceptualization and measurement of activity and morale. Utilization of such diverse indicators of participation as kin involvement, extent of friendships, frequency of communications with others by telephone or mail, number of visits to neighbors, and affiliations with formal organizations tend to render individual studies noncomparable. It would seem reasonable to expect these different indicators to relate in different ways to morale.

In summary, in at least four studies, interpersonal social participation proved to be a major determinant of morale (Adams, 1971; Ellison, 1969a; Phillips, 1967; Edwards & Klemmack, 1973). In an additional two studies, interpersonal participation was found to be less influential in predicting morale than noninterpersonal or organizational participation (Maddox, 1963; Palmore & Luikart, 1972). Finally, in the one study



concerning persons with heart disease, perceived health far outweighed informal or formal participation as a predictor of morale (Garrity, 1973). It may be concluded that although social participation exerts an influence on morale for the elderly, generally, this influence may be considerably less for those aged individuals who are subject to heart disease.

#### Perceived Health and Morale

In reviewing the research on correlates of morale among the elderly, Adams (1971) indicated that health appears positively related to satisfaction regardless of the indicator selected--whether a clinical measure, loss of physical mobility, physical disability, or self perception of health. Adams interprets this general finding as follows: "While it is recognized that loss of physical vigor in an activity oriented society may have some direct detrimental effect on satisfaction, health is generally considered a...variable restricting possible social contacts, which in turn adversely affects satisfaction." (p. 65)

A number of investigators have addressed the question of the extent of correspondence between the individual's medically assessed and self-perceived health, as well as the question of the relative effects of these two measures on the individual's morale. With respect to the first question, both Maddox (1964) and Palmore & Luikart (1972) have reported a strong association between objective and subjective health status. Garrity (1973), on the contrary, did not find a significant correlation between perceived health and clinical health measures. Regarding the second question, it would appear that it is the person's

own evaluation of his health, not the objective assessment, which most influences life satisfaction (Suchman, 1958; Maddox & Eisdorfer, 1962; Edwards & Klemmack, 1973; Garrity, 1973; Palmore & Luikart, 1972).

A third issue which has attracted the attention of researchers concerns the comparative magnitudes of the effects of perceived health and social activity on morale. In their research, Palmore and Luikart (1972) found self-rated health to be by far the most important of 18 variables in affecting life satisfaction. The second best predictor (but far less predictive than self-rated health) was organizational participation. "Social activity" proved to be significantly associated with satisfaction only for men, and not for women.

Garrity (1973) found that participation in community organizations and sociability did not affect morale of patients who had experienced myocardial infarction six months earlier. Rather, health perception emerged as the master variable, determining all outcomes following heart attack, including the patient's work status, extent of non-associational leisure activities, and morale. To his surprise, Garrity's data ran counter to the evidence marshalled previously in support of the "activity" theory of morale. He attempted to explain these differences on the basis of the nature of the samples involved. His arguments follow. The activity theory was developed from the study of elderly retirees, whose survival is not so immediately threatened. Rather, their major threat derives from enforced curtailment of social involvement and activity. For them, activity is highly valued as a booster to morale. For the cardiac patients, however, the main threat is one to survival itself; hence such patients place more value on survival and



health than on maintaining activity. Different circumstances thus result in different hierarchies of values.

Ellison (1969a) hypothesized that Will-to-Live is strongly influenced both by alienation and by health. The person who is chronically ill or who perceives his health as poor tends to have less Will-to-Live than the person who perceives himself to be healthy. The alienated person also manifests less Will-to-Live than the unalienated person. Therefore, alienated persons in poor health might be expected to manifest the least Will-to-Live, and unalienated persons in good health, the greatest Will-to-Live.

Ellison proposed two models to explicate the causal relation of health and morale, but did not attempt to evaluate their relative accuracy. According to the first model, poor health may lead to a low Will-to-Live (Tuckman & Youngman, 1963). Alternatively, a low Will-to-Live may eventuate in psychosomatic disorder (Schmale, cited in Ellison, 1969; Hinkle, 1964).

Ellison's results tended to support his hypothesis that health is positively related to Will-to-Live. Among his subjects, 47% of those reporting themselves in poor health expressed a low Will-to-Live, in contrast to 9% of those reporting good health. Moreover, sickness apparently isolated individuals from their friends and kept them from such activities as gardening and shopping. Of those claiming to be in poor health, 52% were highly isolated, but of those reporting good health only 13% were isolated.

From this review of the literature, it may be concluded that both social participation and health perception are generally predictive of

morale among the aged. In the case of middle-aged males with chronic illness (i.e., heart disease), it would appear that health perception is the major determinant of morale. In the case of the chronically ill aged, no information is currently available regarding the interrelations of activity, health, and morale. Therefore, the present investigator has undertaken to explicate the interrelations for a sample of geriatric patients with chronic illness.

#### Statement of the Problem

It is the purpose of this research to examine the effects of social participation and health perception on the morale of elderly persons with chronic disease. In this instance, the population to be sampled consists of persons with heart disease necessitating pacemaker implantation. It seems reasonable to categorize this patient population as geriatric, in that previous research has indicated the mean age of pacemaker patients to be in the vicinity of 65 years.

Specifically, the following hypotheses will be tested.

Hypothesis 1. The better the perceived health of the patient with an implanted cardiac pacemaker, the greater his social participation will be.

Hypothesis 2. The greater the social participation of the patient with an implanted cardiac pacemaker, the higher his morale will be.

Hypothesis 3. The better the perceived health of the patient with an implanted cardiac pacemaker, the higher his morale will be.

Hypothesis 4. Perceived health will exert a greater effect on the morale of the patient with an implanted cardiac pacemaker than will social participation.

#### Rationale for this Study

The search for determinants of morale carries practical implications for health professionals generally, and for nurses in particular. Findings from studies such as this one may eventually provide a database by which high risk persons might be identified. It is quite possible that patients with poor morale either tend to neglect their medical regimen or tend to become "cardiac neurotics", functioning generally at levels below their capacity. In order to achieve satisfactory rehabilitation, the problem of morale needs to be recognized, and therapeutic interventions planned to boost morale. If perceived health is a major factor in determining morale, then health professionals might focus more effort into encouraging more optimistic views of their health in patients. If social participation is important, than perhaps ways of securing such interactions need to be devised.

If present trends continue, in the near future nurses may find their roles increasingly expanded to include responsibility for following chronically ill patients in outpatient clinics, and in providing primary care to such persons. Awareness of the significance of perceived health, social participation, and morale may permit nurses in these positions to identify patients with problems, and provide direction in the development of complete care plans. Nurses might thus assist

patients to achieve more optimal rehabilitation levels, and to improve the quality of their lives. In this respect nurses might well take as their own the motto of the Journal of Gerontology: "It is not our purpose to add years to life, but to add life to years."

## Chapter II

### METHODOLOGY

#### Setting for the Study

Physicians at the Portland Veterans Hospital (VAH) have been inserting cardiac pacemakers into selected patients since 1963. In the year 1975 alone, approximately 50 pacemaker operations were performed. It is estimated that 360 patients are currently being followed in the VAH pacemaker clinic. This follow-up care includes the administration of physical examinations and wave form analysis of electrocardiograms. These checks on the patient's condition are conducted one month post-implantation, then every three months during the first year, and approximately every two months thereafter until six months prior to the anticipated end of life of the pacemaker battery (18 to 36 months). At that time, the patient begins to receive closer surveillance until arrangements are made for battery replacement.

Surgeons at the University of Oregon Health Sciences Center (UOHS) have been inserting pacemakers since 1958 and currently are performing between 60 to 80 pacemaker implantations each year. At present the pacemaker clinic staff follows between 250 and 300 patients who have received Starr-Edwards pacemakers at the University Hospital or the VAH. Their follow-up includes periodic telephone monitoring of their electrocardiograms as well as annual physical examinations.

### Sample and Sampling Procedure

At the VAH, subjects were obtained from among the patients attending the semi-monthly clinics. At UOHSC, subjects were obtained from among those arriving at the weekly pacemaker clinic for their annual physical examinations.

At each of these clinics, the appointment schedule was checked, and a list was drawn up of those patients who met the criteria for inclusion in the research. As many of these patients were interviewed as time permitted. To prevent any systematic bias on the part of the interviewer, the order in which these patients were approached (and hence entered the sample) was determined by the use of a table of random numbers.

This procedure was repeated at the clinic sessions until a total of 50 subjects had been obtained; 25 from the VAH, and 25 from the UOHSC. The criteria for inclusion follow: subject must be male; noninstitutionalized; between the ages of 45 and 85 years; must have received his pacemaker no more recently than 9 months previously; must be currently followed by the VAH or UOHSC clinics in Portland, Oregon; and must give his informed consent to participate in the study. (See Appendix A for consent form.)

It is recognized that the sample is not a random one. However, there is no basis for believing that the subjects so selected differ in any systematic way from the general population of pacemaker patients at the particular institutions studied.

### Procedure

As stated above, on the day of each clinic, a list of eligible subjects was compiled. Subjects selected in random order from this list were then approached by the investigator, informed as to the nature of the research, and asked to participate. If the patient agreed, the interview was conducted in a private room in the clinic. In view of the possibility of reading difficulties due either to poor vision or lack of reading comprehension, the interviewer read aloud each question to the subject, and recorded his response on the schedule. Average length of time required for the interview was 30 minutes.

### Design

This study was descriptive in nature. Data were collected at one point in time, and lend themselves to correlational analyses only. The results regarding the interrelations of health perception, social participation, and morale may be generalized to the total VAH and UOHSC male pacemaker populations on the argument that the sample does not differ systematically from those populations. However, the findings may not be legitimately generalized to other groups of pacemaker patients. For such groups, the present findings can only be considered suggestive.

### Data and Data-gathering Instruments

A structured interview served as the major source of data for this study. Inasmuch as the present research is a part of a larger project, the interview in its entirety contained items and information not directly pertinent to the research problems stated here. (See Appendix E for a copy of the total Interview Schedule.) For this analysis, certain demographic and social-psychological data were extracted from the interview. The demographic information for each subject covers: age, marital status, income, educational level, occupational status, employment status, and living arrangements (whether alone or with someone). The social and psychological data include each subject's scores on measures of social participation, morale, and health perceptions.

The following information on the physical status of the patient was also obtained: length of time since first pacemaker implant, number of implants, number of operations associated with the pacemaker, and presence or absence of chronic illnesses.

### Measurement of the Dependent Variable

The measure of morale chosen for this research was Ellison's (1969a) "Will-to-Live" scale. By the author's acknowledgment (1969b, p. 42), the conceptual roots of his Scale were the "giving-up" or "helplessness-hopelessness response" described by Schmale, the "despair" which Nettler (1965) has stated is basic to anomie scales, and the "futility"



identified by Kutner et al. (1956). However, the concept would appear to be allied as well to other major indices of morale used with the elderly. Thus, Pierce and Clark (1973) reported the emergence of a Will-to-Live cluster of items from their analysis of 45 items derived from diverse adjustment measures. Upon factoring the Life Satisfaction Index-A (LSI-A) of Neugarten et al. (1961), Adams (1969) obtained a "fortitude and resolution" factor revolving about the extent to which the individual regards his life as meaningful and resolutely accepts this life. Finally, the Philadelphia Geriatric Center morale scale (PGC) contains items such as "I sometimes feel that life is not worth living" (Lawton, 1975).

Ellison's scale was selected in preference to the other major morale indices (the LSI-A and the PGC) in the interest of avoiding measurement redundancy. Klemmack, Edwards, and Carlson (1974) demonstrated that the LSI-A (as modified by Adams) overlapped considerably with a measure of "social isolation", whereas Ellison's measure did not. Lawton (1975) deliberately included social relationship items in his multidimensional PGC scale, and on factor analysis, one of the factors that emerged was "lonely dissatisfaction". Inasmuch as it was the purpose of this research to specify the degree of relationship between morale and social participation (a concept akin to lonely dissatisfaction and social isolation), Ellison's "Will-to-Live" scale appeared to be the better choice.

The Will-to-Live scale was designed to discriminate persons who want to live from those for whom continued life is less attractive. The second of its seven items--"You sometimes can't help wondering whether

anything is worthwhile anymore"--was in fact derived from the Midtown Manhattan Study where it served as an indicator of latent suicide tendency. The other six items likewise tap disillusion with life. (See Appendix B for a complete copy of the tool.) For each item, the subject is presented with three alternative responses, from which he selects the one most closely in accord with his own views.

The method of scoring is as follows: Four points are assigned for each low Will-to-Live answer, 0 points for each high Will-to-Live answer, and 2 points for each "undecided" answer (or the "sometimes" answer to Question 6). Adding these points, the respondent can, in principle, receive a score ranging from 0 to 28. Ellison differentiates three groups of respondents, those with "high Will-to-Live" scoring 0 to 9, those with "medium Will-to-Live" scoring 10 to 19, and those with a "low Will-to-Live" scoring 20 to 28.

According to Ellison, the reproducibility of the cumulative scale was provided by the significant correlations (at the .05 level) of scale scores with the following three items (Ellison, 1969b).

1. Modern doctors are telling us we'll be able to live until we are 110 years old. How do you feel about living that long?
2. About how many more years would you like to live?
3. Interviewer's comments: This man's attitude toward life is:
  - wants to live very much
  - wants to live some
  - doesn't want to live
  - doesn't know

Measurement of the Independent Variables

Social participation.

In this research, social participation was measured in two ways. First, Phillips's Social Participation Index (1967) was utilized. Its three questions tap three major components of participation identified in the literature--informal sociability, neighboring activities, and participation in formal organizations. As constructed, this instrument permits determination of the magnitude of intercorrelations among the three separate components, and also the magnitude of the relation of each component to morale and to perceived health.

The three questions, together with the scoring procedures, follow.

Question 1. During the past few weeks how many times did you get together with friends--I mean things like going out together or visiting in each other's homes?

Those reporting no contacts receive scores of "1"; those reporting 1 or 2 contacts receive scores of "2"; and those reporting 3 or more contacts receive scores of "3".

Question 2. About how many neighbors around here do you know well enough to visit with?

Those replying that they know no neighbors receive scores of "1"; those knowing from 1 to 3 neighbors receive scores of "2"; and those knowing 4 or more neighbors receive scores of "3".

Question 3. How many organizations, such as clubs, labor unions, social, civic, or fraternal groups do you take an active part in?

Those with no organizational activities are assigned scores of "1"; those active in one or more organizations are assigned scores of "2".

The scores on the three items are then added, to give a total varying from 3 to 8 points. Phillips considered persons with total scores of 3 or 4 to be "low" on the index, persons scoring 5 or 6 to be "medium" in participation, and persons scoring 7 or 8 to be "high".

A second measure of the individual's social participation was provided by his response to the question: "Compared to the average person your age, how would you rate how much social life you have?" (Questionnaire Item 31). The respondent could check one of five answers, and received a score ranging from "1" ("much more social life than the average person my age has") to "5" ("much less social life than the average person my age has"). This measure, unlike Phillips's, probes the subjective view of the individual, rather than attempting to measure objectively the amount of interaction experienced.

#### Perceived health.

Each subject was shown a 10-step "Cantril ladder" (1965). The top of the ladder (10) represented the "best possible health", and the bottom of the ladder (0) "worst possible health". Each patient was asked to indicate on this ladder the step which best represented his health "right now". Then he was asked to indicate the step which best represented his guess of the health of the "average person his age". The distance (in number of steps) between these two ratings constituted the measure of Perceived Health used in this study. The score thus obtained could, in principle, vary from -10 (in case the patient checked step 10 for the average person and step 0 for himself) through 0 (in case the patient checked the same step for himself and for the average

person) to +10 (in case the patient checked step 10 for self and step 0 for average person). In order to facilitate data processing, a constant of 10 was added to all these scores. Hence, the final corrected Perceived Health Scores could vary from 0 to 20. A score of 10 signifies equation of own health with that of the average person; a score less than 10 signifies a view of self as sicker than the average person; a score over 10 represented a view of self as healthier than the average person.

By means of the Cantril ladder technique, a single-item, equal-interval, self-anchoring scale is produced, which is easy to administer, and which permits the use of parametric statistics.

In justification for the use of this measure, it might be noted that other investigators (Shanas et al., 1968; Kent & Matson, 1972) have found that older people use as a yardstick in assessing the state of their own health, the health of other older people. In light of the geriatric nature of the present sample (mean age in excess of 68 years), inevitably many of the friends and associates of these patients have already died. Hence these patients might well have believed that their very survival attested to their superior health.

#### Analysis

This study is correlational in nature. In the analysis to follow, major reliance has been placed on the nonparametric measures of association, chi-square and Kendall's tau, to assess the significance and magnitude of the postulated relations among variables. In addition,

the statistic, Pearson's  $r$ , has been computed in view of the following facts: first, many of the measures employed in this research clearly represent interval data (e.g., age, number of months since pacemaker implantation); second, other measures are commonly interpreted and treated as interval (e.g., Perceived Health measured on a Cantril-ladder, dummy variables as sex, and Phillips's Social Participation Index); and third, a controversy continues unabated in the social sciences regarding the propriety and usefulness of utilizing parametric statistics in the analysis of ordinal data (Suits, 1952; Blalock, 1964; Cohen, 1965; Labovitz, 1967, 1971).

In arriving at the conclusions from these data, the consistency of findings derived from the differing statistical analyses will be considered. When all statistics clearly indicate that a tested relation either is significant or is not significant, that finding will be accepted. Where inconsistent results emerge, the relations will be considered as unverified and in need of further testing.



### Chapter III

#### FINDINGS AND INTERPRETATIONS

In this chapter, first the representativeness and the nature of the sample will be discussed; then the findings regarding the level of morale, perceived health and social participation of the subjects will be analyzed; and finally, the evidence pro and con each of the four hypotheses will be presented.

#### The Sample

Subjects were selected, and interviews conducted over a period of 8 to 9 months in accordance with the guidelines outlined in the previous chapter. There is no reason to surmise that patients seen in the two clinics during those months should differ systematically from patients seen in other months. Therefore, it appears reasonable to conclude that the 50 subjects of this study are a representative sample of all male, noninstitutionalized pacemaker patients treated in the two hospital settings; and that the results of this research may be generalized to that population. Confidence in the sample's representativeness and in the absence of systematic bias is further increased by the extremely low refusal rate (only 2 of the 52 patients approached declined to

volunteer) and by the stratagem of randomly selecting patients for interview from the total pool of eligibles at each clinic session.

In this study, patients from two separate sites were combined into one sample. The basic similarity of the two sets of subjects justifies this procedure. From Table 1, it may be seen that patients from the university clinic and from the Veterans' Administration clinic were remarkably alike with regard to such demographic characteristics as age, educational achievement, occupational prestige, income, employment status, and living arrangements; with regard to the health variables of number of operations, months since first pacemaker implantation, and presence or absence of other chronic ailments; and with regard to mean scores on the measures of Will-to-Live, Perceived Health, and Social Participation. Only one difference proved to be statistically significant. More patients from the VA clinic than from the University clinic claimed to have a confidant (chi-square = 8.09,  $p < .01$ ). Perhaps this one difference may be ignored, in that having a confidant did not prove to be associated with Will-to-Live, Perceived Health, or Social Participation.

In view of this overall similarity, it may be assumed that the two sets of subjects have been drawn from a common population. Hence in the analysis to follow, the results from the two subgroups have been aggregated and are presented together.

From Table 1, it may be concluded that this sample of 50 patients is a geriatric one, since the mean age is 68.3 years. This conclusion agrees with that of previous investigators, who have reported mean ages of 66 to 72 years for their pacemaker patient samples (Becker et al.,



Table 1

## CHARACTERISTICS OF PACEMAKER PATIENTS

| Characteristics                             | Total Sample (N=50)    | University Clinic (N=16) | VAH Clinic (N=34)    |
|---|------------------------|--------------------------|----------------------|
| <u>Demographic:</u>                         |                        |                          |                      |
| Age (mean)                                  | 68.3 (S.D.=10.7)       | 67.7 (S.D.=12.1)         | 68.5 (S.D.=10.1)     |
| Education (mean)                            | 9.5 (S.D.=2.92)        | 10.3 (S.D.=2.82)         | 9.1 (S.D.=2.93)      |
| Occupational prestige (mean)                | 27.6 (S.D.=20.5)       | 27.4 (S.D.=20.1)         | 28.5 (S.D.=20.7)     |
| Income (mean)*                              | \$6674 (S.D.=\$10,863) | \$5812 (S.D.=\$4288)     | \$6800 (S.D.=\$8643) |
| Per cent married                            | 64.0                   | 62.5                     | 64.7                 |
| Per cent employed**                         | 12.0                   | 25.0                     | 5.9                  |
| Per cent living alone                       | 26.0                   | 25.0                     | 26.5                 |
| Per cent with confidant                     | 84.0                   | 62.5                     | 94.1                 |
| <u>Health</u>                               |                        |                          |                      |
| Number of operations (mean)                 | 2.6 (S.D.=1.90)        | 2.7 (S.D.=1.96)          | 2.6 (S.D.=1.89)      |
| Number of months since first implant (mean) | 56.9 (S.D.=36.3)       | 58.3 (S.D.=34.6)         | 56.3 (S.D.=37.56)    |
| Per cent with chronic illnesses             | 42.0                   | 50.0                     | 38.2                 |
| <u>Social-Psychological Scores (means):</u> |                        |                          |                      |
| Will-to-Live                                | 6.28 (S.D.=5.98)       | 7.50 (S.D.=7.25)         | 5.78 (S.D.=5.31)     |
| Perceived Health                            | 10.48 (S.D.=2.40)      | 10.13 (S.D.=2.50)        | 10.65 (S.D.=2.37)    |
| Social Participation                        |                        |                          |                      |
| ***Objective                                | 6.46 (S.D.=1.50)       | 6.10 (S.D.=1.78)         | 6.60 (S.D.=1.35)     |
| ***Subjective                               | 3.22 (S.D.=1.07)       | 3.40 (S.D.=1.21)         | 3.11 (S.D.=1.01)     |

\*Four subjects from the VA clinic refused to answer this item. Responses are based on 16 university clinic, and 30 VA clinic patients.

\*\*Includes 2 patients employed part-time, and 4 full-time.

\*\*\*The objective measure is Phillips's Index of Social Participation; the subjective measure is the patient's rating of the amount of his social life relative to that of his age peers.

1967; Edhag & Wedelin, 1969; Greene & Moss, 1969; Blacher & Basch, 1970; Parsonnet et al., 1974).

Many of the other demographic characteristics of the present sample derive from its geriatric nature as, for instance, the low proportion employed, the high proportion of the widowed (22%), the relatively low mean educational level, and the somewhat restricted income. Thus, the median income for these patients was \$6,000 in 1976, less than half the national average of \$13,271 for all white families in the United States in 1974. The patients' income was also substantially less than that of their age peers. In 1974, the median income for white families headed by persons 65 years of age and over was \$7,518 (U.S. Bureau of the Census, 1975, p. 397). Their mean occupational status score of 27.6 on a 100-point scale constituted additional evidence of the low socio-economic standing of these patients.

A final comment is in order regarding employment status. In this sample, only 4 patients (8%) were employed full time. Becker et al. (1969) similarly reported that 9% of their pacemaker patients were working full time. On the other hand, Edhag & Wedelin (1969) claimed that 29% of their 139 subjects were still employed. This higher employment rate may be due to that fact that their subjects were residents of Stockholm, where retirement pensions do not come into effect until age 67.

#### Level of Morale

The patients' morale in this study was operationalized as his score on Ellison's Will-to-Live Scale. Inasmuch as the mean score was 6.28

on a scale from 0 to 28, the distribution was distinctly skewed to the end of the scale representing a strong Will-to-Live. It may be concluded, then, that these patients, despite their severe chronic illness, viewed their lives in a positive light. In this respect, they resemble most Americans. National probability surveys have consistently demonstrated that the vast majority of the American public possesses high morale, operationalized in terms either of satisfaction with life, or of happiness. Only 10% to 17% of the population expresses general unhappiness or dissatisfaction with life (see Robinson & Shaver, 1973, pp. 11-43, for a review of this literature).

Those national surveys have also indicated that lower morale characterizes older individuals. The differences by age are larger for assessments of happiness than of satisfaction with life. Reporting as "not too happy" were 18% of individuals age 55 and over, interviewed by Gurin et al. (1960); 24% of respondents 60-69 years old, by Bradburn and Caplovitz (1965); 12% of respondents 60-66 years of age, by Converse and Robinson (cited in Robinson & Shaver, 1973); 27% of the elderly retired by Bradburn and Caplovitz (1965); and 30% of the retired by Noll and Bradburn (cited in Robinson & Shaver, 1973). Reporting as "not very satisfied" were 11% of the respondents 60-69 years old, interviewed in 1968 by the Survey Research Center (cited in Robinson & Shaver, 1973), and 6% of the individuals over 50 years of age by Cantril (1965). The unusually small proportion of the dissatisfied noted by Cantril (1965) and by Converse and Robinson may be accounted for by methodological peculiarities of those studies, namely "...the lack of many unemployed, elderly, and retired people (who were largely excluded)

in the Converse-Robinson study and the reduced aspirations...of elderly people in the Cantril study" (Robinson & Shaver, 1973, p. 19).

The statistics quoted refer to responses to single items about happiness, or satisfaction with life. In the present study, one such question was included in the interview, and it was found that 12% of the subjects conceded that they were "somewhat less" or "much less satisfied with life than the average person my age". This percentage is smaller than those generally reported for the age bracket under consideration, and would suggest that the pacemaker patient population is unusually optimistic and contented.

A comparison of the responses of the present sample with the responses of Ellison's (1969) retired bluecollar workers further supports this conclusion. In Ellison's study, 57% of the workers manifested a high Will-to-Live (scoring 0-9); 24% expressed a moderate Will-to-Live (scoring 10-19); and 19% expressed a low Will-to-Live (scoring 20-28). Adopting these cutting points, 72% of the pacemaker patients showed a high Will-to-Live, 22% a moderate Will-to-Live, and 6% a low Will-to-Live. In short, the pacemaker patients would appear to possess higher morale than a general sample of retired workers, with no specified disease condition.

The present sample would also appear to manifest better morale than other chronically ill patients. In a study of 167 chronically ill patients, aged 60 years and above, Henley and Davis (1967) found 29% to be "sometimes" or "usually" dissatisfied. This figure may be contrasted to the 12% of the pacemaker patients who responded that they were somewhat or much less satisfied with life than the average person.

In respect to their morale, the present group would appear to resemble the pacemaker sample interviewed by Greene and Moss (1969) at periods varying from 1 month to 6 years following implantation. Those authors reported an excellent psychological adjustment, on the whole, for 60 patients, with an amazing relief of symptoms and rejuvenating lease on life. Conversely, Becker et al. (1967) described the modal response of patients 3 months after pacemaker implantation as one of mild depression and anxiety. The question arises: are depression and anxiety characteristic of the early period of convalescence, but not of later periods? Stonehill (1970), also testing at the 3-month period, found his group of pacemaker patients to score higher on a measure of depression than "normal" populations. However, this higher mean score on depression might be attributable to the responses of his younger subjects, inasmuch as he noted that depression was significantly greater in patients under 55 years of age than in older patients.

In concluding, the finding of high morale in the current sample of pacemaker patients may be due to the vagaries of sampling, or may reflect a unique characteristic of the pacemaker patient. Perhaps the usual pacemaker patient believes himself particularly fortunate in that he has been given a renewed lease on life, and in that he may often continue to lead a full and active life. In gratitude, he may express deeper satisfaction than many elderly individuals without such a history. Perhaps, also, a process of self-selection has occurred, whereby those who submit to pacemaker implantation may be thereby proclaiming their Will-to-Live, and those who have little Will-to-Live may

never arrive for the operation. Both of these factors might account for the unexpectedly high morale level of these patients.

#### Will-to-Live in Relation to Selected Social and Demographic Variables

A great deal of effort has been expended in the attempt to specify the factors determining morale. Two of the predictive correlates more frequently mentioned are social participation and perceived health. The relations of these factors to morale form the hypotheses of this study, and will be discussed later. Among the remaining predictive correlates commonly mentioned are background characteristics of the individual. In this research, no statistically significant relationships were found between the subject's Will-to-Live score and the demographic variables of marital status ( $r = -.116$ ), employment status ( $r = .112$ ), education ( $r = -.165$ ), occupational status ( $r = -.182$ ), or age ( $r = .196$ ). These findings were unexpected, in light of the national surveys of the general population which have quite regularly indicated that the divorced and widowed, the unemployed, those with extremely low incomes, older persons, and perhaps those with less education, show the greatest rates of dissatisfaction and unhappiness (Robinson & Shaver, 1973, p. 35). With respect to the gerontological research, the findings are sometimes contradictory and ambiguous but the bulk of the evidence would indicate greater life satisfaction for those in higher socioeconomic positions, for the employed, and perhaps for younger individuals (Adams, 1971).

However, most of these studies on morale suffer from methodological limitations. Most investigators have arrived at their conclusions by bivariate analyses, and have reported zero-order correlations. Only a few studies have utilized multivariate techniques, and assessed the independent effects of variables on morale, when other variables have been controlled. The few existing multivariate studies cast some doubt on the generally accepted findings. It has been pointed out that socioeconomic status (whether measured by income, by education, or by occupational status) has little independent effect on morale (Garrity, 1973; Brown & Rawlinson, 1976; Clemente & Sauer, 1976). In addition, it might be mentioned that Greene and Moss (1969) found that socioeconomic status did not appear to be an important factor in pacemaker patient adjustment.

At least 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 (Henley & Davis, 1967; Garrity, 1973; Brown & Rawlinson, 1976). The relations between age and morale also has been challenged by Cantril (1965), by Maddox and Eisdorfer (1962), by Henley and Davis (1967), by Garrity (1973), by Brown and Rawlinson (1976), by Clemente and Sauer (1976), and, for an aged pacemaker group, by Greene and Moss (1969). Finally, Palmore and Luikart (1972) have failed to find an association between marital status and morale, and Hutchinson (1975) denies a relation exists for the elderly existing below the poverty level.

The failure in this instance, then, to find statistically significant relations between patient morale and selected demographic charac-

teristics, while unexpected, is not completely without precedent. Perhaps the relations between these variables are not as strong as commonly believed. Alternatively, it is possible that the discrepancies in findings are attributable to the use of different measures of morale. The Will-to-Live Scale may be differently related to demographic factors than are tests of happiness or satisfaction with life. This is a distinct possibility despite the fact that the Will-to-Live Score correlated significantly with response to a single item on satisfaction included in the interview ( $r = .379$ ). A third explanation for the unexpected findings may lie in the different nature of the present sample and the samples serving as the basis for previous findings. The pacemaker population differs from the general population in being both aged and chronically ill; and the meanings of socioeconomic status, of employment, of marriage, and so forth may differ between pacemaker patients and the rest of the population. Finally, the explanation for the discrepancies between the current and previous findings may lie entirely in sampling error.

#### Level of Perceived Health

The mean score on the measure of Perceived Health was 10.45, implying that the average pacemaker patient considered his own health to be roughly on a par with that of persons his own age. Scores ranged from 5 to 15, with 32% of the scores below 10 (indicating a view of self as less healthy than the average person), 20% of the scores equaling 10 (indicating no difference in health between self and the average



person), and 48% of the scores 11 and above (indicating a perception of self as healthier than average). It may seem surprising that two thirds of these subjects viewed their health so optimistically. In this optimism, they resemble the general American population. Among others, Friedsam and Martin (1963), Maddox (1964), Shanas et al. (1968), and Maddox and Douglass (1973) have documented the tendency for the elderly to evaluate their health condition more favorably than do their physicians on the basis of clinical examinations and laboratory results.

Nevertheless, despite this overall optimism, 32% of the present subjects did admit to less than average health. This percentage is double that reported by Ellison for his sample of retired steelworkers, of whom only 17% admitted to less than average health, while 40% claimed average health, and 43% better than average health. The percentage of pacemaker patients admitting to less than average health is also double that reported by Shanas et al. (1968) for a random sample of Americans aged 65 and over. In that sample, only 18% stated that their health was "poor" or worse than the health of others.

#### Perceived Health in Relation to Selected Social and Demographic Variables

Those patients who reported having someone in whom they felt free to confide perceived their health as better than those who lacked such a significant other ( $r = -.397$ ). Lowenthal and Haven (1968) pointed out the importance of a confidant for a sense of psychological well-being and mental health. Possibly, a confidant is important for a sense of physical well-being also.

Quite unexpectedly, health perceptions of patients in this investigation appeared to be unrelated to age ( $r = .149$ ), and to marital status ( $r = .140$ ). These findings run counter to most previous research. Brown and Rawlinson (1975) reported both age and marital status to be significantly related to health perceptions of chronic heart patients, 25 to 65 years of age. However, Shanas et al. (1968) found no marked decline with age (for persons 65 years and above) in the proportion of the elderly claiming good health.

Health perception was also unrelated to education ( $r = .068$ ), to occupation ( $r = .012$ ), and to employment status ( $r = .033$ ). These findings are less surprising in that other investigators (Garrity, 1973; Brown & Rawlinson, 1976; Clemente & Sauer, 1976) have reported health perceptions unrelated to socioeconomic variables, at least when other variables are controlled.

Finally, Perceived Health Scores did not vary systematically with more "objective" measures of health, such as the number of pacemaker operations experienced ( $r = .119$ ), months elapsed since the first pacemaker implantation ( $r = -.159$ ), presence of other major chronic diseases ( $r = -.076$ ), or months elapsed since the patient first became aware of his heart problem ( $r = .184$ ). Generally, it has been assumed that self assessments of health and more "objective" measures would correspond significantly. Maddox (1964), for instance, reported a substantial correlation between self-assessed and clinically evaluated health. However, it should be remembered that no physician evaluations of health were available for the pacemaker patients. With respect to the measures used here, previously Garrity (1973) and Brown and Rawlinson

(1975) reported little association between perceived health and presence of chronic diseases. However, Brown and Rawlinson (1975) did report a significant relation between perceived health and length of time since the patient first knew he had a heart problem.

#### Extent of Social Participation

The present sample of patients, as a group, proved to be highly active, socially. This conclusion is reached, whether an objective or a subjective measure of social participation is used.

Phillips's Social Participation Index (SPI) may be considered as an objective measure. Subjects scoring 3-4 on that Index are considered to be "low" in social participation; those scoring 5-6 are considered to be "moderate", and those scoring 7-8 are considered to be "high" in participation. In Phillips's original study (1967), 40% of his 600 subjects scored "high" in participation, 45% "moderate", and 15% "low". In the present investigation, 56% of the pacemaker patients received scores of 7-8, 32% scores of 5-6, and only 12% scores of 3-4. In short, this pacemaker population reported more social activity than did a sample of the general population.

The second measure of social participation measured the respondent's "subjective" judgment of the extent of his own social life relative to that of the average person his age.

Scoring of the subjective measure revealed that 20% of the pacemaker patients viewed the extent of their social life as somewhat more, or much more, than that of an average person their age; 42% viewed their

social life as the "same", and 38% viewed their social life as somewhat less or much less than that of an average person their age. These responses were remarkably similar to those of Ellison's (1969) retired steelworkers. Ellison measured social isolation through responses to nine questions pertaining to loneliness, friendship, visiting of friends, and perception of the world as a friendly place. Of the retired steelworkers, 39% placed in the "low" social isolation category, 40% in the "medium", and 21% in the "high" social isolation category.

The subjective rating of social participation correlated significantly with the objective measure ( $r = -.482$ ). The negative relationship is explained by the fact that high scores on the objective measure and low scores on the subjective measure indicated higher social participation. In the literature reviewed, no findings were reported concerning the extent of correspondence of subjective and objective participation measures.

#### Social Participation in Relation to Social and Demographic Variables

Only a few significant correlations were obtained between social participation, measured either objectively or subjectively, and the selected demographic, social, and medical variables. Neither measure of social participation proved related to age, employment, possession of a confidant, number of pacemaker operations, or education. The objective measure of social participation did demonstrate a significant relationship (1-tailed test of significance) with occupational status ( $r = .234$ ), as estimated by the Duncan-Reiss Socioeconomic Index (1961)

Table 2

CORRELATES OF OBJECTIVE AND SUBJECTIVE MEASURES OF  
SOCIAL PARTICIPATION

| Variable                    | Correlation with Social Participation   |                   |
|-----------------------------|---|-------------------|
|                             | Objective measure<br>(Phillips's Index) | Subjective Rating |
| Age                         | -.195                                   | .057              |
| Occupation                  | .234*                                   | -.020             |
| Employment                  | -.152                                   | .040              |
| Presence of confidant       | -.135                                   | .217              |
| Number of operations        | -.085                                   | -.156             |
| Months Sick                 | .074                                    | -.302**           |
| Married                     | .131                                    | -.303**           |
| Education                   | .123                                    | -.036             |
| Months with pacemaker       | -.257                                   | .069              |
| Presence of chronic disease | .260*                                   | .090              |

\* $p < .05$ , 1-tailed test (since the direction of the relation was predicted)

\*\* $p < .025$ , 1-tailed test (since the direction of the relation was predicted)

and with the presence or absence of other chronic diseases ( $r = .260$ ). The subjective measure of social participation correlated significantly with marital status ( $r = -.303$ ) and length of time since the respondent first became aware of his heart trouble ( $r = -.302$ ).

With respect to the relation between social participation and age, the present finding is in disagreement with the findings of Ellison (1969) and Maddox (1963). Both reported a decline in social activity with increasing age for their geriatric samples. On the other hand, neither Garrity (1973), nor Phillips (1967), nor Palmore and Luikart (1972), found a significant correlation between age and social participation.

With respect to socioeconomic factors, Maddox (1963) found social participation (objectively measured) was related to occupational status, as did the present investigator. Likewise, Garrity (1973) reported a significant correlation between participation in community organizations (but not in informal sociability) and socioeconomic status, measured by education and occupation combined. Finally, Phillips (1967) claimed that an objective measure of social participation was related to education, a finding which was not replicated with this sample of pacemaker patients.

With regard to employment, Palmore and Luikart (1972) claimed this variable to be associated with social participation, objectively measured, as did Garrity (1973). However, no support for this relation was found here. Possibly, this lack of agreement is due to the fact that the present sample was considerably older than the samples of either Garrity or of Palmore and Luikart.



Finally, Garrity (1973) found that chronic illnesses affected informal participation. The present finding is consistent with his.

#### The Evidence for and against the Hypotheses

Hypothesis 1: The better the perceived health of the patient with an implanted pacemaker, the greater his social participation will be.

Little support was found for this hypothesis. Table 3 shows that those patients who perceived their health to be equal to, or better than, that of the average person of their age engaged in no more social activities, as measured by Phillips's Index, than did those patients who perceived their own health to be worse than that of most persons their age.

If the subjective estimate of social participation is used, rather than the more objective, then there may be evidence of a slight tendency for those who judged themselves to be in better than average health to consider themselves to be as or more social than other persons. The Chi-square value of 3.31 did not quite attain significance at the .05 level (see Table 4). This may be partly due to the fact that the Chi-square technique does not consider the full range of variations in data. However, both the Pearsonian correlation and Kendall's tau were of sufficient magnitude to reach a significance.

This result contrasts to Ellison's (1969). He obtained a Chi-square value of 17.01 and a tau of .26, clearly supporting his hypothesis that those who perceived their health to be better tended to feel less socially isolated. However, it should be noted that Ellison's measure

Table 3

## PERCEIVED HEALTH AND SOCIAL PARTICIPATION (OBJECTIVE MEASURE)

| Objective Social<br>Participation Score<br>(Phillips's Index) | Perceived Health                  |                                       | N  |
|---|-----------------------------------|---------------------------------------|----|
|   | Average or Worse<br>(Scores 0-10) | Better than Average<br>(Scores 11-15) |    |
| Low (3-6)   | 13                                | 8                                     | 21 |
| High (7-8)  | 13                                | 16                                    | 29 |
| TOTAL   | 26                                | 24                                    | 50 |

Chi square = 1.423, df = 1, n.s.

Kendall's tau = .096, n.s.

Pearson's  $r = .265$  df 48  $p < .05$



Table 4

## PERCEIVED HEALTH AND SOCIAL PARTICIPATION (SUBJECTIVE RATING)

| Subjective Rating of<br>Social Participation | Perceived Health                  |                                       | N  |
|--|-----------------------------------|---------------------------------------|----|
|  | Average or Worse<br>(Scores 0-10) | Better than Average<br>(Scores 11-15) |    |
| Below Average<br>(Scores 4-5)                | 13                                | 6                                     | 19 |
| Average & above<br>(Scores 1-3)              | 13                                | 18                                    | 31 |
| <b>TOTAL</b>                                 | 26                                | 24                                    | 50 |

Chi square = 3.31, df = 1, p<.10

Kendall's tau = -.153, p<.05

Pearson's  $r$  = -.402, df = 48, p<.01

of social isolation (Dean's Social Isolation Subscale), while closer to our subjective than our objective measure, in the main tapped feelings of loneliness, the value of social ties, and the gratification received from them.

Either the relationship between health and social activity is not a strong one, or the present result is due to sampling error, or pacemaker patients may be dissimilar to the populations for whom the relationship has been established.

Hypothesis 2: The greater the social participation of the patient with an implanted pacemaker, the higher his morale will be.

Generally, this hypothesis was supported. Table 5 shows that those with high social participation tended to manifest a higher Will-to-Live than did those with lesser social participation, as objectively measured. The Chi-square value indicated a significant relation, but the Kendall's tau and Pearson's  $r$  present a somewhat less convincing picture.

When social participation was examined from the subjective angle, its relation to morale proved significant by all tests (see Table 6). Those who regarded their social life as average or greater in amount tended to express a higher Will-to-Live than did those who believed their social participation below average for their age group. Chi-square values and correlational coefficients all attest to the significance of this finding. However, the magnitude of the association was not as great as that reported by Ellison (1969) for his sample. For retired steelworkers, the corresponding Chi-square value was 23.19 between "social isolation" and Will-to-Live.

Table 5  
 SOCIAL PARTICIPATION (OBJECTIVE MEASURE) AND WILL-TO-LIVE

| Will-to-Live                      | Objective Measure of Social Participation<br>(Phillips's Index) |                                   | N         |
|-----------------------------------|---|-----------------------------------|-----------|
|                                   | High Participation<br>(Scores 7-8)                              | Low Participation<br>(Scores 3-6) |           |
| High Will-to-Live<br>(Scores 0-6) | 24  | 9                                 | 33        |
| Low Will-to-Live<br>(Scores 8-28) | 5   | 12                                | 17        |
| <b>TOTAL</b>                      | <b>29</b>   | <b>21</b>                         | <b>50</b> |

Chi square = 8.628, df = 1,  $p < .01$

Kendall's tau = .05, n.s.

Pearson's  $r$  = .183, df = 48, n.s.

Table 6

## SOCIAL PARTICIPATION (SUBJECTIVE RATING) AND WILL-TO-LIVE

| Will-to-Live                      | Subjective Social Participation Rating |                                   | N  |
|-----------------------------------|--|-----------------------------------|----|
|                                   | Average or Better<br>(Scores 1-3)      | Less than Average<br>(Scores 4-5) |    |
| High Will-to-Live<br>(Scores 0-6) | 25                                     | 8                                 | 33 |
| Low Will-to-Live<br>(Scores 8-28) | 6                                      | 11                                | 17 |
| TOTAL                             | 31                                     | 19                                | 50 |

Chi square = 7.799, df = 1,  $p < .01$

Kendall's tau = .198,  $Z = 2.027$ , significant

Pearson's  $r = .340$ , df = 48,  $p < .01$

Support for this hypothesis has additionally been reported by Maddox (1962), Phillips (1967), and Garrity (1973), using subjective ratings of social activity, and by Palmore and Luikart (1972) and Maddox and Douglass (1973), using objective measures. Social participation would appear to predict morale in pacemaker patients as it does in other populations previously described in the literature.

Hypothesis 3: The better the perceived health of the patient with an implanted pacemaker, the higher his morale will be.

From Table 7 it may be observed that patients who perceived their health to be as good or better than average for their age also demonstrated higher morale than those who perceived their health as worse than average. Both the Chi-square value and Pearson's  $r$  indicated the statistical significance of this finding, supporting the hypothesis. However, the observed relation did not emerge as strongly for this population as it did for Ellison's elderly bluecollar workers, possibly because of the greater variability along the dimension of morale demonstrated by his sample.

The present finding also accords with the findings of Maddox and Eisdorfer (1962), Palmore and Luikart (1972), and Clemente and Sauer (1976), among others. All reported perceived health to be strongly associated with satisfaction with life.

Table 7  
 PERCEIVED HEALTH AND WILL-TO-LIVE

| Will-to-Live                      | Perceived Health                      |                                   | N  |
|-----------------------------------|---------------------------------------|-----------------------------------|----|
|                                   | Better than Average<br>(Scores 11-15) | Average or Worse<br>(Scores 0-10) |    |
| High Will-to-Live<br>(Scores 0-6) | 20                                    | 13                                | 33 |
| Low Will-to-Live<br>(Scores 8-28) | 4                                     | 13                                | 17 |
| TOTAL                             | 24                                    | 26                                | 50 |

Chi square = 6.180, df = 1,  $p < .01$   
 Kendall's tau =  $-.094$ , n.s.  
 Pearson's  $r = -.332$ , df = 48,  $p < .01$

Hypothesis 4: Perceived health will exert a greater effect on the morale of the patient with an implanted pacemaker than will social participation.

The partial correlation between Social Participation (subjectively rated) and Will-to-Live, controlling for the effects of variation in Perceived Health, equalled .187, while the partial correlation between Perceived Health and Will-to-Live, controlling for the effects of variation in Social Participation, equalled -.138. (This latter Kendall's partial  $\tau$  is negative in that higher scores on the Will-to-Live Scale signify poorer morale, whereas higher scores on Perceived Health signify better health. Higher scores on the subjective Social Participation measure signify less social activity.) These statistics indicate that social participation had a stronger effect on morale than did perceived health, for these patients.

This finding constitutes evidence directly counter to Hypothesis 4, which must therefore be rejected. In contrast to this finding, Palmore and Luikart (1972) and Garrity (1973) asserted that self-rated health was by far the strongest variable related to morale; and Edwards and Klemmack (1973) and Spreitzer and Snyder (1974) claimed health was a better predictor of life satisfaction than was social participation. On the other hand, Adams (1971, p. 67) has concluded from his review of the literature that social relations may be the most important determinants of satisfaction.

Tables 8 and 9 have been constructed to elaborate further the interrelations among the three variables of interest. From Table 8 it may be observed that those patients who viewed their health as good, also

Table 8  
 THE RELATION OF SOCIAL PARTICIPATION TO WILL-TO-LIVE,  
 CONTROLLING FOR PERCEIVED HEALTH

| Will-to-Live                      | Perceived Health                             |   |  |   |
|-----------------------------------|--|---|--|---|
|                                   | Better than Average*<br>(Scores 11-15)       |   | Average or Worse**<br>(Scores 0-10)          |   |
|                                   | High Social<br>Participation<br>(Scores 1-3) | Low Social<br>Participation<br>(Scores 4-5) | High Social<br>Participation<br>(Scores 1-3) | Low Social<br>Participation<br>(Scores 4-5) |
| High Will-to-Live<br>(Scores 0-6) | 15   | 5   | 10   | 3   |
| Low Will-to-Live<br>(Scores 8-28) | 3  | 1   | 3  | 10  |
| <b>TOTAL</b>                      | 18   | 6   | 13   | 13  |

Fisher's Exact Test,  $p = .46$

$p = .0079^{**}$



Table 9

THE RELATION OF PERCEIVED HEALTH TO WILL-TO-LIVE,  
CONTROLLING FOR SOCIAL PARTICIPATION

|                                | Subjective Rating of Social Participation |                                       |  |
|--------------------------------|---|---------------------------------------|--|
|                                | High Participation*<br>(Scores 1-3)       | Low Participation**<br>(Scores 4-5)   |  |
|                                | Health Better than Average (Scores 11-15) | Health Average or Worse (Scores 0-10) | Health Better than Average (Scores 11-15) or worse (Scores 0-10) |
| Will-to-Live                   |   |                                       |  |
| High Will-to-Live (Scores 0-6) | 15  | 10                                    | 5 3  |
| Low Will-to-Live (Scores 8-28) | 3   | 3                                     | 1 10   |
| TOTAL                          | 18  | 13                                    | 6 13   |

Fisher's Exact Test,  $p = .317^*$

$p = .023^{**}$

tended to report both a socially active life and high morale. For such patients, the extent of social participation appeared to have little effect on Will-to-Live; five times as many reported high morale as reported low morale, regardless of high or low social participation. Perhaps the few patients who considered their health good, and expressed a high Will-to-Live, despite a low level of social activity, preferred such a life. They may have been examples of "lifelong isolates" whom Lowenthal and Haven (1968) have described as enjoying average or high morale.

Table 8, then, appears to indicate that good health is sufficient to promote high morale. However, in poor health, social interaction would seem to be necessary to sustain high morale. Thus, individuals who saw their health as poor expressed high morale when claiming a high level of social activity, but low morale when admitting to a low level of social activity. Similarly, Ellison (1969) reported that the relation between social activity and Will-to-Live for persons who said that they were in good health was not significant, while the relation for those in average or poor health was significant.

Table 9 reveals that health was significantly associated with Will-to-Live only under conditions of low Social Participation. Almost as many of those who rated their level of social activity high claimed average or poor health, as claimed good health. In either case--better or poorer health--patients with active social lives enjoyed higher morale. But for those patients who did not experience an active social life, Perceived Health did make a difference in Will-to-Live. Those who viewed their social interaction as below average in frequency, and

their health as average or worse, tended to manifest relatively poor morale.

In summary, Social Participation makes a difference in morale only under conditions of poor Perceived Health, and Perceived Health makes a difference in Will-to-Live only under conditions of low Social Participation. The causal sequence and directionality of these effects cannot be determined by this correlational study. However, a consistent interpretation in the gerontological literature has posited that poor health restricts participation by the elderly individual in a peer group, from which he may derive positive satisfactions, and through which he may be socialized into elderly roles and thereby integrated into society (Adams, 1971). In this way, deprived of social interactions, the elderly person's morale suffers. While this interpretation has been challenged (most notably by Cummings & Henry, 1961, the proponents of the "disengagement theory of aging"), some empirical evidence appears to support this view that poor health leads to lessened social participation, which in turn leads to lowered morale. For example, Lowenthal's work (1964) would suggest that poor health leads to isolation, and thereby to poor morale. Thompson, Streib, and Kosa (1960) reported that older men who regarded their health as poor rather than good, two years later demonstrated decreased satisfaction with life. Finally, Maddox (1964), in another longitudinal study, found some indication that changes in health perceptions and changes in social activity preceded changes in morale.

This, then, is one interpretation of the interrelations among the three variables. However, alternative explanations are still possible

and need to be ruled out, as for example that decreased social interaction may depress morale, and thereby affect the individual's perceived health; or that decreased social interaction may cause the individual to brood over his health, and hence depress morale. The directions of the interrelations need clarification and specification through future research in order to plan better services and continuing health care for elderly persons with chronic illnesses, such as the present sample of patients with implanted cardiac pacemakers.

## Chapter 4

## SUMMARY AND CONCLUSIONS

A concern with the broad problem of the quality of life experienced by the chronically ill led initially to this study of the morale of persons with implanted pacemakers. Specifically, the present research has related variations in the morale of such patients to variations in their perceptions of their health, and to variations in their social participation.

The subjects for this study were 50 male, noninstitutionalized patients, between 45 and 85 years of age, who had undergone an operation for permanent pacemaker implantation 9 or more months previously. Twenty-five were currently being followed at a clinic of a veterans' administration hospital, and the other 25 at a clinic of a university teaching hospital.

Through interviews, data were obtained concerning selected background characteristics of these 50 subjects, their perceptions of their health, their morale and social participation. The subject's morale was measured by his score on Ellison's Will-to-Live Scale. His social activity was estimated both by his score on Phillips's Social Participation Index, and by his subjective assessment of his own social participation in comparison to that of the average person his age. Finally, Perceived Health was operationalized as the difference between the

subject's estimate of his own health and his estimate of the health of his contemporaries.

This sample of patients expressed a strong Will-to-Live, somewhat greater than that reported for geriatric samples in previous research. Quite unexpectedly, it was found that morale did not vary systematically in accord with demographic traits. From these findings, it was hypothesized that a population of pacemaker patients might be unlike other populations in that such patients are both elderly and chronically ill, and in that they may exhibit a somewhat euphoric tendency due to their experiencing a new lease on life.

These patients also appeared to lead unusually active social lives, in terms of number of visits with friends, number of neighbors known, and number of organizations with which they claimed affiliation. However, subjectively, they considered the amount of their social participation only average for their age. Finally, while the majority of these patients, just as the majority of Americans generally, estimated their health to be as good or better than that of their age peers, there was still a substantial proportion (32%) who admitted to poorer than average health. This proportion was considerably larger than the proportions so reporting in other samples.

Four hypotheses were posed, with regard to the patient with an implanted cardiac pacemaker.

Hypothesis 1. The better the perceived health, the greater the social participation.

Hypothesis 2. The greater the social participation, the higher the morale.

Hypothesis 3. The better the perceived health, the higher the morale.

Hypothesis 4. Perceived health exerts a stronger influence on morale than does social participation.

With regard to the first hypothesis, the findings proved ambiguous. No support was found when social participation was measured by the more objective of the two indicators. Somewhat greater support was provided when social participation was considered from the subjective viewpoint of the patient.

The second hypothesis was generally upheld. It may be concluded that those persons who saw their social participation as great or greater than that of their age peers tended also to report higher morale.

With respect to the third hypothesis, the data indicated that perceived health is a factor affecting the morale of patients with implanted pacemakers. However, the obtained relation did not appear to be as strong as anticipated on the basis of previous research.

Finally, the fourth hypothesis was refuted. Perceived health exerted a weaker, not a stronger, effect on morale than did social participation. The elaboration of the relations among the three variables revealed a different relation between the extent of social participation and morale under conditions of better health than under conditions of poorer health. Thus, most individuals who perceived their health as better than average tended simultaneously to be active social participants and to demonstrate high morale. However, those few persons who judged themselves to be healthier, but less social, than their contemporaries, displayed an equally strong Will-to-Live. Pos-



sibly they were "loners" who preferred privacy, or possibly they believed that health was a blessing sufficient to compensate for a somewhat inadequate social life. In either case, these socially inactive persons tended to express a high Will-to-Live just as frequently as did their more numerous counterparts who judged themselves to be both healthy and socially active.

Quite a different situation prevailed for patients who judged their health to be average or worse. For them, social participation appeared to be a very important factor in morale. Approximately half reported a less than average social life. Presumably among this number there were many who found their solitude unwelcome. Quite possibly, poor health isolated these persons from others, cutting off opportunities for sociability, and thereby depressing their morale. The data were thus interpreted as indicating that health affects morale through its influence on social participation. In good health, individuals who so wish may lead an active social life, thereby satisfying their needs, and maintaining high morale. In poor health, individuals who wish to lead an active social life may be deprived of the possibility of satisfying this need, and hence experience unhappiness. Those who despite their poor health manage to continue desired social activities may find this circumstance compensates for their health status, and hence maintain a strong interest in living.

These findings, and the problems encountered during the course of this investigation, suggest a number of possibilities for future research into the morale of the chronically ill.

First, it is presently uncertain what the consequences are, if any, of strong versus weak Will-to-Live. Does the individual's morale level influence his motivation to follow medical regimens, to adhere to elementary rules for healthful living, or to seek and accept professional help when faced with urgent problems? To what extent may future health complications and/or death be predicted from a knowledge of the individual's satisfaction with life as reflected in his responses to a paper-and-pencil test such as Ellison's Will-to-Live? The answers to these questions would require the administration of a test of morale at one point in time, and a systematic follow-up of persons over a number of years to note the differential occurrence of health complications and differential survival rates.

Second, there is a need for studies designed to provide comparisons of the morale levels of differing categories of the chronically ill, as well as of "normal" control populations. Such studies might point out wherein the quality of life of the pacemaker patient resembles and wherein it differs both from that of the "normal" elderly, and from that of persons with other types of disabilities and chronic conditions.

Third, it is apparent that neither health nor social participation, taken alone or in combination, are sufficient to explain or predict Will-to-Live. Therefore, future investigators should incorporate into their theoretical frameworks additional variables, and should assess their relative predictive value through multivariate analyses. Among these additional variables might be included the usual demographic variables, better clinical measures of health, personality variables, and attitudinal and social-psychological variables. Perhaps particularly

important to include are indicators of the attitudes and perceptions of the patient and his condition by his family and friends.

Fourth, the causal and temporal relations among the three variables of social participation, perceived health and morale, need explication. On the assumption that a sequential ordering of these variables exists, there are six possible models. Of these, three have been explicitly advanced by investigators of morale. These favored explanations posit causal directionality as follows: 1) low social participation leads to poor morale which in turn leads to adoption of the sick role (Social Participation $\rightarrow$ Morale $\rightarrow$ Health); 2) perception of one's health as poor leads to social withdrawal or social isolation and thence to poor morale (Health $\rightarrow$ Social Participation $\rightarrow$ Morale); and 3) perception of health as poor depresses morale, which in turn limits social participation (Health $\rightarrow$ Morale $\rightarrow$ Social Participation). Longitudinal and crosslagged correlation panel studies are needed to check the validity and relative utility of these and other models of the causal interactions among these variables, and to specify the conditions under which one rather than another model holds.

Through such research, a data base may gradually be developed whereby the patient's trajectory may be plotted from first awareness of a cardiac problem, through treatment and surgery, recovery and rehabilitation. Crisis points along this trajectory may be identified, along with the problems common to the various stages. Such knowledge may then lead to the imaginative planning and subsequent evaluation of interventions designed to encourage existing strengths, stave off future problems, and resolve or at least control existing problems. Checking the

individual patient's progress against the norm for all patients may aid in identifying individuals at high risk, or possibly in need of help in developing more optimistic perceptions of their health, or in creating and seizing opportunities for social interaction. Undoubtedly in the years to come, the nurse in an expanded role will be called upon increasingly to provide such interventions and to contribute through skillful follow-up care to the optimal rehabilitation, both physical and psychological, of persons with chronic conditions. Improvement in the quality of care available to these persons may then be reflected in the improvement of the quality of their lives for their remaining years.

## REFERENCES

- Adams, D. Analysis of a life satisfaction index. Journal of Gerontology, 1969, 24, 470-474.
- Adams, D.L. Correlates of satisfaction among the elderly. The Gerontologist, 1971, 11 (pt. 2), 64-68.
- Becker, M.D., Zucker, I.R., Parsonnet, V., & Gilbert, L. Rehabilitation of the patient with a permanent pacemaker. Geriatrics, 1967, 2, 106-111.
- Bell, W., & Force, M. Urban neighborhood type and participation in formal associations. American Sociological Review, 1956, 21, 25-34.
- Blacher, R.S., & Basch, S.H. Psychological aspects of pacemaker implantation. Archives of General Psychiatry, 1970, 22, 319-323.
- Blalock, H.M., Jr. Causal inference in nonexperimental research. Chapel Hill, North Carolina, University of North Carolina, 1964.
- Blau, Z.S. Structural constraints in friendships in old age. American Sociological Review, 1961, 26, 429-439.
- Bradburn, N., & Caplovitz, D. Reports on Happiness. Chicago: Aldine Publishing Company, 1965.
- Brown, J., & Rawlinson, M. The morale of patients following open heart surgery. Journal of Health and Social Behavior, 1976, 17, 134-143.
- Browne, I.W., & Hackett, T.P. Emotional reactions to the threat of impending death: A study of patients on the monitored cardiac pacemaker. Irish Journal of Medical Science, 1967, 496, 177-187.
- Cantril, H. The Pattern of Human Concern. Rutgers University Press, New Brunswick, New Jersey, 1965.
- Clemente, F., & Sauer, W.J. Life satisfaction in the United States. Social Forces, 1976, 54, 621-631.
- Cumming, E., & Henry, W. Old Age. New York: Basic Books, 1961.
- Dlin, B.M., Fischer, H.K., & Huddel, B. Psychological adaptation to pacemaker and open heart surgery. Archives of General Psychiatry, 1968, 19, 599-610.
- Dlin, B., Winters, W., Fischer, H.K., & Koch, P. Psychological adaptation to pacemaker following cardiac arrest. Psychosomatics, 1966, 7, 73-80.

- Edhag, O., & Wedelin, E.M. Rehabilitation of paced patients. Acta Medica Scandinavica Supplementum, 1969, 503, 81-99.
- Edwards, J.N., & Klemmack, D.L. Correlates of life satisfaction: A re-examination. Journal of Gerontology, 1973, 28, 497-502.
- Ellison, D.L. Alienation and the will to live. Journal of Gerontology, 1969a, 24, 361-366.
- Ellison, D.L. Will to live: A link between social structure and health among the elderly. Sociological Symposium, 1969b, (Spring), 37-47.
- Friedsam, H., & Martin, H. A comparison of self and physician's rating in an older population. Journal of Health and Social Behavior, 1963, 4, 179-183.
- Garrity, T.F. Social involvement and activeness as predictors of morale six months after first myocardial infarction. Social Science and Medicine, 1973, 7, 199-207.
- Greene, W.A., & Moss, A.J. Psychosocial factors in the adjustment of patients with permanently implanted cardiac pacemakers. Annals of Internal Medicine, 1969, 70, 897-902.
- Gurin, G., Veroff, J., & Feld, S. Americans View their Mental Health, New York: Basic Books, 1960.
- Havighurst, R.J., & Albrecht, R. Older People. New York: Longmans, Green, 1953.
- Henley, B., & Davis, M. Satisfaction and dissatisfaction: A study of the chronically ill patient. Journal of Health and Social Behavior, 1967, 8, 65-75.
- Hinkle, L.E. The doctor, his patient and the environment. American Journal of Public Health, 1964, 54, 11-17 (supplement).
- Hutchinson, I.W., III. The significance of marital status for morale and life satisfaction among lower-income elderly. Journal of Marriage and the Family, 1975, 37, 287-293.
- Kasl, S.V., & Cobb, S. Health behavior, illness behavior and sick role behavior. Archives of Environmental Health, 1966, 12, 246-266.
- Kent, D.P., & Matson, M.B. The impact of health on the aged family. The Family Coordinator, 1972, 21, 29-36.
- Klemmack, D.L., Carlson, J.R., & Edwards, J.N. Measures of well being: An empirical and critical assessment. Journal of Health and Social Behavior, 1974, 15, 267-270.



- Kutner, B., Fanshel, D., Togo, A.M., & Langner, T.S. Five Hundred Over Sixty. New York: Russel Sage Foundation, 1956.
- Labovitz, S. Some observations on measurement and statistics. Social Forces, 1967, 46, 151-160.
- Labovitz, S. The assignment of numbers to rank order categories. American Sociological Review, 1970, 35, 515-524.
- Labovitz, S. In defense of assigning numbers to ranks. American Sociological Review, 1971, 36, 521-522.
- Lawton, M.P. The Philadelphia Geriatric Center morale scale: A revision. Journal of Gerontology, 1975, 30, 85-89.
- Lowenthal, M.F. Social isolation and mental illness in old age. American Sociological Review, 1964, 29, 54-79.
- Lowenthal, M.F., & Haven, C. Interaction and adaption: Intimacy as a critical variable, in B.L. Neugarten (ed.), Middle Age and Aging. Chicago: University of Chicago Press, 1968, pp. 390-400.
- Maddox, G.L. Activity and morale: A longitudinal study of selected elderly subjects. Social Forces, 1963, 42, 195-204.
- Maddox, G.L. Self assessment of health status. Journal of Chronic Diseases, 1964, 17, 449-460.
- Maddox, G.L., & Douglass, E.B. Self assessment of health: A longitudinal study of elderly subjects. Journal of Health and Social Behavior, 1973, 14, 87-93.
- Maddox, G.L., & Eisdorfer, C. Some correlates of activity and morale among the aged. Social Forces, 1962, 40, 254-260.
- Nettler, G. A further comment on "anomy". American Sociological Review, 1965, 30, 762-763.
- Neugarten, B.L., Havighurst, R.J., & Tobin, S.S. Measurement of life satisfaction. Journal of Gerontology, 1961, 16, 134-143.
- Palmore, E., & Luikart, C. Health and social factors related to life satisfaction. Journal of Health and Social Behavior, 1972, 13, 69-79.
- Parsonnet, V., Furman, S., & Smyth, N.P.D. Implantable cardiac pace-makers status report and resource guideline. Circulation, 1974, 50, A21-35.
- Phillips, D.L. Social participation and happiness. American Journal of Sociology, 1967, 72, 479-488.



- Phillips, D.L. Social class, social participation, and happiness: a consideration of "interaction-opportunities" and "investment". The Sociological Quarterly, 1969, 10, 3-21.
- Pierce, R.C., & Clark, M.M. Measurement of morale in the elderly. International Journal of Aging and Human Development, 1973, 4, 83-101.
- Reiss, A.J., Jr., Duncan, O.D., Hall, P.K., & North, C.C. Occupations and Social Status. Glencoe, Illinois: The Free Press, 1960.
- Robinson, J.P., & Shaver, P.R. Measures of Social Psychological Attitudes (rev. ed.). Institute for Social Research, University of Michigan, Ann Arbor, Michigan, 1973.
- Rosow, I. Old age: One morale dilemma of an affluent society. Gerontologist, 1962, 2, 182-191.
- Rosow, I. Old people. American Behavioral Scientist, 1970, 14, 59-69.
- Schmale, A.H. Object loss "giving-up" and disease onset. A paper presented at the Symposium in medical aspects of stress in the military climate. Walter Reed Medical Center, Washington, D.C., April 23, 1964.
- Schwartz, D., Henley, B., & Zeitz, L. The Elderly Ambulatory Patient. New York: The McMillan Co., 1964.
- Shanas, E., Townsend, P., Wedderburn, D., Friis, H., Milhoj, P., & Stehouwer, J. Old People in Three Industrial Societies. London and New York: Atherton Press, 1968.
- Spreitzer, E., & Snyder, E.E. Correlates of life satisfaction among the aged. Journal of Gerontology, 1974, 29, 454-458.
- Stonehill, E. the role of denial in incurable disease: Psychological adaptation to long term cardiac pacemakers. In, M. Koster, H. Musaph, & P. Visser (Eds.). Bibliotheca Psychiatrica, 144, "Psychosomatics in Essential Hypertension," Basel, München, New York: S. Karger, 1970.
- Suchman, E. An analysis of the validity of health questionnaires. Social Forces, 1958, 36, 223-232.
- Suits, D. Use of dummy variables in regression equations. Journal of the American Statistical Association, 1952, 52, 248.
- Tobin, S., & Neugarten, B.L. Life satisfaction and social interaction in the aging. Journal of Gerontology, 1961, 16, 344-346.

Tuckman, J., & Youngman, W.F. Identifying suicide risk among attempted suicides. Public Health Reports, 1963, 78, 763-766.

U.S. Bureau of the Census, Statistical Abstract, 1975, p. 397.

APPENDIX A

Consent Form for Human Research

## Consent for Human Research Project

I, \_\_\_\_\_ herewith agree to serve as subject in the investigation named, Morale of Pacemaker Patients. The investigation aims at exploring the quality of life of patients who have implanted cardiac pacemakers.

It is my understanding that I will be asked to answer questions about my views of my health, my pacemaker, and my satisfaction with life. 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 cardiac pacemakers.

\_\_\_\_\_ 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 participation in this study at any time and it will in no way affect my relationship with the University of Oregon Health Sciences Center.

I have read the foregoing statements.

Signature \_\_\_\_\_

Witness \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

APPENDIX B

Will-to-Live Scale

(Ellison, 1969)

Will-to-Live Scale

1. Sometimes, I look forward to passing on.  
 Agree  
 Disagree  
 Undecided
2. You sometimes can't help wondering whether anything is worthwhile any more.  
 Agree  
 Disagree  
 Undecided
3. After all our friends and relatives have passed on, we might as well be gone too.  
 Agree  
 Disagree  
 Undecided
4. Sometimes, it would be better to be gone and away from it all.  
 Agree  
 Disagree  
 Undecided
5. At my age, continuing to live is not so important.  
 Agree  
 Disagree  
 Undecided
6. There are times when most of us wish our lives were over.  
 Agree  
 Disagree  
 Undecided
7. Some people say that they want to live very much. Others say they would rather be gone. How do you feel about this?  
 Agree  
 Disagree  
 Undecided

APPENDIX C

Social Participation Index

(Phillips, 1967)

Social Participation Index

1. During the past 2-3 weeks, how many times did you get together with friends? I mean like going out together or visiting in each others' homes.  
Please circle your answer.

\_\_\_\_\_

1      2      3      4      5      6      7      8      9      10

2. About how many neighbors around your home do you know well enough to visit with?

\_\_\_\_\_

1      2      3      4      5      6      7      8      9      10

3. How many organizations, such as clubs, labor unions, social, civic, or fraternal groups do you take an active part in?

\_\_\_\_\_

1      2      3      4      5      6      7      8      9      10



APPENDIX D  
Cantril Ladder  
for Perceived Health

Cantril Ladder

|    |                       |
|----|-----------------------|
| 10 | best health possible  |
| 9  |                       |
| 8  |                       |
| 7  |                       |
| 6  |                       |
| 5  |                       |
| 4  |                       |
| 3  |                       |
| 2  |                       |
| 1  |                       |
| 0  | worst health possible |

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

On which step would you say your health was a month before your first pacemaker operation? On step \_\_\_\_\_

On which step would you guess your health will be a year from now? On step \_\_\_\_\_

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

APPENDIX E

Total Interview Schedule

1. I. D. number: \_\_\_\_\_
2. Date of Birth: \_\_\_\_\_
3. Present marital status (check)
  - \_\_\_\_\_ Married: living with spouse
  - \_\_\_\_\_ Married: not living with spouse
  - \_\_\_\_\_ Divorced, or legally separated
  - \_\_\_\_\_ Widowed
  - \_\_\_\_\_ Never married
4. Has your marital status changed since your first pacemaker operation?
  - \_\_\_\_\_ 1. No
  - \_\_\_\_\_ 2. Yes (specify how)
5. Do you live alone now?
  - \_\_\_\_\_ 1. Yes
  - \_\_\_\_\_ 2. No
6. Did you live alone before your first pacemaker operation?
  - \_\_\_\_\_ 1. Yes
  - \_\_\_\_\_ 2. No
7. What was the last grade of school that you finished? (please circle)
 

|              |     |    |    |    |   |   |   |   |
|--------------|-----|----|----|----|---|---|---|---|
| Grade School | 1   | 2  | 3  | 4  | 5 | 6 | 7 | 8 |
| High School  | 9   | 10 | 11 | 12 |   |   |   |   |
| College      | 13  | 14 | 15 | 16 |   |   |   |   |
| Postgraduate | 17+ |    |    |    |   |   |   |   |

 Highest degree attained: \_\_\_\_\_
8. What was your major occupation before your first pacemaker operation? (If housewife, say so. If gainfully employed, give title of your position, and state the general duties of the job.)
9. Were you gainfully employed just before (the month before) your first pacemaker operation?
  - \_\_\_\_\_ 1. Full-time
  - \_\_\_\_\_ 2. Part-time
  - \_\_\_\_\_ 3. Not at all
10. Are you now gainfully employed?
  - \_\_\_\_\_ 1. Full-time
  - \_\_\_\_\_ 2. Part-time
  - \_\_\_\_\_ 3. Not at all
11. If you are a housewife, just before your first pacemaker operation (the week or month before) did you manage your household tasks?
  - \_\_\_\_\_ 1. Most of your household tasks
  - \_\_\_\_\_ 2. Only some of your household tasks
  - \_\_\_\_\_ 3. None of your household tasks

12. If you are a housewife, do you now manage:
- 1. Most of your household tasks
  - 2. Only some of your household tasks
  - 3. None of your household tasks
13. Since your first pacemaker operation, has your total family income:
- 1. Dropped a lot
  - 2. Dropped somewhat
  - 3. Stayed about the same
  - 4. Increased somewhat
  - 5. Gone up a lot
14. Would you mind estimating your total income (including spouse's if any) from all sources for the past 12 months.
- |                                |                                  |
|--------------------------------|----------------------------------|
| <u>      </u> Under \$1000     | <u>      </u> \$ 8000 to \$ 8999 |
| <u>      </u> \$1000 to \$1999 | <u>      </u> \$ 9000 to \$ 9999 |
| <u>      </u> \$2000 to \$2999 | <u>      </u> \$10000 to \$10999 |
| <u>      </u> \$3000 to \$3999 | <u>      </u> \$11000 to \$11999 |
| <u>      </u> \$4000 to \$4999 | <u>      </u> \$12000 to \$12999 |
| <u>      </u> \$5000 to \$5999 | <u>      </u> \$13000 to \$13999 |
| <u>      </u> \$6000 to \$6999 | <u>      </u> \$14000 to \$14999 |
| <u>      </u> \$7000 to \$7999 | <u>      </u> over \$15000       |

15. How long before your first pacemaker operation were you aware that you had a heart problem?
- 1. Less than 1 month
  - 2. 1 to 3 months
  - 3. 3 to 6 months
  - 4. 8 months to 1 year
  - 5. 1 to 2 years
  - 6. Over 2 years (specify how long)

16. What was the date when you had your first pacemaker inserted?

17. How many operations have you had as a result of your pacemaker?

18. What was the reason you had to have a pacemaker inserted?  
 Complete heart block?           

19. Please check which symptoms you had before your pacemaker operation, and which symptoms you have had since your pacemaker operation.

| <u>Before</u>  | <u>Since</u>      |
|--|-------------------|
| <u>      </u> 1. Chest pain . . . . .                              | 1. <u>      </u>  |
| <u>      </u> 2. Shortness of breath . . . . .                     | 2. <u>      </u>  |
| <u>      </u> 3. Dizziness . . . . .                               | 3. <u>      </u>  |
| <u>      </u> 4. Fainting spells, or blackouts . . . . .           | 4. <u>      </u>  |
| <u>      </u> 5. Memory problems or periods of confusion . . . . . | 5. <u>      </u>  |
| <u>      </u> 6. Increased or decreased pulse rate . . . . .       | 6. <u>      </u>  |
| <u>      </u> 7. Palpitations . . . . .                            | 7. <u>      </u>  |
| <u>      </u> 8. Very rapid heart rate . . . . .                   | 8. <u>      </u>  |
| <u>      </u> 9. Prolonged hiccoughs . . . . .                     | 9. <u>      </u>  |
| <u>      </u> 10. Muscle twitching . . . . .                       | 10. <u>      </u> |
| <u>      </u> 11. Swelling in the feet and ankles . . . . .        | 11. <u>      </u> |
| <u>      </u> 12. Feeling very tired when you have done . . . . .  | 12. <u>      </u> |
| nothing in particular to make you feel tired                       |                   |

20. How frequently are you aware of your pacemaker?
1. Practically never
  2. Only occasionally, as in certain positions
  3. Quite frequently
  4. Almost all the time
21. How often do you check your pulse?
1. Every day
  2. Every other day
  3. Every week
  4. Every 2 weeks
  5. About once a month
  6. Whenever I think of it
  7. Never (I can't or don't know how)
22. All in all, how satisfied are you with your pacemaker and the way it works?
1. Extremely satisfied
  2. Moderately satisfied
  3. More satisfied than dissatisfied
  4. Slightly dissatisfied
  5. Moderately dissatisfied
  6. Extremely dissatisfied
23. How do you feel about having your pacemaker monitored by telephone?
1. Disapprove strongly
  2. Disapprove somewhat
  3. Makes no difference to me
  4. Approve somewhat
  5. Approve strongly
24. If you had a previous pacemaker, was it monitored by telephone?
1. Yes
  2. No
25. If you answered 'No' to the above question, do you prefer having your pacemaker monitored?
1. Yes
  2. No
26. If you had to have your pacemaker replaced, which would you prefer?
1. A pacemaker that could be monitored by telephone
  2. A pacemaker that could not be monitored by telephone
  3. It's up to my doctor
27. To you, what is the most important feature of a pacemaker? Check one.
1. Reliability
  2. Longevity
  3. Size
  4. Ability to monitor by phone
  5. I haven't thought about it



36. How do you feel about this statement?

After all our friends and relatives have passed on, we might as well be gone too.

1. Agree  
 2. Disagree  
 3. Undecided

37. Compared to the average person your age, how satisfied with life would you consider yourself to be?

1. Much more satisfied with life than the average person my age.  
 2. Somewhat more satisfied with life than the average person my age.  
 3. Satisfied with life about the same as the average person my age.  
 4. Somewhat less satisfied with life than the average person my age.  
 5. Much less satisfied with life than the average person my age.

38. There are times when most of us wish our lives were over. Would you say you feel this way

1. Often  
 2. Sometimes  
 3. Never

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

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

40. Please indicate whether you agree or disagree with the following statements.

(a) When I think I am getting sick, I find it comforting to talk to someone about it.

1. Agree  
 2. Disagree

(b) When a person starts getting well, it is hard to give up having people do things for him.

1. Agree  
 2. Disagree

(c) At my age, continuing to live is not so important

1. Agree  
 2. Disagree  
 3. Undecided

(d) Sometimes it would be better to be gone and away from it all.

1. Agree  
 2. Disagree  
 3. Undecided



41. Please indicate your agreement or disagreement with the following statement by circling your answer.

- (a) If I take care of myself, I can avoid illness.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree
- (b) Whenever I get sick it is because of something I've done, or not done.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree
- (c) Good health is largely a matter of good fortune.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree
- (d) No matter what I do, if I am going to get sick I will get sick.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree
- (e) Most people do not realize the extent to which their illnesses are controlled by accidental happenings.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree
- (f) I can only do what my doctor tells me to do.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree

## 41. Continued

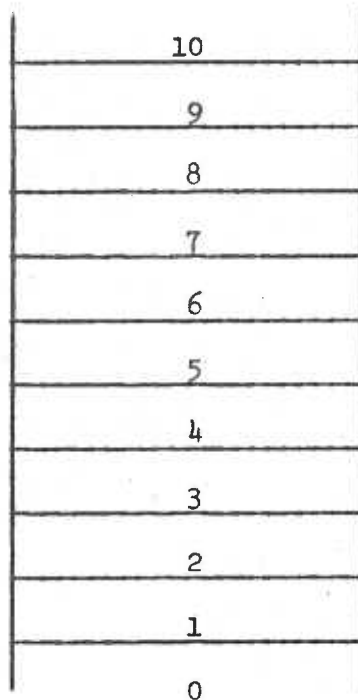
- (g) There are so many strange diseases around, that you can never know how or when you might pick one up.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree
- (h) When I feel ill, I know it is because I have not been getting the proper exercise or eating right.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree
- (i) People who never get sick are just plain lucky.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree
- (j) People's ill health results from their own carelessness.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree
- (k) I am directly responsible for my health.
1. Strongly agree
  2. Moderately agree
  3. Slightly agree
  4. Slightly disagree
  5. Moderately disagree
  6. Strongly disagree

## 42. How do you feel about the following statement?

Some people say they want to live very much. Others say they would rather be gone. How do you feel about this?

1. Want to live very much
2. Rather be gone
3. Undecided

43. Below is a picture of a ladder. Suppose we say the top of the ladder means perfect health, and the bottom, the most serious illness.



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

On which step would you say your health was a month before your first pacemaker operation? On Step \_\_\_\_\_

On which step would you guess your health will be a year from now? On Step \_\_\_\_\_

On which step would you say the health of the average person your age is? On Step \_\_\_\_\_

44. In comparison to the average person your age, how worried are you about your health?

- \_\_\_\_\_ 1. Much more worried about my health than the average person my age.
- \_\_\_\_\_ 2. Somewhat more worried about my health than the average person my age.
- \_\_\_\_\_ 3. Worried about the same about my health as is the average person my age.
- \_\_\_\_\_ 4. Somewhat less worried about my health than the average person my age.
- \_\_\_\_\_ 5. Much less worried about my health than the average person my age.

## AN ABSTRACT OF THE CLINICAL INVESTIGATION OF

BETTE P. JOHNSON

For the MASTER OF NURSING

Date of receiving this degree: June 11, 1977

Title: PERCEIVED HEALTH AND SOCIAL ACTIVITY AS PREDICTORS OF MORALE FOR  
PATIENTS WITH IMPLANTED CARDIAC PACEMAKERS

Approved:

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Julia S. Brown, Ph.D.

Clinical Investigation Advisor

The purpose of this research was to examine the effects of social participation and health perceptions on the morale of persons with implanted cardiac pacemakers.

The sample consisted of 50 male, non-institutionalized patients, between 45 and 85 years of age, who had undergone an operation for permanent pacemaker implantation nine or more months previously. Through interviews, data were obtained concerning selected background characteristics of each subject, his perception of his health, his morale, and his social participation. Morale was measured by the patient's score on Ellison's Will-to-Live Scale. Social activity was measured both by the patient's score on Phillips's Social Participation Index and by the patient's rating of his own social activity relative to that of the average person his age. Perceived health was operationalized as the difference between the subject's estimate of his own health and his estimate of the health of his age-peers. Taken as a group, these sub-

jects expressed unusually high morale and reported unusually active social lives. However, a considerably greater proportion of this group than of the general American public admitted to poorer than average health.

Based on a review of past research, four hypotheses were formulated: (1) The better the patient's perceived health, the greater his social participation; (2) The greater his social participation, the higher his morale; (3) The better his perceived health, the higher his morale; and (4) Perceived health exerts a stronger influence on morale than does social participation.

With respect to the first hypothesis, the findings were ambiguous. There was no clear evidence that better perceived health was accompanied by greater social participation. The second hypothesis was upheld. Those persons who viewed their social participation as equal to or in excess of that of their age peers tended to report higher morale than patients who viewed their social participation as less than average. The third hypothesis was also upheld. Perceived health and morale proved to be significantly related. The fourth hypothesis was refuted. The data clearly indicated that social participation exerted a stronger effect on morale than did perceived health. Examination of the interrelations among the three variables led to the further conclusion that either high social participation, or perception of health as superior, is sufficient to foster high morale; but that both a view of social participation as less than average, and perception of health as only average or worse, are needed to result in poor morale.

Inasmuch as the causal sequence and directionality of the effects of the variables could not be positively determined by the present study, research strategies to accomplish this end were suggested. Finally, implications of the findings for nursing practice were indicated.