HYPOCHONDRIASIS SCORES - AS THEY RELATE TO LEVELS OF COOPERATIVE EFFORT WITHIN A HOSPITAL SITUATION

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CHAPTER I

THE PROBLEM

Throughout the past seven years this author has worked in a general hospital. In those years he has seen hundreds of people walk in with their toothbrush and favorite book and walk out with their plastic bedpan and enema packet. To be sure, all manner of people enter a general hospital. Some come in the front door concerned about who will feed the cat while they are away. Some come in the emergency door concerned about their lives. The reasons why an individual becomes a patient are as myriad as his size and shape. His admission rate defies classification. However, it is the hospitalized patient this research purports to deal with, specifically, the patient and his relation to the hospital staff which cares for him.

For the purposes of this paper the hospitalized patient was classified by the degree to which he maintained a cooperative effort relationship with the hospital staff. This cooperative effort is represented by a five point judgment scale and emphasizes interaction, not compliance, on the part of the patient. By studying the patient in this fashion, it is hoped to point out the need for new methods of hospital care which might be generated from systematic studies of the nurse-patient relationship.

The Hypochondriasis Scale of the Minnesota Multiphasic Personality Inventory was chosen as the predictive instrument for indicating levels

of cooperative effort. The Cooperative Effort Scale was created for use in this study. The review of the literature will be limited, therefore, to a discussion of the Hypochondriasis Scale (Hs).

The items making up the basic scale of the Minnesota Multiphasic Personality Inventory (MMPI) were selected on the basis of empirical separations between normally adjusted subjects and various psychiatric cases. Since Hathaway and McKinley (1940) published their multiphasic inventory many combinations of scales within the test schedule have been used for research and evaluation in psychology and psychiatry. Often a general population was tested but used only for control purposes in dealing with studies designed to focus on a psychiatric population. Research designed specifically around normal populations are unusually scant, even though complete inventory scores produced by supposedly control groups have frequently been as elevated as the psychiatric population under consideration (McKinley and Hathaway, 1956, Motto, 1958). This coincides with and is at least partial verification of the frequently expressed opinion in medical circles that an appreciable proportion of the so-called normal population is suffering with hypochondriacal disturbances.

Hypochondriasis Scale

The (Hs) Scale of the MMPI was developed as an attempt to measure the personality characteristics related to the neurotic pattern of hypochondriasis (McKinley and Hathaway, 1940). Persons diagnosed with this disorder show abnormal concern for their bodily functions. Their worries and preoccupations with physical symptoms typically persist in the face of strong evidence against any valid physical infirmity or

defect (Dalstrom and Welsh, 1960). The classic picture of hypochondriasis also includes agocentricity, immaturity and lack of insight into the emotional basis for the preoccupation with somatic processes. The Hs Scale contains thirty-three items which refer to straightforward internal disorders or to common symptoms of illness (Appendix A).

Elevated Hs scores may be considered indicative of symptoms of physical illness and since the present patient population was composed of operative patients a certain elevation was to be expected. A physically active individual suffering from some illness or accident of an organic variety may, of course, show concern on a few items dealing with his particular symptoms. For example, a high school football player with a torn cartilage would admit to symptoms of weakness, difficulties in ambulation and so forth. Such a person, who was otherwise in good physical condition, would show only a moderate elevation (Pearson and Swenson, 1967). Some medical patients with chronic systemic diseases or pervasive physical injuries due to accidents do attain marked elevations on the Hs Scale by reason of an understandable apprehension about health and body function. Previous research dealing with such pervasive physical injury and its effects on Hs scores was reported by Motto (1958). Scores of a physical injury group consisting of veterans having VA ratings for tuberculosis, gunshot wounds and amputations were compared to a schizophrenia control group of veterns having VA ratings for schizophrenia. The findings of Motto's study demonstrated an elevation above standard scores of 65 for both groups but no appreciable difference between group scores. In such cases the Hs scores may point to the need for attention to emotional factors along with treatment of the organic aspects of the illness. Concurring with

Motto's suggestion the present study has aimed at a device which will alert the nursing staff to the possible intrusion of emotional factors which may disrupt rapport of the cooperative effort situation.

Score elevation may also occur as a function of subject age. Research findings concerning the effect of age on Hs scores have not shown a great deal of consensus. Calden and Hokanson (1959) selected approximately 90 percent of the male tuberculosis patients in a Wisconsin VA hospital. Statistical comparisons over five age groups indicated that Hs Scale scores increased with age. Within the age group (50-59) the Hs standard score was approximately 70. Center, Day, Imboden and Cluff (1962) studied the effect of age on all MMPI clinical scales. The subjects were randomly selected civilians employed in an Army chemical warfare center in Maryland. Four age groups were used over the age range of 20 to 69. An analysis of variance among the four age groups showed no differences on any of the scales.

These divergent findings among previous researchers have led to no definite conclusions indicating the necessity for controlling for age differences in the present study. However, patient age was recorded as part of the information relating to subjects and may serve as material for further study on this data.

In the present study the Hs Scale was not used in conjunction with the K Scale or any of the other validity scales. Within the total inventory the combination of the Hs score plus .5K can be considered a compromise, a straightforward symptom scale corrected by an index of unwillingness to verbalize obvious symptomoloty (Dalstrom and Welsh, 1960). The decision to utilize the Hs Scale as a single instrument apart from the validity scales or the inventory as a whole was based

upon one of the levels of conceptualizations concerning scale answers. Dahlstrom (1969) in a discussion of recurrent issues in the development of the MMPI presents a revolution in thought surrounding what technically may be said about subjects from written report questionnaires such as the MMPI. This revolution is divided into three levels of conceptualization. Each level is based on a different view of the meaning of test responses.

The assumption was first made that the subject's marks in the answer column could be used in the same way that an assent or denial would be interpreted in the interview. Since scores on the Hs Scale point to psychoneurotic difficulties, the additional assumption was also made that the more of these features that a subject endorsed as characteristic of himself, the more likely it was that he was psychoneurotic (Dahlstrom, 1969). This naive acceptance of the content of test responses as descriptive of the subject's personality and behavior may be termed the first level of conceptualization.

Zubin and his associates at the New York Psychological Institute found a number of paradoxes connected with this straightforward acceptance of responses (Landis, Zubin, Katz, 1935; Page, 1936; Page, J., Landis, C., and Katz, S. E., 1934). Many items scored for emotional disorder were actually answered in the significant direction more frequently by normal subjects than by the psychiatric patients. Research findings such as this were ample evidence that there were serious problems in the use of questionnaires for personality appraisal based on simple face validity of the self-descriptions.

As a consequence of these difficulties many psychologists turned to a second approach concerning these responses. If they could not

always trust the self-descriptions to establish some one-to-one correspondence with some veridical fact about a person, they could at least accept the item endorsement itself as a behavioral datum. The fact that the subject was willing to say that something was true or false about himself provided the examiner with additional material to be used in the assessment of that person. The report need not always be considered a factual self-report but rather a potentially useful expression of self-attitudes. This new set of assumptions about the meaning of the answers to test items constitutes a second level of conceptualization.

Even with this more sophisticated view of test behavior, its psychological significance came under close scrutiny and attack from later investigations by Zubin. These later findings illustrated differences in interpretation of the test items due to unfamiliarity with the English language, from divergent connotations that various words, phrases or idioms held for different individuals, from markedly different reactions to adverbial and adjectival modifiers, and from poor reading habits. In some instances subjects were too tense to concentrate or too confused to grasp the content of what they were reading when they completed the test questionnaires. This research raised doubts that questionnaires could be relied upon to give dependable samples of a person's self-attitudes (Zubin, Eron, Shumer, F., 1965). The emphasis of these remarks on divergent test interpretations following from gross differences in semantic interference appear to leave personality inventories such as the MMPI on unstable if not entirely unfounded grounds for the reconstruction of a person's self-views.

At a time when the written report seemed to have reached near extinction as a method of gathering dependable and predictive data, Hathaway and McKinley (1940) took a third view of the potential utility of responses to test items. They considered that what is reflected about a test subject when he endorses an item as true or untrue as applied to himself is an open question -- a question to be answered by empirical search. As this regards the MMPI the examiner must be willing to look beyond the content of his items to the nontest information available on individual subjects. This new conceptualization concerning the necessary interpretive procedure facing any user of the questionnaire involves a shift from viewing the item replies as samples of self-attitudes to perceiving them as behavioral signs. The test response viewed as a behavioral sign marked the emphasis of this, the third level of conceptualization.

Applying this conceptual level directly to the Hs Scale and the object of the present research, it is now to be understood that even though the patient is being asked to in-part describe his own history and self-views, the frame of reference used to interpret these responses precedes under different assumptions. These endorsements are evaluated as neither necessarily reflecting factual reality nor mirroring self-attitudes but as signs of something potentially important but not yet known. The choice of non-test correlates in this instance is the evaluation of degrees of cooperativeness exhibited by individual subjects within the hospital situation. This is the method of empirical search. The signs of something potentially important exists, if a statistically significant correlation can be demonstrated between

numerical levels of the Hs Scale and patients judged high or low on cooperative effort.

The Cooperative Effort Situation

The object of this research was simply this: It has come to the attention of many in the nursing field that instruments for predicting potential problems in hospitalized patients are sorely needed. Although a hospital environment is certainly more manageable than a community at large, to generate a significantly predictive instrument for the entire world of hospital problems could not be handled in this paper or by one instrument. Therefore, it was decided to select the problem of the tendency to exaggerate physical discomfort. This exaggeration impedes the establishment of a positive relationship between patient and staff. The lack of this kind of rapport can conflict with adequate care and in some cases actually extend the period of hospitalization necessary for recovery. The most efficient manner of describing the characteristics of this nurse-patient problem is to describe the Cooperative Effort Scale itself. Through a discussion of its creation and the items which compose the scale the nature of the problem will be more clearly understood.

To develop this scale into a predictive instrument, operational definitions must be presented which define the axaggeration of dysfunction in the terms in which it manifests itself in the hospital situation. These terms may be viewed as defining levels of cooperative effort displayed by the patient. Cooperation as expressed here does not indicate that the most sought after patient is the midly retarded child, who obeys each command and awaits with great expectancy ensueing orders

from the doctor, nurse and aid. The numerous behaviors, both verbal and non-verbal, which example a cooperative patient, may best be described as an ability on the part of the patient to maintain interaction between himself and the nursing staff. In this sense interaction is a two-way street. In transaction with the nursing staff, he is an active participant in the creation of adequate hospital care. As M. Sherif phrased it:

> Man is not merely a culture learning and reactive organism. Anything that impinges on the individual from the social world around him is processed and his motives, desires, attitudes, and ideas enter into the processing (Sherif, 1969).

If it is to be said that maximum effort is developing between the nursing staff and the individual patient towards both care and rehabilitation, the effort must not be considered one solely determined by either party.

Nursing supervisors were used to construct operational measures which would discriminate accurately between patients on levels of cooperativeness. Each supervisor was asked to list patient factors exhibited within the hospital situation which they felt contributed to a view of cooperativeness. No preparatory description of cooperation such as an indication of interaction was given to the nurses. As an explanation of cooperation the experimentor simply asked each nurse to characterize the kind of patient who they felt adjusted well to adequate care, rehabilitation and the period of confinement as an in-patient. This kind of instruction refers to the emphasis of this research on the problems of the non-psychiatric patients who find their life-styles radically altered in the hospital situation. Participating supervisors included floor nurses, pediatric, orthopedic, intensive

care and full hospital monitors. No limitations were placed on reports as to their quantity or form to allow a free associative report concerned with cooperative effort.

The separate lists were then transcribed to one comprehensive list of twenty-three elements. The single list was analyzed for identical elements and categorized according to the number of times an element appeared within the list. From this evaluation six items were chosen as having the highest number of appearances on the total list. In addition to this procedure, the entire list was taken back to the supervisors and discussed for similar properties and the possibility of admission of infrequently appearing items.

A combination of the two techniques produced a five item judgment scale incorporating six frequently appearing statements. These statements operationally measured a patient's cooperative effort for these supervisors in this hospital situation. Appendix B shows the final result of the supervisory evaluation and examiner choice. The blanks were checked when a patient failed to exhibit cooperativeness in the stated sense and the exampled reason for the check was written in the space provided.

The first item expresses the need for the patient to be fully accepting of what his physical condition means in the hospital setting. Without going into the myriad of possible individual patient situations it is necessary to understand that acceptance means to realize freedoms as well as restrictions. Because of a particular physical condition certain restrictions are often placed on the physical movements, verbal activities and daily intake. In this respect, an uncooperative patient is one who has been placed on a bland diet yet cons a fellow patient

into sharing his pepper during the evening meal. His potatoes taste better now, but adequate care has been impeded. A patient who has been restricted to bed rest but encouraged to turn from side to side every hour may be viewed as uncooperative if he refuses privileges within these limits. Avoidance of freedoms such as this are passive yet equally frustrating to care and rehabilitation. An example which bridges both sides of this coin of acceptance is the toleration which must exist on the part of the patient to the invasion of his privacy. Catheters and numerous other indwelling tubes must be frequently observed and maintained. A refusal to accept this state of conditions is an uncooperative act.

The second item refers to the patients concerted attempts to recognize that the novel conditions surrounding admission are likely to initiate emotional as well as physical discomfort. A cooperative patient communicates this psychological discomfort by tying it to specific physical ailments. Patients who fail to realize the true origins of these emotions chronically complain that their ice water has too little ice, their meals are always late, the room is too cold, the hospital smells and their bed squeaks. In fact, any combination of these things may be true but enough of these verbalizations characterize a patient unable to deal with the physical problems which are of his greatest concern.

The third item again expresses a degree of acceptance but this time an acceptance of the attentiveness of the nursing staff. The staff in total from registered nurse to floor aid are in the business of implementing physician orders within the limits of the facilities available. The duties they perform are prescriptions for individual

attention. Cooperative patients do not confuse this activity on the part of the staff with attempts to strike up personal acquaintances or actions to control their every move. Uncooperative patients falter at being given baths when they feel they could take them alone, having bed pans properly placed for evacuation or being helped with minor physical activities. Tolerance to this attention is perhaps stretched to its full length when an aid comes in while his family is visiting and asks how many bowel movements he has had today! The patient need not like being treated in this manner to be cooperative. He need only realize that in this situation it is necessary.

Item four pertains to the individual recognition of the conditions of his new environment. The routine of the hospital is constructed not for the pleasure or attention of any particular individual. Its evaluation is the result of repeated attempts to meet a maximum number of physician orders concerning a wide variety of patient conditions. With this in mind, the patient soon realizes that his life-style will undergo a temporary, yet often drastic, change during his stay in the hospital. An especially illustrative example of tolerance in relation to item four is a male patient who is willing to reconcile himself to having a female aid bath him when he is told that there are simply no male aids available.

Item five was marked by its absolute consensus among all nursing supervisors for admission to the Cooperative Effort Scale. Succinctly stated, patients who are interested in getting out make the best patients. Care and rehabilitation is most effective when it is used on the patient who has every desire to return to his private citizenship. The following two examples illustrate cooperative effort in this sense:

diabetics who read their diets and learn their insulin routine rather than complaining about how little there is to choose from or what favorite foods they can no longer enjoy; a colostomy patient who learns to irrigate his colon rather than staring in disgust and humiliation at the stump on his abdomen. Both of these examples show an increasing interest and understanding by the patient of what must be done in order to return to a life outside the hospital.

It should be understood by all readers of the Cooperative Effort Scale (C.E.S.) that by evaluating an individual as uncooperative according to the number of judged criterion, you in no way place a value judgment on his personality or performance as a patient. It cannot be said that cooperative patients are good people or that uncooperative patients are bad people. The object of this scale was to indicate the characteristics of the patient part of an interaction situation. If the scale could be considered successful, then it will define what it is that patients did when they aided in their own care and rehabilitation. It may also outline what a particular patient is doing to frustrate and possibly extend necessary hospital time. Finally, if a systematic correlation with scores on the Hs Scale could be demonstrated a predictive instrument would have been achieved. This instrument, when given prior to admission, could predict problems which involve a patients willingness to maintain a progressive interaction situation between himself and those who are assigned to care for him.

Hypothesis

The following hypothesis concerning the relationship of Hs scores to levels of cooperative effort was advanced.

> An inverse relationship exists between Hs scores and levels of cooperative effort. The higher the Hs score of a subject, the fewer degrees of cooperative effort he will possess.

No hypotheses were advanced concerning a difference in results due to sex or surgical classification. At the time the research began, each of these variables served within the design only to example the nature of the general hospital situation -- a situation which includes both sexes and a variety of surgical classifications.

CHAPTER II

METHOD

Subjects

The population of patients was selected from among non-psychiatric hospitalized patients of a general hospital. Care was taken so as not to indicate individuals within the study who had previous admissions to institutions for psychiatric care. The population of patients considered for research was further limited to those individuals between the ages of 15 to 75 years who were admitted for three specific operative procedures. These operative procedures are classified under: general, orthopedic and urological. Orthopedic and urological classifications are self-explanatory, general surgery included all operative procedures not specifically within either of the other two areas. Twenty patients, ten male and ten female, represent each surgical classification for a total sample of sixty.

It was felt that since exaggeration of physical dysfunction was of prime importance to the correlation of the two scales the most desirable of patients were those admitted exclusively for operative reasons. With many virulent conditions or admissions for undetermined or non-specific pains it remains a matter of judgment that a patient expressing pain does in fact have an organic etiology for that pain. However, if an operative procedure establishes that an individual must have his appendix removed then his complaint of pain in the lower right

quadrant seems amply justified and appropriate in the situation.

Instruments and Measures

The Hypochondriasis Scale of the MMPI (Appendix A) was the proposed predictive instrument of cooperative effort in the hospital situation. Cottle (1950) advanced a test-retest correlation of .81 for the Hs Scale. This correlation was derived from a population of 100 college students, both male and female, who were tested at a one week interval. The correlation marked the Hypochondriasis Scale as one of the most reliable basic scales of the full inventory over test-retest procedures.

The Cooperative Effort Scale was the instrument developed for this research to operationalize hypochondriasis within the nurse-patient interaction. Each of the six possible checks within the five item scale represent behavioral signs which example the exaggeration of physical discomfort (Appendix B).

Statistical Design

The independent variables in this study were sex and three surgical classifications: general, urological and orthopedic. The dependent variables used to measure the effects of these independent variables were scores on the Hypochondriasis Scale and levels of cooperation evaluated from the Cooperative Effort Scale. A two factor factorial analysis of variance (ANOV) of the dependent variables, Hs scores and cooperative effort scores, was employed to determine the effects of the subject's sex and the type of surgical classification. There were ten subjects per cell in a 2 x 3 analysis of variance. When the ANOV's were completed the data were analyzed with the Pearson r for correlation

between dependent variables and the strength of rater reliability (Winer, 1962).

Procedure

The administration of the Hypochondriasis Scale took place in the admitting offices of the hospital. It was established by Pearson and Swenson (1967) that score fluctuations within the separate scales of the MMPI can often be attributed to fluctuating conditions surrounding the subject at the time of administration. In view of this evidence it seemed undesirable to administer the scale at the subject's home where environmental conditions were largely uncontrollable. It appeared equally inappropriate to give the scale along with standard nursing duties when the patient first entered his room. Tests were administered in the admitting office prior to the beginning of the formal admission procedure. The patient was told only that the scale was part of a hospital research project and that his doctor had agreed to its administration. The value of fixing the time and place was that the subject sample all answered questions on the scale in a situation which the experimentor provided for them -- a situation with a relatively high degree of control.

Following the administration of the Hs Scale the subject began formal admission under his particular physician's orders for type of surgery and sleeping recommendations. The subject was assigned a room and the nursing staff on that respective floor received admitting orders.

As stated previously, the Cooperative Effort Scale was constructed to define operationally the exaggeration of physical discomfort which

manifested itself in the hospital situation. Two registered nurses not functioning as supervisors were chosen as judges. It was their duty, using the C.E.S., to evaluate patients as to cooperative effort. These judges were not chosen from among nurses who participated in the construction of the effort scale. It was the opinion of this researcher that in order to minimize prejudice and personal criteria building on the part of the judges, the risk of cutting one of their favorite items through analysis should be avoided. The judges were notified when a selected patient was assigned a bed but at no time during the research were they aware of the Hs scores on the patients. In this sense each judge was not aware of the developing correlation or lack of correlation between the two scales. Each patient was independently observed by the judges and their combined evaluation determined the degrees of cooperative effort. The fact that at least two judges were evaluating each patient served as an additional check against personal criteria building and inadvertant definition changes.

The training of the judges was carried out over a period of five weeks. During the first two weeks both judges and examiner discussed and exampled each criteria. Consensus of definition and appropriate illustrations were agreed upon by all three before training continued. In the third week in-patients were selected and judges evaluated them as a team over a number of different observation periods. Further illustrations were discussed with the examiner. The last two weeks of training consisted of the selection of a greater number of in-patients and individual observation periods for judges. A comparison and discussion of these individual evaluations marked the final consensus and end of the training period. Briefly stated, the research

proceeded in the following manner:

1. Hs Scale administered at admitting office.
2. Subject was hospitalized.
3. Judges independently observed and evaluated each patient daily with the C.E.S.
4. Evaluations from the judges were combined to form a view of the patient in terms of the number of criterion items checked.

CHAPTER III

RESULTS

Two Analysis of Variance (AOV) were performed on the data. Scores on the Hs Scale and scores on the C.E.S. served as separate dependent variables. The results are presented in Tables I and II. There were no significant differences between sexes or between the three surgical conditions on either dependent variable. Furthermore there was no significant sex by surgical condition interaction effect for either dependent variable. For all groups combined the mean on the Hs Scale was 41 and the range of scores was from 21 to 76. On the C.E.S., the group mean was 1 and the range of scores was 0 to 5 (Appendix C).

The results of the Pearson r on rather reliability yielded a correlation of .74. The results of the Pearson r used to study the possible systematic relationship between patient scores on the Hs Scale and patient scores on the C.E.S. yielded a validity coefficient of -.59. This coefficient is significant at $p < .001$. When the validity coefficient was squared, it illustrated that approximately 35 percent of the variance of the C.E.S. may be determined by the variance of the scaled socres on the Hs Scale.

TABLE I

ANALYSIS OF VARIANCE OF COOPERATIVE EFFORT SCORES FOR SEX AND SURGICAL CONDITION CLASSIFICATION

Source	SS	DF	MS	F
A (Sex)	2.4	1	2.4	.16
B (Surgery)	1.9	2	.95	.63
AB	5.1	2	2.6	.17
W. Cell	81	54	1.5	

$p < .05$

TABLE II

ANALYSIS OF VARIANCE OF HYPOCHONDRIASIS SCORES FOR SEX AND SURGICAL CONDITION CLASSIFICATION

Source	SS	DF	MS	F
A (Sex)	375.0	1	375	2,14
B (Surgery)	26.43	2	13.22	.08
AB	153.9	2	76.95	.44
W. Cell	9453.6	54	175.07	

$p < .05$

CHAPTER IV

DISCUSSION

The purposed hypothesis of this research, that an inverse relationship exists between Hs scores and levels of cooperative effort, was supported. The higher the Hs score of a subject the fewer degrees of cooperative effort he will possess. The significant validity coefficient of -.59 bears out the intuitive theory suggested by research previously done with the Hs Scale. A negative correlation does seem to exist between the tendency to exaggerate physical dysfunction and an individual's cooperative effort while he is a patient. It must be remembered, however, that the object of the effort scale was to indicate the characteristics of the patient part of an interaction situation. Those characteristics of the nurse part of the interaction situation were not closely controlled. It was taken for granted in this research that nurses achieve professional similarity in that their job is to deal with people as patients.

The rates reliability of r = .74 may be considered only a satisfactory agreement between judges. In the attempt to provide evidence that hypochondriasis and cooperative effort did in fact vary systematically, the five point scale illustrated that the jargon of hypochondriasis could be translated into behavioral signs specific to the nurse-patient situation. However, further research with this instrument should include attempts to expand the number of non-test correlates.

To the extent that the effort scale was successful, it has defined what it is that patients do when they aid in their own care and rehabilitation. It has also called to attention what patients are doing to frustrate care. For nursing to effectively train new personnel in the aspects of dealing with people as patients, criteria such as the ones offered by the C.E.S. must be introduced. The criteria recognizes the importance of patient behavior in what nursing now calls their all-out attempt to give total patient care.

Where the C.E.S. has outlined a new language for hypochondriasis, a language specific to the routine of the hospital, the Hs Scale as it appears within the MMPI has achieved the status of becoming a predictive instrument for hospitals which deal primarily with non-psychiatric patients. This instrument when given prior to admission could predict problems which involve a patient's willingness to maintain a progressive interaction situation between himself and those who are assigned to care for him. It must be cautioned here that the present research did not indicate which or how many of the problems designated in the C.E.S. would manifest during hospitalization. The Hs Scale only points to the likelihood that problems of this nature will arise. In addition, the problems illustrated by the C.E.S. had a two dimensional character. This research material has indicated that not only may patient problems be viewed as numerous, that is in a vertical fashion, but that single problems exhibited may be of greater or lesser intensities -- a horizontal dimension. Upon inspection of the appearance of some cooperative effort socres in relation to magnitude of Hs scores, it seemed that the frequency of problems does increase above the scaled score of 45. The fact that interaction problems could be indicated

from scores lying within the normal range of hypochondriasis contributes to the usefulness of both scales.

The last consideration of statistical importance was the findings of the two factorial analysis of effects of the subject's sex and type of surgical classification. The fact that no significant main effects or interaction effects were observed demonstrates the increased potential use of this research for the general hospital situation. Ages from 15 to 75 years were represented throughout the research in addition to both sexes and a wide variety of physical infirmities. The non-significant results of this analysis of variance in-part justifies the suggestion that the C.E.S. and its predictive indicator, the Hs Scale, could fit adequately into the nature of the general hospital setting.

CHAPTER V

SUMMARY

Sixty hospital patients were divided into groups on the basis of sex and admitting surgical classification. Each patient was given the Hs Scale from the MMPI upon admission to the hospital. While hospitalized each individual was rated on the C.E.S. by two registered nurses trained as judges. The results indicated that the cooperative effort as measured by the C.E.S. was negatively correlated to scores on the Hs Scale. There was no significant difference in the strength of this negative correlation due either to the subject's sex or particular surgical classification. It is suggested that the C.E.S. and its predictive indicator, the Hs Scale, can be useful to mursing personnel in their interaction with patients.

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APPENDIX A

APPENDIX A

T-F	Statement
___	During the past few years I have been well most of the time.
___	I am in just as good physical health as most of my friends.
___	I am neither gaining or losing weight.
___	I do not tire quickly.
___	I have very few headaches.
___	Often I feel as if there were a tight band about my head.
___	There seems to be a fullness in my head or nose most of the time.
___	The top of my head sometimes feels tender.
___	I am troubled by attacks of nausea and vomiting.
___	I seldom or never have dizzy spells.
___	My eyesight is as good as it has been for years.
___	I can read a long time without tiring my eyes.
___	I do not often notice my ears ringing or buzzing.
___	I feel weak all over much of the time.
___	I have no difficulty in keeping my balance in walking.
___	I have little or no trouble with my muscles twitching or jumping.
___	I have few or no pains.
___	Parts of my body often have feelings like buring, thingling, crawling, or like going to sleep.
___	I have numbness in one or more regions of my skin.
___	I hardly ever feel pain in the back of my neck.
___	My hands and feet are usually warm enough.
___	I have never vomited blood or coughed up blood.
___	I am almost never bothered by pains over the heart or in my chest.
___	I hardly ever notice my heart pounding and I am seldom short of breath.
___	I have a good appetite.
___	I have a great deal of stomach trouble.

APPENDIX A (Continued)

T-F	Statement
___	I am bothered by acid stomach several times a week.
___	I am troubled by discomfort in the pit of my stomach every few days or oftener.
___	I am very seldom troubled by constipation.
___	I have no difficulty in starting or holding my bowel movement.
___	I wake up fresh and rested most mornings.
___	My sleep is fitful and disturbed.
___	I am about as able to work as I ever was.

APPENDIX B

APPENDIX B

I. Is the patient accepting the gravity of his situation?

a. _____ Abiding by restrictions.
b. _____ Taking advantage of his freedoms.

Example:

II. Can he communicate his physical and psychological conditions to the nursing staff?

a. _____.

Example:

III. Does the patient accept the care of the nursing staff?

a. _____ Accepting of their attentiveness.

Example:

IV. Does the patient realize others in the hospital require the care and attention of the nursing staff?

a. _____ Tolerant

Example:

V. Has the patient centered his attention on recovery or on the conditions of his illness?

a. _____.

Example:

APPENDIX C

APPENDIX C

Patient	Sex	Operation	Age	Hs Score (Scaled)	Combined C.E.S. Evaluation
1	F	Or.	28	47	2
2	F	Or.	59	38	0
3	F	Or.	61	50	0
4	F	Or.	26	34	0
5	F	Or.	64	70	5
6	F	Or.	31	60	4
7	F	Or.	74	33	2
8	F	Or.	62	43	0
9	F	Or.	22	39	0
10	F	Or.	63	50	0
11	M	Or.	54	37	0
12	M	Or.	75	48	0
13	M	Or.	15	35	0
14	M	Or.	38	36	1
15	M	Or.	24	52	3
16	M	Or.	36	29	0
17	M	Or.	54	53	1
18	M	Or.	15	27	0
19	M	Or.	50	21	0
20	M	Or.	51	38	0
21	F	Gen.	45	63	5
22	F	Gen.	62	25	0
23	F	Gen.	31	32	0
24	F	Gen.	76	64	2
25	F	Gen.	22	42	0
26	F	Gen.	73	76	1
27	F	Gen.	43	47	0
28	F	Gen.	52	29	0
29	F	Gen.	23	37	0
30	F	Gen.	22	30	0
31	M	Gen.	36	42	0
32	M	Gen.	51	50	1
33	M	Gen.	61	32	0
34	M	Gen.	30	32	0
35	M	Gen.	45	26	0
36	M	Gen.	72	39	0
37	M	Gen.	71	45	0
38	M	Gen.	64	37	1
39	M	Gen.	37	27	0
40	M	Gen.	46	38	0

APPENDIX C (Continued)

Patient	Sex	Operation	Age	Hs Score (Scaled)	Combined C.E.S. Evaluation
41	F	Ur.	66	32	0
42	F	Ur.	75	60	3
43	F	Ur.	75	64	1
44	F	Ur.	72	23	0
45	F	Ur.	47	32	1
46	F	Ur.	38	38	0
47	F	Ur.	46	37	0
48	F	Ur.	65	54	0
49	F	Ur.	61	28	0
50	F	Ur.	45	29	0
51	M	Ur.	61	59	0
52	M	Ur.	50	29	0
53	M	Ur.	60	50	0
54	M	Ur.	75	39	0
55	M	Ur.	65	36	0
56	M	Ur.	75	32	0
57	M	Ur.	70	41	2
58	M	Ur.	64	44	1
59	M	Ur.	72	38	0
60	M	Ur.	51	24	1

VITA

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