The purpose of this study was to determine the relationships of various kinds of hospitalization to self-concept and functional independence of 30 hospitalized and 10 nonhospitalized subjects older than 65. The Tennessee Self-Concept Scale was used to measure self-concept, and the Index of Activities of Daily Living (ADL) was used to measure functional independence. Self-concept scores differed among the hospitalized groups. Dependent older persons were found to have lower self-concept scores. Encouraging independence in the performance of self-care skills could diminish this problem of poor self-concept.
side the hospital. Health planners can measure the effects of hospitalization in different treatment environments to determine which environment is most benign and reintegrates the older patient more speedily and successfully into society.

During many years of clinical experience, a personal observation revealed that some older persons were affected more negatively than others by hospitalization. These effects seemed related to the patients' level of independence. Patients who became more dependent seemed to have a more negative self-concept. Many of these patients were unable to return to their pre-hospitalized state of independence.

The purpose of this study was to determine the relationship of self-concept to functional independence of the hospitalized elderly person in various treatment environments. Knowledge of how older persons see themselves (self-concept) and their abilities (functional independence) may provide a greater understanding of the reasons for their inability to return to their pre-hospitalized state of functioning.

Review of the Literature

Studies on the effects of hospitalization on the elderly are numerous. This review includes studies related specifically to the effects of the acute care hospital, of nursing home skilled care, and of the rehabilitation center. Some relevant studies of the characteristics of self-concept of the elderly person are also included.

In Acute Care. Although usually hospitalized for a shorter time, patients with acute illnesses can suffer the depersonalization that accompanies the skilled professional care in the hospital system. Some conditions of hospitalization are: lack of civilized amenities and privacy; frequently changing nursing staff; problems of communication and understanding; disturbing procedures and routines; unnatural environment; and separation from familiar surroundings (2-5). Loss of self-identity and self-esteem can result from these conditions. Physical illness has been frequently associated with depression and suicide in aged patients (4). According to some studies, personality changes are in direct ratio to type and rate of debilitation (6-7).

In Nursing Home-Skilled Care. The transfer from the acute care hospital to a nursing home is a trauma for the elderly person. The shock of transfer to one who has become accustomed to a known environment (the hospital) can trigger many problems. Trauma, iatrogenic morbidity and mortality, deterioration in coping ability, and confusion are only a few problems that may develop aside from the primary reason for the transfer (8-11).

Many elderly persons have negative feelings toward facilities designated for the aged (12). Fearing family and professional abandonment and impending death after placement, they see admission to a nursing home as the final destruction of their roles in the family and in the community. Depression is intensified, and the suicide rate is high in elderly persons admitted to a nursing home (10). Some patients do not or cannot comprehend the potential rehabilitative aspects of the facility and need much support to feel any hope of returning home (13).

In Rehabilitation. Transfer to a rehabilitation center can cause some confusion in elderly patients if they have not been prepared for the move. Many patients look forward to rehabilitation with hope and enthusiasm for they may anticipate a "cure." They enthusiastically pursue rehabilitation for its own sake, with the danger that the staff and the patient may lose sight of the patient's previous level of ability. Many elderly patients do not have the physical stamina needed to carry out an intensive program. If unrealistic goals are planned, elderly patients become depressed (2, 3, 14) when they cannot attain them.

Most rehabilitation center personnel encourage the "well" role by insisting that patients get dressed, feed themselves, and perform daily living tasks to the best of their ability. Successful performance can lead to improved self-esteem. Failure in these tasks can lead to depression and perhaps withdrawal from rehabilitation (15).

Self-Concept of the Elderly. Schwartz (16) considered the essential ingredient in successful aging to be self-esteem, "the linchpin of quality of life." Many studies have measured self-concept as a function of age. Self-concept has been found to be related to chronological age both in a curvilinear fashion (17) and by a decline (18-20). Other studies found the elderly scored higher in self-concept than the general population (21, 22) suggesting that denial may be conducive to high self-concept (22).

Denial was also suggested as a means for older individuals to insulate themselves from societal devaluation. Persons from a retirement home and a nursing home who indentified themselves as young-middle aged were associated with higher positive self-concepts as measured by the Tennessee Self-Concept Scale (TSCS) than were those who indentified themselves as old or did not respond (23). Guptill (24) also found that men who indentified themselves as old had a more
negative self-concept than those who identified themselves as young. Phillips (25) suggested that a self-perception as old is related to maladjustment. Because our society gives the role of the elderly a negative value, people who see themselves as old accept a negative cultural evaluation of themselves. If persons view themselves as younger, they can deny the threats of physical illness perceived as inevitable for those who are "old."

The persistence of denial of physical deterioration in the elderly may be because of their need to believe that they have some control over their life. Positive self-concept was found to be highly correlated with institutionalized subjects' beliefs that they could control desired outcomes in their surroundings (26). The low-stimulus, depersonalizing environments of some treatment facilities do not encourage this feeling of internal control (27).

Denial and younger age identification may be good indicators of the presence of higher or positive self-concept in the older person; but, what are the factors in negative self-concept?

The effects of aging and illness were found to be cumulative and interactive (28). Illness rather than age seemed to be the major contributor to negative self-attitude. The subjective opinion that persons have about their own state of health, their judgment of the strain of health factors, bears the closest relationship to how they evaluate their personal characteristics (29).

Elderly persons who are enjoying good health are not preoccupied with, or concerned about, their physical welfare to a point appreciably affecting their self-concept (30). Another study suggested that a person's body worries and discomforts were not related to age per se but reflected special life circumstances (31).

Specific illnesses and disabilities may affect the elderly person's self-concept. Stroke patients tend to feel stigmatized—believing that others think less of them, avoid them, or feel uneasy with them because of their illness or disability (32). The inability to return to functioning independently can further affect older persons' self-concept. They fear invalidism or chronic debilitating illness that might lead to dependency upon society for survival. This fear may even be greater than the fear of death (33). Aged, institutionalized males who had high dependency ratings were found to have an unfavorable self-concept (34). Personality variables such as dependency play a greater role in self-concept than does a higher age or institutionalization (35). Since the developmental task of this stage is ego integrity (35), there is a need to accept oneself and one's life as it has been. Physically ill persons are often disgusted by their body and feel only despair.

The extent of the difference in the self-concept in institutionalized and independent elderly has been measured in many studies. Mason (20) studied these two groups to evaluate the relationship of the following environmental variables in the measurement of self-concept: attitude toward aging; length of residence at present address, educational level; judgment of health status. She found that the aged institutionalized group viewed their self-worth more negatively than did the aged independent group. A similar study 2 years later did not replicate Mason's findings (36).

Shafer (37) used a tool developed by Preston and Gutiksen (38) to measure the difference between self-perception of elderly women residents in a nursing home and that of residents in a housing project. She found that the nursing home residents had a significantly lower self-perception. Anderson (39) used a questionnaire to study the effects of institutionalization on self-esteem in the aged. Her subjects were boarding home residents and those on the waiting list for the same home. This retirement setting was used to decrease the negative effect of the connotation of "nursing home" that other studies had cited. The institutionalized sample and the noninstitutionalized did not differ in self-esteem. However, social interaction and self-esteem were significantly related: the greater the opportunities for interaction, the higher the self-esteem.

The studies mentioned above describe some effects of hospitalization and some characteristics of self-concept that they relate to this study. Although the results differed regarding the presence of higher or lower self-concept in aging, there were strong suggestions that factors such as physical illness and dependence could lower self-concept. The following hypotheses were proposed to further examine the relationships of hospitalization, self-esteem, and dependence:

1. There is no difference in self-concept scores of elderly persons whether hospitalized or not.
2. There is no difference in self-concept scores within the hospitalized populations from the three treatment environments—an acute care hospital, a skilled care unit of a nursing home, or a rehabilitation center.
3. There is no relationship between self-concept and the degree of self-reported functional independence.
4. There is no relationship between functional independence and...
predictability of successful reintegration into the community.

5. There is no relationship between self-concept and the predictability of successful reintegration into the community.

Method
Subjects. The subjects were selected from the population of individuals aged 65 and older residing in a county composed of suburbs of a large midwestern metropolitan area. Four samples of ten subjects each were chosen: one sample was drawn from an acute care hospital, one from a skilled care facility, and one from a rehabilitation center; the fourth sample consisted of nonhospitalized volunteers living independently. Twenty-seven women and 13 men participated in the study. Some of these characteristics appear in Table 1. Although the selection of subjects was not random, the ratio of female-to-male is similar to the county ratio.

The hospitalized subjects were selected according to the following criteria: a 5-day minimum length of stay in the facility; receiving occupational therapy, physical therapy, or both; before hospitalization, living independently in the community (without assistance in feeding, dressing, bathing, transferring or going to the toilet); free from receptive or expressive aphasia. A staff member from each facility chose the first ten persons meeting these criteria.

The three sample sites are located within 10 miles of each other. The nonhospitalized subjects also lived in this area. Of the county residents who need hospitalization, more than 85 percent come to the 364-bed acute hospital. The average length of stay is 6.1 days for all patients and 8 days for patients older than 65.

The rehabilitation hospital provides tertiary care for 64 patients. The average length of stay for rehabilitation patients is 30 days.

The 206-bed, skilled care center accepts transfers from both hospitals. The average length of stay for convalescing residents is 30 days.

The independent variables of these samples were: sex; pre-morbid chronicity; educational level; reason for placement in the facility. The dependent variables measured were the scores on the Index of Activities of Daily Living (ADL) (40), on the Tennessee Self Concept Scale (TSCS) (41), and on post-hospital status.

Administration of Instruments.
During an initial interview with each subject descriptive data were obtained, and then questions were asked concerning the amount of assistance needed for activities of daily living (ADL). Each area—for example, feeding, dressing—was noted as dependent or independent, using Katz's Index of ADL (40).

According to the Index, performance is summarized as grades of A, B, C, D, E, F, or G. An A score indicates the condition of independence and the G score the condition of dependence. Through a series of questions and observations, the observer forms a mental picture of the subject's ADL status and determines whether another person assisted the subject, or whether the subject functioned alone. Assistance is defined as active personal assistance, directed assistance, or supervision. This consideration of assistance serves to measure the degree of independence in self-reported performance (40). This Index is an ordinal scale and places the subjects observed in specific classes, A-G. Although there is no cardinal relationship between the classes in the Index, the ordinal rankings have been found by Katz to represent a hierarchical scale. To facilitate analysis, an A class was scored as 1, B scored 2, C as 3, D as 4, E as 5, F as 6, and G as 7.

The TSCS (41) was selected for use because it provides a thorough profile of a person's self-concept. The scale consists of 100 self-descriptive statements with five response categories for each, ranging from completely true to completely false. Ninety statements fall into one of five general categories: physical self; moral-ethical self; personal self; family self; and social self. Each of these areas is divided into statements of self-identity, self-
acceptance, and behavior. In addition to the 90 statements (balanced evenly for positivity-negativity) there are 10 statements from the Minnesota Multiphasic Personality Inventory (MMPI) (41) that can provide a measure of self-criticism. These are mildly derogatory statements that most people admit as true for them. The total positive score for the 90 items comprises the overall self-esteem score, P or positive. The remaining ten items totalled comprise the measure of self-criticism.

Although designed to be self-administered these subjects needed assistance to complete the TSCS because of poor vision, or poor motor coordination and resultant inability to follow the complex numbering pattern. The subject was told to respond to the statements depending on his/her present or current feelings, each statement was read to the subject, and the scoring explained.

The content validity was established by seven clinical psychologists (41). Buras (42) reports correlations of .50-.70 with other measures of personality functioning and a retest reliability in the high .80s.

One month following testing, the facility was contacted to determine whether the subject was still there, transferred to another facility, or discharged to home. The disposition status of subjects still hospitalized was scored as 0 and of subjects at home as 1.

Results
The sample size (N = 10) of each of the four groups was too small to infer the basic assumptions of population normality. Therefore, non-parametric statistics were used to test the hypotheses (43). Of the five hypotheses postulated, three were supported and two were rejected.

### Table 2

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitalized</td>
<td>30</td>
<td>18.90</td>
<td>Mann-Whitney U = 102</td>
</tr>
<tr>
<td>Nonhospitalized</td>
<td>10</td>
<td>25.30</td>
<td></td>
</tr>
</tbody>
</table>

### Table 3

Comparison of Self-Concept Scores of the Three Hospitalized Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Care</td>
<td>10</td>
<td>17.65</td>
<td></td>
</tr>
<tr>
<td>Skilled Care</td>
<td>10</td>
<td>19.30</td>
<td>H = 7.028*</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>10</td>
<td>9.55</td>
<td></td>
</tr>
</tbody>
</table>

*p < .03

### Table 4

Relationship of Self-Concept to Functional Independence

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Spearman Rho</th>
<th>Kendall Tau</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennessee Self Concept with Index of ADL</td>
<td>40</td>
<td>-.28*</td>
<td>-.21*</td>
</tr>
</tbody>
</table>

*p < .05

Hypothesis 1. There is no difference in self-concept scores of elderly persons, whether hospitalized or not. The TSCS scores for the hospitalized groups and the non-hospitalized were analyzed by ranks using the Mann-Whitney U. The results, shown in Table 2, are not significant. The hypothesis was supported.

Hypothesis 2. There is no difference in self-concept scores within the hospitalized populations from three treatment environments—an acute care hospital, a skilled care unit of a nursing home, or a rehabilitation center. The positive P scores on the TSCS were compared, using the Kruskal Wallis one-way analysis of variance by ranks. The hypothesis was rejected since there was a significant difference between the scores from the three treatment environments. The rehabilitation center sample had much lower self-concept scores than the acute care and skilled care samples. The results are shown in Table 3.
Hypothesis 3. There is no relationship between self-concept and the degree of self-reported functional independence. The total P or positive scores on the TSCS and the Index of ADL class scores were compared, using Spearman Rho and Kendall Tau correlation measures. The results are shown in Table 4. Older persons with high self-concept scores were found to be more independent than those with low self-concept scores. This does not support the hypothesis.

Hypothesis 4. There is no relationship between functional independence and predictability of successful reintegration into the community. The Index of ADL class scores and the disposition scores were compared, using the Spearman Rho test. The results are shown in Table 4. Dependence did not seem to be a factor in the subjects' ability to return to their homes. The hypothesis was supported.

Hypothesis 5. There is no relationship between self-concept and the predictability of successful reintegration into the community. The total P or positive scores on the TSCS and the disposition status scores were compared with the Spearman Rho correlation test. The results, shown in Table 5, support the hypothesis.

Discussion

Although extensive evidence exists in the literature on the negative effects of hospitalization on the elderly person, this study did not demonstrate that it significantly lowered their self-concept. The study failed to explain the ability of persons suffering from several chronic illnesses to remain at home, whereas another subject the same age and with similar illnesses is unable to leave the treatment environment. There may be measurable variables other than self-concept that can explain this difference.

All of the group means were higher than Fitts' (41) mean of 345.57. This compares with the findings of other researchers that the older person has a higher positive score than the general adult population (21).

Grant (22) suggests that higher self-concept in older persons may indicate the presence of denial. To determine if denial was present in this study, the self-criticism scores were examined. The means of the scores of all four samples were lower than the norm. The nonhospitalized sample had the lowest score. The low self-criticism scores seemed to be an indicator of better adjustment.

Fitts (41) states that persons who deny most of the self-criticism statements are making a deliberate effort to present a favorable picture of themselves. Low scores indicate defensiveness and imply that positive scores are artificially high. The results of this study seem to support the findings of Grant (22) and Trimakas and Nicolay (21) that both denial and self-concept are somewhat higher among older persons than among adults in general.

Self-concept scores between the three hospitalized groups differed because of the low scores from the rehabilitation center sample. The cumulative effects of "two hospitalizations" could be one reason for this group's lower scores in self-concept. (Information on total sample can be obtained from the author.)

The hopes for "cure" and for regaining former skills that are present on admission to the rehabilitation program are replaced with feelings of depression if, after being in the rehabilitation program 21 days or more, the person did not progress as quickly as he or she anticipated. Accepting more realistic goals and watching the progress of others in the program may also produce depressed feelings.

Also, the number of stroke patients in this group may explain the lower self-concept for they may have been experiencing the depression stage common in stroke patients or feeling the stigma of stroke as described by Hyman (32).

The self-concept of the nursing home subjects did not seem to be affected by their environment. Generally they had adjusted to their new status, and many had accepted the facility as their permanent home. Denial of the negative aspects of this permanent arrangement seems to be an acceptable adjustment for them.

The acute care subjects also did not seem to be affected by their environment. The prognosis for full recovery was good for most of the subjects. The awareness that they soon would be better and going home seemed to minimize the effects of their hospitalization.

This study showed that a relationship exists between self-concept and functional independence. Shafer's (37) study questioned whether dependence resulted in low self-perception. The results of this study show that dependent persons have a lower self-esteem score. Older persons fear dependence more than death (33), and this study demonstrates its effect on their self-concept.

Although the results of this study demonstrated a significant relationship between self-concept and functional independence, there were a few interesting exceptions. Some subjects who were classed as G (dependent) scored high on the self-concept scale. Noting the low self-criticism score of these subjects, the author infers that the only way for
themselves to adjust to the reality of dependence was to deny its effect on them.

No relationship was found between dependence and disposition status. The availability of support services and the presence of a willing family member seemed to be more important factors than dependence status in the subjects' ability to return home.

To determine whether self-concept levels could be used to predict successful reintegration into the community, a period of observation longer than 1 month would seem more reliable. Katz and Akpom (44) observed subjects over periods of 6 months to 2 years using the Index of ADL to predict the future needs of the older population.

The three facilities studied had excellent discharge planning mechanisms to prepare for problems that could possibly result in rehospitalization. This means that even those subjects who were discharged as G or dependent could be provided with adequate support services such as nursing care, homemakers, or physical and occupational therapy. The subjects from the acute care hospital and the rehabilitation center also had family members to assist with their self-care. Home health care and visiting nurses can only supplement family help, not replace it. All G subjects had wives, husbands, or other family members who were not employed outside the home and were able to help.

Implications
The importance of early rehabilitation cannot be overemphasized. The occupational therapist, nurse, and other health professionals must encourage the patient to perform as much self-care as possible. Encouraging independence and developing realistic goals would aid the patient in maintaining a good self-concept.

In all environments where the older person is being treated, knowledge of the special needs of the elderly is important. When the staff is aware of the special problems of the elderly, fewer iatrogenic incidents occur. Surgical procedures selected with rehabilitation goals in mind could assure that older persons would have a shorter immobilization period and that restorative measures would not be delayed. A geriatric unit in combination with a progressive self-care unit could possibly meet the special needs of the elderly. If this unit were located in the acute hospital, early occupational therapy, physical therapy, and other rehabilitation measures could be promoted. The cumulative effect of successive hospitalizations and the confusion accompanying transfer to another facility could be diminished. Therapy initiated earlier in the acute care facility could eliminate the need for an extended period of rehabilitation. If transfer to another facility were necessary, effective discharge planning could ease adaptation to the new environment.

Although residents of the county in this study are fortunate to have a number of supportive services available, these services are unable to meet the needs of those referred. Home care services need to be increased for the growing number of older persons. Also, an adult day care facility in the county could be helpful in aiding older persons to improve their skills for functional independence.

Limitations
The small number of subjects in this study does not permit generalization to the total elderly population. Also the selection of subjects was restricted. A third limitation is the use of the Index of ADL to test functional independence. As a self-report of performance it does not substitute for a demonstration of performance that is usually part of an occupational therapist's assessment. Therefore the subject's true potential or ability must be assumed.

Summary
The effects of hospitalization on the older person's self-concept and functional independence were reviewed in this study. The treatment environments of the acute hospital, the skilled care unit of the nursing home, and the rehabilitation center were used as test sites. The Tennessee Self Concept Scale was used to
measure self-concept and the Index of ADL to measure functional independence. This study measured the difference in self-concept between hospitalized and nonhospitalized older persons, the difference in self-concept between treatment groups, and the relationships between self-concept and functional independence, self-concept and disposition status, and functional independence and disposition status.

No significant difference in self-concept between the hospitalized or nonhospitalized was found. However, all subjects had a higher self-concept score than the norm, which suggested both the use of denial and the fact that the self-concept scores were artificially high.

There was a difference in self-concept scores between the hospitalized groups—the rehabilitation center sample had lower scores. Older persons who were dependent were found to have lower self-concept scores.

Neither independence class scores nor self-concept scores were found to be significantly related to disposition status 1 month after discharge from the treatment environment.

Acknowledgment
Submitted as partial fulfillment of the requirements for the degree of Master of Associated Medical Sciences in the Graduate College of the University of Illinois at the Medical Center, 1980.

A presentation based on this study was given at the 1981 AOTA Annual Conference in San Antonio, Texas.

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250 April 1982, Volume 36, Number 4

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