

AN EXAMINATION OF PSYCHOLOGICAL DIFFERENCES
AMONG GROUPS OF CRITICALLY ILL HOSPITAL-
IZED PATIENTS, NON-CRITICALLY ILL
HOSPITALIZED PATIENTS AND
WELL CONTROLS

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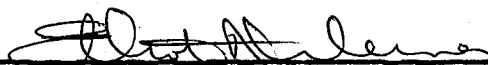
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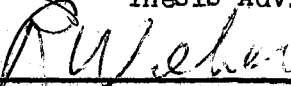
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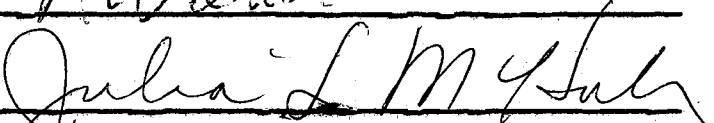
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CHAPTER I

THE LITERATURE REVIEW

Introduction

May (1968) states that "death" in the American culture is repressed and symbolized. He contends that "death" is a taboo subject in our society and presently holds the same status as did "sex" during the Victorian era as being obscene and unmentionable. "Death is not to be talked about in front of children, or better, not talked about at all if we can help it" (May, 1968, p. 106). However, everyone most likely will experience the death of a friend or relative and eventually will examine his own feelings concerning death and dying; yet today we speak of death in hushed tones (Annis, 1969). Support for this can be seen in the lack of rigorous quantitative research in the area of death and dying. Although dying is a very personal experience, it is also a social phenomena because people react toward dying in light of how their culture interprets death. Those researchers who have performed work in this area have been met, at least initially, with harsh criticism for daring to enter such a "personal and sacred" domain of human experience (Kubler-Ross, 1969; Feifel, 1963; Glasser and Strauss, 1968; Kastenbaum, 1965).

Freud (1918) maintained that death is distasteful to man because of his inability to conceive his own death. He contends that man's unconscious mind cannot comprehend non-existence and, if our life must

end, the ending is always attributed to intervention from the outside--by someone else. Freud holds that in our unconscious mind we can only be killed; therefore, death, in itself, is associated with retribution and punishment from others. Wahl (1965) suggests that death as a cessation of being "involves aspects of reality that are not admissible to the omnipotent and narcissistic self, and for this reason strong defenses are developed against its recognition" (p. 64).

Death is not merely a state of physical cessation but is a complex symbol of the powerlessness of man to control or to know his ultimate fate. Several attitude studies have indicated that individuals ordinarily become conscious of thoughts about death and dying under conditions of depression or illness, on gloomy days, following an accident, in dangerous situations and when disastrous public accidents are reported in the mass media (Middleton, 1936; Feifel, 1963; Vernon, 1968). Mayer (1965) states that one reason for the manner in which our culture deals with death is that the concept of death is a negation of an idea--the idea of life. Fulton (1965) suggests that death asks for our identity in that, when confronted with death, man is forced to ask the question "Who am I?". Klapp (1968) in discussing identity in our culture says "...few can disagree that in America a vast uncertainty ...has taken the place of the simple assurance which any tribal native or peasant feels" (p. 4). If our culture does in fact have a generalized lack of identity, perhaps death symbolizes the ultimate loss of personal identity.

Present Situation

The realization of the loss of personal identity is perhaps felt most deeply by the critically ill or dying patient. Factors that contribute to the patient's loss of identity are the personal isolation involved because of the illness, the generalized sense of loss, the withdrawal reactions of friends and family and the lack of personal dignity and security associated with the process of dying. It is important to see how each of these factors contribute to the situation of the critically ill patients.

Medical progress, in the prevention and cure of acute illness, has shifted many deaths to the chronic disease category and has made lingering terminal illness more prevalent. In the past, more people died at home where friends and family were close by.

Now the terminal patient has largely lost the security of dying in familiar surroundings for most deaths occur in a hospital or nursing home, where medical skill and sophisticated equipment may prolong vital signs of life after all hope of recovery and self control have disappeared (Wolfle, 1970, p. 3938).

¹⁹⁷⁴

Dying can become lonely and impersonal not only because the patient is often taken out of his familiar surroundings but because he is often treated like an object.

He may want one single person to stop for one single minute so that he can ask one single question, but all he will get is a dozen people around the clock, occupied with his heart rate, pulse, electrocardiogram, his excretion or secretion, but not with him as a human being (Kubler-Ross, 1969, p. 9).

In this type of situation, the attention afforded to the dying patient is often mechanical and dehumanized.

Support also exists for the view that the treatment given a terminal patient is often poorer in quality and quantity than that given the patient who is expected to recover. Reasons offered for this situation include that the interest of the hospital staff is in saving lives and restoring health, both of low probability in the case of the terminal patient. Kastenbaum (1968) examined the behavior of 40 housewives who were hospital volunteers when they were in the presence of dying patients. He then studied the relationship of behavior toward the terminal patients to their professed feelings about death. He found that the greater the professed fear of death, the less the women interacted with the terminal patients. Klagsbrum (1970) found that hospital nurses gave less attention and time to dying cancer patients than they did to other hospital patients. In view of this, it would appear that this "fear of death as a function of personal interaction" phenomenon would also apply to the friends and family of a critically ill person and have a bearing on the quality and quantity of interpersonal relationships between the patient and his family and friends.

The patient's level of anxiety is also an important factor to be considered in his care. Annis (1969) feels that the major concern of physicians in treating the dying patient must be the treatment of anxiety rather than the organic disease. Kram and Caldwell (1969) discuss the idea of what to tell the dying patient about his condition and conclude that many factors are to be considered in light of the anxiety of the patient. However, Waechter (1968) and Kubler-Ross (1969) both found that increased anxiety in hospital patients was often caused by the patient not being appraised of his physical condition. To reduce the anxiety of the patient, Hicks and Daniels (1968) advise that

a psychiatric consultant be considered whenever there is a communication breakdown between the dying patient and his physician. Lieberman (1970) found that in aging patients who were dying, their overall anxiety lessened as death approached and there seemed to be an increasing willingness with time for the patient to discuss death more openly and frankly.

Another source of discomfort for the patient may be the personal recognition that he is dying. Lifton (1969) and Lieberman (1970) report that there seems to be little relationship between what people think they will feel about death beforehand and how they actually feel when they face it. This makes the prospect of impending death a unique situation for the patient. There is also the fear on the part of the patient and family that the time of death is a time of mental and physical anguish. Noyes (1971) admits that this is a source of concern for many people but emphasizes that from his observation, the time of death is not an agonizing or pain ridden experience. Frankl (1963, 1966) states that man does not actually fear death, but rather fears dying without a meaning in life.

In summary, the situation of the dying patient is bleak. In our society, the idea of death has an extremely negative connotation with this societal feeling affecting many aspects of the dying patient's life. As modern detection techniques make him aware of his illness sooner than before, his period of personal stress increases. This period of stress is accentuated by his removal from familiar surroundings and the "uncomfortable feeling" reaction experienced by his family and friends. ^{Lieberman (1970)} Berne (1971) views this latter aspect as making the dying patient feel emotionally isolated. The terminally ill patient may also

experience hospital treatment that seems to be dehumanizing which further isolates him from human involvement. In addition to the usual concerns with his family and finances, the terminally ill patient may be acutely concerned with problems such as an existential "meaning in life," a generalized sense of loss, and a possible fear of death.

In view of the many problems confronted by the terminally ill patient, much support has been offered recently for the field of psychology assuming a major part of the responsibility for dealing with this area of human suffering (Annis, 1969; Kram and Caldwell, 1969; Hicks and Daniels, 1968). An initial step toward helping the dying patient is to identify the socio-psychological dynamics of the critically ill individual. This knowledge would contribute to the understanding and prediction of special needs of the dying person. Therapy programs could then be devised to help meet these needs which would hopefully reduce the suffering incurred by the dying patient and his family. Kubler-Ross (1969) identified five broad "stages of dying" as a result of interviews with terminally ill patients. These stages are: initially, a stage of denial; next, a stage of anger when the patient stops denying that he has a serious illness; third, a bargaining stage where the person bargains with the doctor or God for his life; the fourth stage is one of increasing depression where the terminally ill patient begins to experience the loss involved; the final stage is one of acceptance and inner peace; this is the last stage before death. Lifton (1970) delineates stages of dying into psychological, sociological and biological death. If the field of psychology is to truly contribute to the amelioration of the suffering of the dying person, more specific knowledge must be gained concerning

the psychological dynamics of the terminally ill patient.

Hypotheses

The present study will investigate three separate areas of psychological inquiry. These areas of investigation regarding the terminal patient are (1) the feeling of a "purpose in life," (2) the interpersonal relations orientation and (3) mental imagery defense.

Frankl (1966) defines purpose in life as "the ontological significance of life from the point of view of the experiencing individual" (p. 185). In reference to suffering and meaning, Frankl states that man does not despair because of any suffering itself but because the suffering is not meaningful. When man is confronted with the pressure of life's transitory nature, he begins dealing with the problem of his own purpose in life. Koestenbaum (1970) states that man is forced to make a purpose of his existence when confronted with his own finality. Assuming that, as a group, critically ill patients are under more pressure to consider and ponder their own finality, they should manifest a higher score on a psychological instrument that is reported to measure the extent of an individual's "purpose in life." Therefore, the first hypothesis of the present study is that critically ill (CI) patients will as a group manifest a higher average "purpose in life" score than will control groups of non-critically ill (NCI) hospital patients and well controls (WC).

The second hypothesis of the present study is that there will be significant differences between the average scores of critically ill patients, non-critically ill patients and well controls on a psychological instrument that measures the status of a patient's expression

of and desire for inclusion, control, and affection in interpersonal relationships. Support for this comes from Kubler-Ross' (1969) position that critically ill patients' interpersonal relationships often change in quantity and quality from what they were before the individual became ill. Toynbee (1968), Tolstoy (1939) and Kazantzakis (1960) also have written about the increasing need of the critically ill individual for close interpersonal relationships.

The third hypothesis of the present study is that the average frequency of eyeblinks over time will be higher for a group of critically ill patients when listening to disease-related material than for a group of non-critically ill patients or well controls listening to the same material. Leask and Haber (1969) in a review of their work with eidetic imagery state that eidetic subjects universally turn off images by blinking their eyes. In that eidetic subjects blink their eyes to turn off images, it may be that people in general blink to turn off mental images. To the extent to which this is true, the technique of recording rate of eyeblinks could be used as a way of measuring the extent to which a person is trying to rid himself of his own mental imagery. If disease-related reading material did induce associated mental imagery and the person were making an effort to rid himself of such imagery, he would blink his eyes more often while reading the material. The extent to which this is true may be the extent to which a person is perceptually defending against unwanted mental images. Support for this also comes from Felipe and Mahl (1969) who found that sexual stimuli served as a critical factor in producing increased blink rate and that the sensory modality of the arousing stimulus was not critical. Assuming that the critically ill patient

is more concerned with death than a non-critically ill patient or a well control, he would be more likely to defend perceptually from hearing and integrating disease-related material.

The fourth hypothesis applies to the results of the discriminate function analyses. Specifically, each of the three groups will show unique distinguishable personality characteristics, capable of differentiating among the three groups.

CHAPTER II

METHODOLOGY

Subjects

Seventy-five subjects (Ss) were used in the present study. The first group consisted of 25 patients from the Oklahoma Medical Center in Oklahoma City, Oklahoma, who had been diagnosed as critically ill (CI). The mean age of the CI group was 50.16 years with Ss ranging from 21 to 72 years of age. The second group consisted of 25 patients from the Oklahoma Medical Center who had been diagnosed as non-critically ill (NCI). The mean age of the NCI group was 47.56 years with Ss ranging in age from 21 to 80 years. The third group consisted of 25 normal well controls (WC) with a group means of 47.80 years with Ss ranging from 24 to 82 years of age. Guidelines for subject selection and subject characteristics are found in Appendix A. The consent form that all hospitalized subjects signed is given in Appendix G.

Dependent Variables

The instrument used to test the first hypothesis concerning the patient's "purpose of life" was the 20 item questionnaire portion of the Purpose in Life Test (PILT) (Crumbaugh, 1964, 1968, 1969). The PILT standardization data and a copy of the questions are in Appendix B.

The second hypothesis concerning interpersonal relations stance will be tested with the Fundamental Interpersonal Relations Orientation-

Behavior (FIRO-B) Test (Schutz, 1958; Ryan, 1970).

The third hypothesis concerning eyeblink rate will be tested by comparing the frequency of eyeblinks over time while having the patient listen first to a taped paragraph consisting of neutral eyeblink material (Appendix D) to be used as a baseline and then having the patient listen to a taped paragraph consisting of disease-related material (Appendix E). Both taped segments were 72 seconds long.

The nine dependent variables for each subject were:

1. Number of eyeblinks per second while listening to the neutral material.
2. Number of eyeblinks per second while listening to the disease-related material.
3. Purpose in Life Test score This score is the simple sum of the seven possible points for each of the 20 questions for a possible total score of 140. The higher the total score, the more professed purpose and meaning one has for life.
4. Expressed inclusion score on the FIRO-B This score reflects one's general social orientation on a scale of 0 to 9. This score reflects just how comfortable one is around other people in that the higher the score, the more comfortable one is with others.
5. Wanted inclusion score on the FIRO-B On a scale of 0 to 9, this score reflects how selective one is with whom he associates. The higher the score, the less selective one is in choosing his associates.
6. Expressed control score on the FIRO-B Using a scale of 0 to 9, this score reflects the willingness of an individual to assume responsibility and to make decisions. The higher the score, the more willing is one to take on the responsibilities of a leadership role.
7. Wanted control score on the FIRO-B Using a scale of 0 to 9, this score reflects the extent that one wants others to control him and make decisions for him. The higher the score, the more dependent is the person and the more reluctant he is to make decisions.
8. Expressed affection score on the FIRO-B On a scale of 0 to 9, this score reflects how willing the person is to develop close intimate relationships. The higher the score, the more readily the person becomes emotionally involved with others.

9. Wanted affection score on the FIRO-B On a scale of 0 to 9, this score reflects how selective one is with whom he forms deep relationships. The higher the score, the less selective one is with whom he establishes close interpersonal relationships.

Procedure

The actual data collection was taken in the patient's hospital ward/room or an examining room. The PILT, FIRO-B and the listening tasks were administered to the subjects in a counterbalanced order in an effort to minimize carryover effects. The following directions were read aloud by the experimenter for the appropriate exercise.

(1) PILT directions:

"For each of the following statements, circle the number that would be most nearly true for you. Note that the numbers always extend from one extreme feeling to its opposite kind of feeling. 'Neutral' implies no judgment either way. Try to use the neutral rating as little as possible."

(2) FIRO-B directions:

"This questionnaire is designed to explore the typical ways you interact with people. There are, of course, no right or wrong answers; each person has his own ways of behaving. Sometimes people are tempted to answer questions like these in terms of what they think a person should do. This is not what is wanted here. We would like to know how you actually behave. Some items may seem similar to others. However, each item is different so please answer each one without regard to the others. There is no time limit, but do not debate long over any item."

(3) Listening Tasks directions:

"I am going to play part of a recorded speech for you, then I will ask you some questions about the speech material. While listening to the recording, please relax, look straight ahead and listen carefully."

Here is another part of a recorded speech, please listen carefully as I will ask you some questions about it when it is finished. Again, please relax, look straight ahead and listen carefully."

Experimental Design

The statistical analysis used in the present study was a multivariate discriminate function analysis. This analysis provides a discriminate function for each group of subjects (CI, NCI and WC) based on a weighting system of the nine dependent variables which maximize the variance among the three groups while minimizing the variance within each of the three groups (Cooley and Lohnes, 1962).

A discriminate function is similar to a regression equation in that both predict a point along some continuum of criterion measurement. The discriminate function analysis provides a critical value along this continuum which determines the group (CI, NCI and WC) into which an individual is assigned. The advantage of this analysis is that it considers all nine dependent variables together and takes into account the correlation among the variables. The results of this analysis will be used to assess (1) the differences between the mean vectors for the three groups, (2) the order of importance of the variables in differentiating the three groups, and (3) the proportion of subjects who are statistically classified into the same group as they are medically designated (CI, NCI and WC).

The differences among the mean vectors for the three groups will be examined using the U statistic (Wilks lambda criterion). This statistic will be transformed into an F statistic with p and $n - p - 1$ d.f. (Rao, 1965) where p equals the number of variables (nine) and n equals the total number of patients in any one group (18).

Since the discriminant function analysis indicates the order of selection of variables in discriminating between groups, an F test with

1 and $n - g - p$ d.f. will be used at each step to determine if each of the remaining variables contribute significantly ($p < .05$) in accounting for the variance that is remaining. As an example, after the variable that accounts for the most variance among groups is determined, the second variable will be the one which contributes most to the prediction system already containing the best single predictor.

When the initial phase of analysis was completed, those variables which met certain specifications were included in the final best prediction system. Because the problem of shrinkage analogous to that in multiple regression occurs in this type of analysis, the number of final predictor variables was limited to the first few variables selected in the initial phase of the analysis. At each step in the initial analysis, an F statistic was computed to test the significance of any variable in the prediction at that step, given the contribution of the remaining variables. The significance of any variable can change as other variables are added to the system, so that a variable can discriminate better or worse than it did when initially selected.

The proportion of subjects statistically assigned to the same group as their medical diagnosis (CI, NCI and WC) was computed for each group of subjects. These proportions gave a practical indication of how well the discriminate classification system matched the original medical diagnosis of the three groups (CI, NCI and WC).

Seven subjects were randomly chosen from each of the CI, NCI and WC groups. The data from these subjects were used to cross validate the prediction system established from the data of the other subjects (18 CI, 18 NCI and 18 WC).

CHAPTER III

RESULTS

Comparison: Critically Ill, Non-Critically
Ill and Well Controls

The overall statistical hypothesis of no significant differences between means of the three groups on the nine variables was rejected. Table I contains the means (\bar{X}), standard deviations (SD) for all nine variables for the CI, NCI and WC groups.

TABLE I
VARIABLE MEANS AND STANDARD DEVIATIONS FOR
NINE VARIABLES FOR CI, NCI AND WC GROUPS

Variable	CI		NCI		WC	
	\bar{X} N=25	SD	\bar{X} N=25	SD	\bar{X} N=25	SD
Blinks neutral (BN)	.47	.36	.39	.31	.55	.37
Blinks diseased (BD)	.57	.42	.38	.28	.53	.35
Purpose in Life Test	114.60	18.56	103.80	21.76	108.44	15.79
Expressed inclusion (eI)	4.80	2.31	4.68	2.39	3.92	2.06
Wanted inclusion (wI)	4.16	3.56	3.16	3.44	2.00	2.75
Expressed control (eC)	2.40	2.40	2.44	2.75	2.12	2.59
Wanted control (wC)	3.32	2.12	3.92	2.41	4.84	2.21
Expressed affection (eA)	5.88	2.35	4.72	2.96	3.36	1.91
Wanted affection (wA)	6.44	2.74	5.00	3.26	4.32	2.14

Appendix F contains the F values for each of the nine variables when all three groups are compared together. The two variables that statistically discriminated among the three groups were expressed affection, F of 6.6375 ($p < .01$) and wanted affection, F of 3.8657 ($p < .05$).

The statistical hypothesis that the PILT would not differentiate among the three groups was not rejected. The means of the three groups (CI, 114.599; NCI, 103.799 and WC, 108.439) were not statistically different.

The statistical hypothesis that the interpersonal relations stance of the three groups would not differ was rejected. Figure 1 shows the means of the three groups on the six FIRO-B scales. As noted above, the three groups are statistically different on the expressed affection ($p < .01$) and wanted affection ($p < .05$).

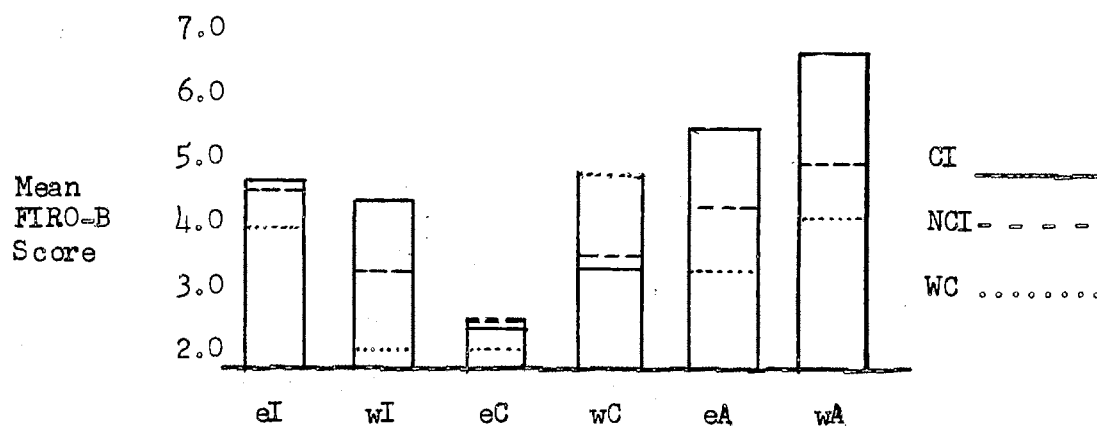


Figure 1. Means for CI, NCI and WC Groups on the Six FIRO-B Scales

The hypothesis that the eyeblinks variables would not discriminate among the three groups was not rejected. Figure 2 depicts the means for the three groups on the eyeblink variables.

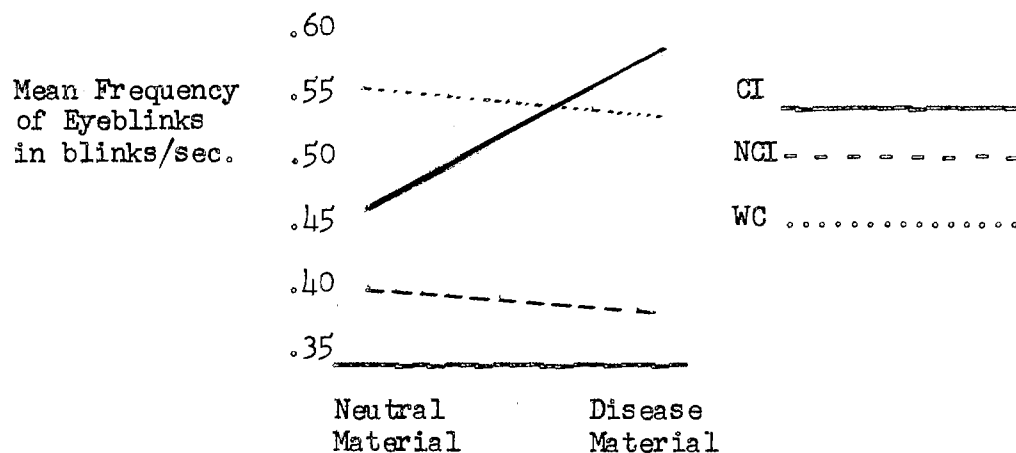


Figure 2. Mean Eyeblinks for Neutral and Disease-Related Material for CI, NCI and WC Groups

Although the BN (F of 1.2439) and BD (F of 1.8879) variables did not statistically discriminate among the three subject groups, the blink variables did statistically discriminate the CI group from the other two groups when the groups were compared two at a time.

Comparison: Critically Ill and Well Controls

The hypothesis of no significant differences between means of the CI and WC groups was rejected. Appendix F gives the F values of the nine variables when the CI and WC groups are compared. The four variables which discriminated statistically between the CI and WC groups

were expressed affection (F of 17.2878, $p < .01$), wanted affection (F of 9.3116, $p < .01$), wanted control (F of 6.1665, $p < .05$) and wanted inclusion (F of 5.7676, $p < .05$).

Four variables were chosen to be included in the final prediction system (wC, eA, BD and BN) for differentiation between the CI and WC groups. The F values for the 18 original subjects in each group to be applied to the respective seven cross validation subjects in each group and the F values of the final prediction system used with the cross validation subjects are given in Table II.

TABLE II
SELECTION ORDER AND TEST OF STATISTICALLY
SIGNIFICANT VARIABLES DISCRIMINATING
BETWEEN CI AND WC GROUPS

Variable	df	F value to enter	Final df	Prediction System F
wC	1,34	7.4668 **	1,31	7.4622 **
eA	1,33	4.1123 *	1,31	14.5025 **
BD	1,32	2.7418 a	1,31	2.2457 b
BN	1,31	11.3725 **	1,31	11.3725 **

** $p < .01$

* $p < .05$

a $p < .10$

b $p < .25$

In order of selection, the variables chosen were wanted control (F of 7.4668, $p < .01$), expressed affection (F of 4.1123, $p < .05$), blinks-disease (F of 2.7418, $p < .10$) and blinks-neutral (F of 11.3725, $p < .01$). The final prediction system consisted of wanted control (F of 7.4622, $p < .01$), expressed affection (F of 14.5025, $p < .01$), blinks-diseased (F of 2.2457, $p < .25$) and blinks-neutral (F of 11.3725, $p < .01$).

The proportions of Ss in both the original and cross validation groups that were statistically classified the same as their diagnostic groups are given in Table III. Chi-square tests were performed for the original groups (CI and WC), cross validation groups (CI and WC) and for the overall S placement for the four groups.

TABLE III

PROPORTION OF STATISTICAL CLASSIFICATION
FOR BOTH ORIGINAL AND CROSS VALIDATION
GROUPS OF CI AND WC SUBJECTS

Proportion of Correct Classifications	
Original Groups	p(CI classified CI) .833 p(WC classified WC) .889 χ^2 , 1df = 16.04, $p < .001$
Cross Validation Groups	p(CI classified CI) 1.000 p(WC classified WC) .570 χ^2 , 1df = 3.15, $p < .10$
Overall χ^2 , 3df = 26.03, $p < .001$	

Table IV gives the frequency distribution of probabilities of classification of subjects in CI and WC groups for both the original and cross validation subjects. An example for interpreting Table IV is that five CI patients in the original group were correctly classified CI with a probability of correct classification being between .95 and 1.00.

Comparison: Critically Ill and
Non-Critically Ill

The hypothesis of no significant differences between means of the CI and NCI groups was accepted. The F values on nine variables when the CI and NCI groups are compared are in Appendix F. Three variables discriminated at the $p < .10$ level of significance. These were the PILT (F of 3.5648), BD (F of 3.5032) and wanted affection (F of 2.8525). The two eyeblinks variables were chosen to be included in the final prediction system for differentiation between the CI and NCI groups. The F values of the final prediction system used with the cross validation groups were derived from the 18 original subjects in each group and are given in Table V.

In Order of selection, the variables chosen were blinks-disease (F of 5.9009, $p < .05$), blinks-neutral (F of 4.0635, $p < .10$) and the final prediction consisted of BD (F of 7.5146, $p < .01$) and BN (F of 4.0635, $p < .10$).

The proportion of Ss in both the original and cross validation groups that were statistically classified the same as their diagnostic groups are given in Table VI. Chi-square tests were performed for the original groups (CI and NCI), cross validation groups (CI and NCI) and

TABLE IV
 FREQUENCY DISTRIBUTION OF PROBABILITIES OF
 CLASSIFICATION FOR CI AND WC ORIGINAL
 AND CROSS VALIDATION GROUPS

Probability of Classification	Frequency			
	CI-CI	Original Groups		
		CI-WC	WC-WC	WC-CI
.95 - 1.00	5		3	
.90 - .94	3		5	
.85 - .89			1	
.80 - .84	2		2	
.75 - .79	2			
.70 - .74		1	1	
.65 - .69			3	1
.60 - .64				1
.55 - .59	1	1		
.50 - .54	2	1	1	
Totals	<u>15</u>	<u>3</u>	<u>16</u>	<u>2</u>

Probability of Classification	Cross Validation Groups			
	CI-CI	CI-WC	WC-WC	WC-CI
.95 - 1.00	3		1	
.90 - .94	1			
.85 - .89	1		1	1
.80 - .84				1
.75 - .79				
.70 - .74				1
.65 - .69	1		1	
.60 - .64	1		1	
.55 - .59				
.50 - .54				
Totals	<u>7</u>	<u>0</u>	<u>4</u>	<u>3</u>

CI-CI = CI S classified CI (correct classification)
 CI-WC = CI S classified WC (misclassification)
 WC-WC = WC S classified WC (correct classification)
 WC-CI = WC S classified CI (misclassification)

for the overall S placement for the four groups.

TABLE V
SELECTION ORDER AND TESTS OF STATISTICALLY
SIGNIFICANT VARIABLES DISCRIMINATING
BETWEEN CI AND NCI GROUPS

Variable	df	F value to enter	Final Prediction System df	F
BD	1,34	5.9009 *	1,33	7.5146 **
BN	1,33	4.0635 a	1,33	4.0635 a

** p<.01

* p<.05

a p<.10

TABLE VI
PROPORTION OF STATISTICAL CLASSIFICATION
FOR BOTH ORIGINAL AND CROSS VALIDATION
GROUPS OF CI AND WC SUBJECTS

Proportion of Correct Classifications		
Original Groups	p(CI classified CI)	.722
	p(NCI classified NCI)	.833
	X^2 , 1df = 8.02, p<.01	
Gross Validation Groups	p(CI classified CI)	.714
	p(NCI classified NCI)	.714
	X^2 , 1df = 1.143, p<.30	
Overall X^2 , 3df = 14.13, p<.01		

Table VII gives the frequency distribution of probabilities of classification of subjects in CI and NCI groups for both the original and cross validation subjects.

Comparison: Non-Critically Ill and
Well Control Groups

The hypothesis of no significant differences between means of the NCI and WC groups was not rejected. The F values on nine variables when the NCI and WC groups are compared are found in Appendix F. Only one variable, expressed affection (F of 3.7140, $p < .10$) approached statistical significance. The F values for the 18 original subjects in each group to be applied to the respective seven cross validation subjects in each group and the final prediction system are given in Table VIII.

In order of selection, the variables chosen were wanted control (F of 4.3561, $p < .05$) and expressed affection (F of 2.1507, $p < .25$). The final prediction system consisted of wanted control (F of 4.0029, $p < .10$) and expressed affection (F of 2.1517, $p < .25$).

The proportion of Ss in both the original and cross validation groups that were statistically classified the same as their diagnostic groups are given in Table IX. Chi-square tests were performed for the original groups (NCI and WC), cross validation groups (NCI and WC) and for the overall S placement for the four groups.

Table X gives the frequency distribution of probabilities of classification of subjects in NCI and WC groups for both the original and cross validation subjects.

TABLE VII
 FREQUENCY DISTRIBUTION OF PROBABILITIES OF
 CLASSIFICATION FOR CI AND NCI ORIGINAL
 AND CROSS VALIDATION GROUPS

Probability of Classification	Frequency			
	CI-CI	Original Groups		NCI-CI
		CI-NCI	NCI-NCI	
.95 - 1.00	1			
.90 - .94	1			
.85 - .89	1		1	
.80 - .84			2	
.75 - .79	1		1	
.70 - .74	1	3	1	
.65 - .69			5	1
.60 - .64	3		2	
.55 - .59	2		2	1
.50 - .54	3	2	1	1
Totals	<u>13</u>	<u>5</u>	<u>15</u>	<u>3</u>

Probability of Classification	Cross Validation Groups			
	CI-CI	CI-NCI	NCI-NCI	NCI-CI
.95 - 1.00				
.90 - .94				1
.85 - .89				
.80 - .84			1	
.75 - .79	2	1	1	
.70 - .74				
.65 - .69	1		2	1
.60 - .64	1		1	
.55 - .59	1			
.50 - .54		1		
Totals	<u>5</u>	<u>2</u>	<u>5</u>	<u>2</u>

CI-CI = CI S classified CI (correct classification)
 CI-NCI = CI S classified NCI (misclassification)
 NCI-NCI = NCI S classified NCI (correct classification)
 NCI-CI = NCI S classified CI (misclassification)

TABLE VIII
 SELECTION ORDER AND TESTS OF STATISTICALLY
 SIGNIFICANT VARIABLES DISCRIMINATING
 BETWEEN NCI AND WC GROUPS

Variable	df	F value to enter	Final Prediction System df	F
wC	1,34	4.3561 *	1,33	4.0029 a
eA	1,33	2.1517	1,33	2.1517

* $p < .05$
 a $p < .10$

TABLE IX
 PROPORTION OF STATISTICAL CLASSIFICATION
 FOR BOTH ORIGINAL AND CROSS VALIDATION
 GROUPS OF NCI AND WC SUBJECTS

Proportion of Correct Classification	
Original Groups	p(NCI classified NCI) .611 p(WC classified WC) .611 χ^2 , 1df = 1.000, $p < .50$
Cross Validation Groups	p(NCI classified NCI) .286 p(WC classified WC) .714 χ^2 , 1df = .329, $p < .70$
Overall χ^2 , 3df = 4.35, $p < .20$	

TABLE X

FREQUENCY DISTRIBUTION OF PROBABILITIES OF
CLASSIFICATION FOR NCI AND WC ORIGINAL
AND CROSS VALIDATION GROUPS

Frequency				
Probability of Classification	Original Groups			
	NCI - NCI	NCI - WC	WC - WC	WC - NCI
.95 - 1.00				
.90 - .94	1		1	
.85 - .89				
.80 - .84	1		1	
.75 - .79	2			
.70 - .74	2	2	4	1
.65 - .69	1	1	1	1
.60 - .64	2		1	1
.55 - .59		2	1	
.50 - .54	2	2	2	4
Totals	<u>11</u>	<u>7</u>	<u>11</u>	<u>7</u>

Probability of Classification	Cross Validation Groups			
	NCI - NCI	NCI - WC	WC - WC	WC - NCI
.95 - 1.00				
.90 - .94		1	1	
.85 - .89				
.80 - .84			1	
.75 - .79				
.70 - .74	1			1
.65 - .69				
.60 - .64	1		1	
.55 - .59		3		1
.50 - .54		1	2	
Totals	<u>2</u>	<u>5</u>	<u>5</u>	<u>2</u>

NCI - NCI = NCI S classified NCI (correct classification)

NCI - WC = NCI S⁻ classified WC (misclassification)

WC - WC = WC S⁻ classified WC (correct classification)

WC - NCI = WC S⁻ classified NCI (misclassification)

CHAPTER IV

DISCUSSION

The findings that pertain to the three original hypotheses will be discussed first in relation to the discriminate function among the three groups. This will be followed by a discussion of the three discriminate function analyses between groups, two groups at a time. Finally, recommendations for further research will be discussed.

Differences Among CI, NCI and WC Groups

The first hypothesis was that CI patients would score higher on the PILT than either the NCI or WC groups; however, differences among the three groups on the PILT were not statistically significant. The mean of the CI group (114.599) was, however, greater than either the means of the NCI group (103.799) or the WC group (108.439). The author of the PILT (Crumbaugh, 1969) reports norms indicating the following percentiles for the three group means: CI, 75th percentile; WC, 63rd percentile; and NCI, 52nd percentile. Crumbaugh reports that scores in the 70th (raw score of 112) and above percentile suggest definite meaning and purpose in life, where percentiles of 30 (raw score of 92) or less suggest the lack of clear meaning and purpose. The mean PILT scores of the three groups indicate that the CI Ss as a group approach reporting definite meaning and purpose in their lives, where the WC and NCI groups are within the average range with the NCI group having the

lowest mean score of the three groups.

The second hypothesis was that there would be significant differences in the interpersonal relations stances of three groups as evidenced by the mean scores for the FIRO-B scales. This hypothesis was supported in that statistically significant differences were found among the three groups on the scales of expressed affection, wanted affection and wanted control.

In the area of expressed affection, the mean scores for each group were as follows: CI, 5.88; NCI, 4.72 and WC, 3.36. The means for the wanted affection scale were: CI, 6.44; NCI, 5.00 and WC, 4.32. In both scales of affection, the CI group scored highest, the NCI group next highest and the WC group scored the lowest. It seems reasonable that a sick person would want and perhaps need more affection from others than would a well person. The above data suggests that the need for emotional support is increased with the severity of the illness. Affection may be related to dependency in that as a person becomes more dependent physically, the expressed and wanted affection increases as a means of coping with and working through an illness. One possible explanation for this increased expressed affection is that this is one way for an ill person to gain support from others at a time when the support is needed. The increased eA by all hospitalized patients may also be a general expression of appreciation for the care extended to them by others.

It is impossible to separate out the effects of hospitalization upon the affection need as the time of hospitalization was not controlled in the present study. The findings coincide with general clinical impressions of the differences between the hospitalized (CI

and NCI) groups as a whole. The CI patients, although much more ill in a medical sense, were much more pleasant and cooperative than the NCI group. The NCI group seemed angry and depressed and were reluctant to cooperate in the research while the CI group seemed to welcome the attention of the experimenter. The NCI group as a whole appeared to display the same behaviors as did the critically ill patients in the "anger" stage of adjustment as set forth by Kubler-Ross (1969). It may be that the NCI group as a whole are less reconciled to their present situation and indeed are more angry or depressed than the CI group. This idea is partially supported by the PILT results of the NCI group in that the mean of the NCI group was the lowest of the three groups. The basis for this idea is based upon the premise that a lower PILT score would be related to increased depression (Acuff and Allen, 1970; Crumbaugh, 1968).

In the area of wanted control from others, the CI group reports wanting less control from others and the WC group wants the greatest amount of control, with the mean scores of CI, 3.32; NCI, 3.92; and WC, 4.84. The wanted control score may be an index of how a group is reacting to the control that already is in force upon that group. In the hospitalized groups, the decreased wanted control may be due to the fact that the hospital situation forces a patient to give up control of himself to the care of others. The hospitalized patient is most likely aware of this control and may desire less control from others. The CI patient group may also feel more control than the NCI group because of their physical restrictions and often longer time spent in the hospital. Therefore, the Ss in the CI group may want less control than the NCI group in that the CI group is under more control in the first place.

It is interesting to note that Ryan (1970), interprets the profiles similar to the mean control profile (expressed control and wanted control) of the CI and NCI groups as a "rebel" personality that is not overtly defensive to others. In comparing the CI and NCI groups on the control factor, the CI group would be classified more rebellious. Ryan states that the CI type of profile is likely to portray an "image of adequacy that is often more important than actual adequacy, and the stance he assumes is a defense against exposing self doubts" (Ryan, 1970). If this "image of adequacy" is indeed present, this may contribute to the increased PILT score of the CI group.

The mean control profile for the WC group resembles the "checker" profile which Ryan (1970) describes as follows: "The checker checks with others to see what they think as a way to look for assurance about the correctness of his decisions." This may represent the situation of a normal subject that is taking part in any psychological experiment. He is checking to determine how he is doing in that he may feel that he is not completely aware of what is expected of him.

The third hypothesis was that the CI group would have a higher mean frequency of eyeblinks (blinks/second) on the blinks-diseased (BD) material than on the blinks-neutral (BN) material. This hypothesis was not accepted on the basis of the findings as there were no statistically significant differences among the three group means. The mean frequency of eyeblinks for the three groups on the BN and BD material are as follows. The mean blinks for the CI group increased from .468 blinks/sec. for the BN material to .573 blinks/sec. for the BD material. The mean blinks for the NCI group decreased from .392 blinks/sec. for the BN material to .385 blinks/sec. for the BD material. The mean blinks

for the WC group also decreased from .546 blinks/sec. for the BN material to .526 blinks/sec. for the BD material.

Although the results were not statistically significant, they suggest differences between the CI group response and the response of the two other groups. Where the CI group mean increased from the neutral to the disease-related material, the NCI and WC group means both decreased. If the sample had been larger, statistical significance of the interaction would most likely have been attained.

Comparison of Critically Ill and Well Control Subjects

Four of the nine variables statistically discriminated between the CI and WC groups when the variance associated with every variable was compared individually with the total variance. The variables were expressed affection, wanted affection, wanted inclusion and wanted control.

As discussed earlier, it may be that ill people want and express more affection as a way of gaining support from others during their illness. The effects of hospitalization may also contribute to the increased affection scores. It seems that the need for affection and inclusion would be closely related because affectional need can only be met by way of inclusion with other people. The CI group may want less control from others in view of the increased amount of control that is placed upon them by the hospital situation and their physical restrictions.

. Although the results of the eyeblinks variables were not significant statistically on an individual basis, these variables (BN and BD)

did statistically discriminate the CI group from both the NCI and WC groups as part of the final prediction systems used with the cross validation samples. The eyeblink data suggest that the disease-related material had an increased stimulus or attention value to the CI group in that their eyeblink rate increased from the neutral to the disease material where the other two groups' mean blink rate decreased. There are several possible explanations to account for this. First, the BD material may have aroused fear or anxiety in the CI group. In that they all knew that they had a terminal illness, the BD material may have reminded them of their own impending finality or the loss and pain associated with dying. Secondly, referencing Haber (1969), the CI patients may have been trying to rid themselves of mental images; perhaps a form of perceptual defense. A third explanation has to do with the specific content of the BD material in that the title of the BD material was A Checkup Can Save Your Life. Several of the CI patients remarked at the end of hearing the BD material that they wished that they had had a physical examination earlier so that their disease would have been detected sooner. The extent to which this is true may be the extent to which guilt could have been aroused by the BD material.

Comparison of the Critically Ill and Non-Critically Ill Subjects

Three variables discriminated between the CI and NCI groups at the $p .10$ level of significance only; and therefore, must be interpreted carefully. The first of these variables was the PILT in that the CI group's PILT mean score was the highest of all three groups and the NCI group's mean score was the lowest among the three groups. As discussed

earlier, the low PILT score of the NCI group may be related to depression or anger and the high PILT score of the CI group may be an indication of a form of self defense and/or an emotional "working through" the process of dying.

The second variable was the BD material with the CI group BD mean being greater than the NCI group BD mean. The third variable to discriminate between the two groups was wanted affection which was greater in the CI group. This suggests that the need for affection may generally increase with the severity of the disease. The increased desire for affection in the CI group may reflect an increased need for emotional support over the NCI group.

Comparison of the Non-Critically Ill and Well Control Subjects

One variable, expressed affection, discriminated between the NCI and WC groups. As noted earlier, the affection variables appear to be related to the situation of being ill and wanting emotional support from others. This idea is supported in that the NCI group mean for wanted affection was greater than the WC group mean wanted affection score.

Cross Validation Data for CI-WC, CI-NCI and NCI-WC Group Comparisons

Four variables were chosen for the final prediction system to be applied to the data of the CI and WC original and cross validation groups. These were expressed affection, wanted control and BD. The four variables in the prediction system are not the same as the

original four variables that discriminated between the CI and WC groups. The difference is that each of the latter variables represent statistically significant independent portions of the total variance between the two groups. Using the above prediction system in discriminating CI from WC subjects, 15 of the 18 CI original group were correctly classified and 16 of the 18 WC original group were correctly classified. In the cross validation samples, all seven of the CI sample were correctly classified and four of the seven WC sample were correctly classified. When the two cross validation sample classifications were combined, the X^2 was significant at $p < .10$. The original groups classification and the overall classification for both the original and cross validation groups were statistically significant. In view of these findings, the personality variables that formed the prediction system can serve to correctly identify CI patients but not correctly classify WC Ss above a level of chance prediction.

Two variables, BD and BN were chosen for the final prediction system to be applied to the data of the CI and NCI original and cross validation groups. In the original group of CI patients, 13 of the 18 were correctly classified and in the original group of NCI patients, 15 of the 18 were correctly classified. In the cross validation samples, five of the CI patients were also correctly classified and five of the NCI patients were also correctly classified. This classification produced a X^2 which is not much above chance level of prediction. The overall classification of the original groups and cross validation samples produced a significant X^2 . These findings indicate that the personality variables that formed the prediction system statistically discriminated the CI and NCI original groups but not the CI and NCI

cross validation groups above chance level.

Two variables, wanted control and expressed affection, were chosen for the final prediction system to be applied to the data of the NCI and WC original and cross validation groups. The mean wanted control score was higher in the NCI group and lowest in the WC group. As previously discussed, the control score may be affected by the fact that ill and hospitalized patients are under a great deal of control by others, and want less control as a result. In the original groups, 11 of the 18 in each original group were correctly classified. This produced a X^2 which is not significant. In the cross validation groups, two of the seven NCI group were correctly classified and five of the seven WC group were classified correctly. The X^2 for the cross validation groups and the overall X^2 for both original and cross validation groups were not significant. On the basis of these findings, the discrimination ability of the NCI-WC final prediction system was not better than chance. There is very little in the present study to indicate significant differences between the NCI and WC groups.

Suggestions for Improvements in the Present Study

The first suggestion for further research would be to increase the number of subjects in each group. The cross validation samples were necessarily small and this makes statistical significance difficult to obtain. Second, several variables were not controlled for in this study which may be relevant to the milieu of the CI patient. Some of these variables are time of hospitalization, disease entity, sex of subject, education, religiosity (Acuff, 1968), and social status.

Future studies need to delineate the effects of these variables.

Future studies that deal with the process of dying or the emotional situation of the CI patient may be more meaningful if a longitudinal approach were used following the patient over a long period of time, involving several testing sessions. In the present study, it was impossible to standardize the testing situation. Some of the hospital patients had to have the questions read to them while others were able to complete the forms themselves. Some patients were questioned at their bedsides, others in examining rooms, hallways, etc. The lack of standardization here may have introduced additional error variance. The social interaction between the patient and the experimenter may also have produced some error variance. This may have been especially true in the CI and perhaps NCI groups in that the increased need for affection may cause a patient to seek social approval. In view of this, it could be that the CI patients may have had a tendency to answer the questions in a manner that they thought would please the experimenter.

CHAPTER V

CONCLUSIONS

The most important contribution of the present study is that it identifies some psychological aspects of the critically ill or dying patient. First, there is an indication that a CI patient may express more of a sense of direction to his life or "purpose in life." The results on the Purpose in Life Test of the CI group suggest "clear and definite" purpose in life with the results of the NCI and WC groups within the average range--the NCI group mean being the lowest. The results of the CI group may indicate a genuine "working through" of their situations or a defensive measure as a way of coping with their own immediate finality. The low mean PILT score of the NCI group may reflect some depression or anger related to their temporary illness and hospitalization.

Results on the FIRO-B scales of expressed affection, wanted affection and wanted inclusion were highest in the CI group, followed by the NCI group and the lowest means were in the WC group. The data suggest that the CI patient both expresses and wants more affection and inclusion than does the NCI patient or the WC Ss. The data also suggest that the affectional and inclusion needs increase as a function of the severity of disease. This may be the result of the physical isolation that is a part of being ill and hospitalized, or the emotional isolation of dealing with the total loss of life and self. The increased express-

ed affection may be an effort on the part of the patient to gain emotional support from those around him. When a patient increases his expressed affection to others, he is more likely to have his own affection and inclusion needs met. The data also suggest that the wanted control from others decreases as a function of the severity of the illness. The CI group scored lowest on the wanted control scale with NCI next lowest and the WC group the highest. The wanted control scores of the CI group may be an indication of a reaction against the control already placed upon them in the form of hospitalization or physical restrictions.

Disease-related material seems to have an increased stimulus or attention value for the CI group as evidenced by an increase in the mean frequency of eyeblinks from a baseline. This increase was not found in either the NCI or WC groups as the mean frequency of eyeblinks in these groups decreased from the baseline to the disease-related material. This suggests that the CI patients responded differently and perhaps more emotionally to the disease-related material than did either the NCI or WC groups.

Three stepwise discriminate function analyses were performed between pairs of groups and prediction systems were established on the basis of these psychological variables that initially discriminated between the groups. The most significant differences were discovered between the CI and WC groups. The CI group was significantly different from the WC group on the variables of expressed and wanted affection, and increased frequency of eyeblinks in response to hearing disease-related material. Overall discrimination between the CI and WC groups was significant at the $p < .001$ level of significance with lesser differ-

ences between the CI group and NCI group. The eyeblink variables were chosen to be entered in the prediction system and the overall discrimination between the two groups was significant at the $p < .01$ level of significance. The wanted control and expressed affection variables were entered into the prediction system to discriminate between the NCI and WC groups and the overall discrimination was not statistically significant.

As indicated above, there is little difference between the results of the NCI and WC groups. On the basis of the complete results, it appears that the critically ill patient group is a unique group psychologically and merits further study.

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APPENDIXES

APPENDIX A

GUIDELINES FOR SUBJECT SELECTION AND
SUBJECT CHARACTERISTICS

Critically Ill Subjects

The broad guidelines for choosing the CI patients were: (a) that a patient have a disease that is serious and potentially fatal to the patient, (b) that the disease is well progressed and the patient knows of its severity, (c) that the patient be rational, (d) that the patient would not be in such pain or under sedation so that he could not talk, and (e) that the patient and his attending physician would approve of the patient taking part in the research. Eleven of the CI group had been diagnosed as having leukemia, nine with chest/lung cancer and five with Hodgkins disease.

Non-Critically Ill Subjects

The broad guidelines for choosing the NCI patients were: (a) that the patient is in the hospital for a disease not considered to be critical, (b) that the patient know he is not critically ill and is in no danger of dying from his present illness, (c) that the patient is rational, (d) that the patient is not in such pain or under sedation so that he could not talk, and (e) that the patient and his attending physician approve of the patient taking part in the research. Three of the NCI group were in the hospital for ulcers, five for limb injuries, three for skin infections, three for intestinal infections, five for urinary infections, two for pneumonia, two for hepatitis, one for diabetes and one for back trouble.

Well Control Subjects

Neighborhoods from communities in northeastern Oklahoma and southwestern Missouri were randomly chosen and a house to house canvas was conducted until 25 subjects were obtained. All WC subjects appeared to be in good health.

APPENDIX B

PURPOSE IN LIFE TEST

The Purpose in Life Test (PILT) was standardized on a sample of 805 normals with an overall mean score of 102.00 and a standard deviation of 19.00. Validity studies consist of samples of various psychiatric groups with a total N of 346 and an overall mean of 92.60; standard deviation of 21.34 (Crumbaugh, 1964). This difference between the normal and combined psychiatric groups is statistically significant at $p < .001$. Crumbaugh (1964) also reports reliability coefficients ranging from .81 to .92 using the PILT.

THE PURPOSE IN LIFE TEST¹

For each of the following statements, circle the number that would be most nearly true for you. Note that the numbers always extend from one extreme feeling to its opposite kind of feeling. "Neutral" implies no judgment either way; try to use this rating as little as possible.

1. I am usually:

1	2	3	4	5	6	7
completely bored			(neutral)			exuberant, enthusiastic

2. Life to me seems:

7	6	5	4	3	2	1
always exciting			(neutral)			completely routine

3. In life I have:

1	2	3	4	5	6	7
no goals or aims at all			(neutral)			very clear goals and aims

¹The following is a copy of the questions from part A of the Purpose in Life Test, Psychometric Affiliates, Brockport, Illinois.

e

4. My personal existence is:

1	2	3	4	5	6	7
utterly meaningless without purpose			(neutral)			very purposeful and meaningful

5. Every day is:

7	6	5	4	3	2	1
constantly new and different			(neutral)			exactly the same

6. If I could choose, I would:

1	2	3	4	5	6	7
prefer never to have been born			(neutral)			like nine more lives just like this one

7. After retiring, I would:

7	6	5	4	3	2	1
do some of the exciting things I have always wanted to			(neutral)			loaf completely the rest of my life

8. In achieving life goals I have:

1	2	3	4	5	6	7
made no progress whatever			(neutral)			progressed to complete fulfillment

9. My life is:

1	2	3	4	5	6	7
empty, filled only with despair			(neutral)			running over with exciting good things

10. If I should die today, I would feel that my life has been:

7	6	5	4	3	2	1
very worthwhile			(neutral)			completely worthless

11. In thinking of my life, I:

1	2	3	4	5	6	7
often wonder why I exist			(neutral)			always see a reason for my being here

12. As I view the world in relation to my life, the world:

1	2	3	4	5	6	7
completely confuses me			(neutral)			fits meaningfully with my life

13. I am a:

1	2	3	4	5	6	7
very irresponsible person			(neutral)			very responsible person

14. Concerning man's freedom to make his own choices, I believe man is:

7	6	5	4	3	2	1
absolutely free to make all life choices			(neutral)			completely bound by limitations of heredity and environment

15. With regard to death, I am:

7	6	5	4	3	2	1
prepared and unafraid			(neutral)			unprepared and frightened

16. With regard to suicide, I have:

1	2	3	4	5	6	7
thought of it seriously as a way out			(neutral)			never given it a second thought

17. I regard my ability to find a meaning, purpose, or mission in life as:

7	6	5	4	3	2	1
very great			(neutral)			practically none

18. My life is:

7	6	5	4	3	2	1
in my hands and I am in control of it			(neutral)			out of my hands and controlled by external factors

19. Facing my daily tasks is:

7	6	5	4	3	2	1
a source of pleasure and satisfaction			(neutral)			a painful and boring experience

20. I have discovered:

1	2	3	4	5	6	7
no mission or purpose in life			(neutral)		clear-cut goals and a satisfying life purpose	

APPENDIX C

FUNDAMENTAL INTERPERSONAL RELATIONS

ORIENTATION-BEHAVIOR TEST

The six scales of the FIRO-B were each standardized on a mean sample of 1543 normals. Concurrent validity studies were conducted on 12 different occupation groups and the results are reported by Schutz (1967). Reliability studies conducted by Schutz (1967) report reliability coefficients ranging from .76 to .94 using the FIRO-B.

FIRO-B TEST¹

For each statement below, decide which of the following answers best applies to you. Place the number of the answer at the left of the statement. Please be as honest as you can.

1. usually 2. often 3. sometimes 4. occasionally 5. rarely
6. never

1. I try to be with people.

2. I let other people decide what to do.

3. I join social groups.

4. I try to have close relationships with people.

5. I tend to join social organizations when I have an opportunity.

6. I let other people strongly influence my actions.

7. I try to be included in informal social activities.

8. I try to have close personal relationships with people.

9. I try to include other people in my plans.

10. I let other people control my actions.

11. I try to get close and personal with people.

12. I try to have people around me.

¹The following is a list of the questions in the FIRO-B which can be obtained from Consulting Psychologists Press, Inc., Palo Alto, California.

13. When people are doing things together I tend to join them.
14. I am easily led by people.
15. I try to avoid being alone.
16. I try to participate in group activities.

For each of the next group of statements, choose one of the following:

- | | | | | |
|-------------------|-------------------|-------------------|--------------------|-------------------------|
| 1. most
people | 2. many
people | 3. some
people | 4. a few
people | 5. one or two
people |
| 6. nobody | | | | |

17. I try to be friendly to people.
18. I let other people decide what to do.
19. My personal relations with people are cool and distant.
20. I let other people take charge of things.
21. I try to have close relationships with people.
22. I let other people strongly influence my actions.
23. I try to get close and personal with people.
24. I let other people control my actions.
25. I act cool and distant with people.
26. I am easily led by people.
27. I try to have close, personal relationships with people.
28. I like people to invite me to things.
29. I like people to act close and personal with me.
30. I try to influence strongly other people's actions.
31. I like people to invite me to join in their activities.
32. I like people to act close toward me.
33. I try to take charge of things when I am with people.
34. I like people to include me in their activities.
35. I like people to act cool and distant toward me.

36. I try to have other people do things the way I want them done.
37. I like people to ask me to participate in their discussions.
38. I like people to act friendly toward me.
39. I like people to invite me to participate in their activities.
40. I like people to act distant toward me.

For each of the next group of statements, choose one of the following:

1. usually
2. often
3. sometimes
4. occasionally
5. rarely
6. never

41. I try to be the dominant person when I am with people.
42. I like people to invite me to things.
43. I like people to act close toward me.
44. I try to have other people do things I want done.
45. I like people to invite me to join their activities.
46. I like people to act cool and distant toward me.
47. I try to influence strongly other people's actions.
48. I like people to include me in their activities.
49. I like people to act close and personal with me.
50. I try to take charge of things when I'm with people.
51. I like people to invite me to participate in their activities.
52. I like people to act distant toward me.
53. I try to have other people do things the way I want them done.
54. I take charge of things when I'm with people.

APPENDIX D

NEUTRAL EYEBLINK MATERIAL

WHAT TO DO IF YOU CANNOT REMEMBER NAMES

No one is ever pleased if you say, "I know your face--but I just can't recall your name." Tactful people who aren't infallible about names work out a technique for coping with these bad moments. If you are warmly greeted by someone whose name--or maybe whose face, too--you can't recall, say something harmless such as, "Nice to see you." Then while looking quite attentive, let the other person do the talking until he or she gives a clue as to identity. Let us hope he doesn't ever say, "You don't remember me, do you?" for your own expression should always indicate you remember him well and favorably.

If you have trouble remembering the names that match the faces, always help out the other person who is probably suffering from the same thing. Never say, "Do you remember me?" or "You don't know who I am, do you?" Instead, in greeting people you haven't seen for some time or whom you are meeting outside of your usual place of encounter, identify yourself quickly and gracefully, "How do you do, Mr. Burton. I'm Joseph Bye of Arbor Mills. We did a little business together last fall." It is certainly more modest and tactful to assume that you aren't remembered than to presume that you are.

QUESTION

True or False. If you remember a person's face but not his name, it is probably best to let him do the talking until he gives a clue as to his identity?

APPENDIX E

DISEASE-RELATED EYEBLINK MATERIAL

A CHECKUP MAY SAVE YOUR LIFE

If you have not had a physical examination within the last 12 months, you need one immediately. There is no substitute for a sharp-eyed family doctor who has been seeing you for years and quickly notes changes in you. If he finds a condition needing a specialist's care, he knows the best one for you. Doctors do not claim that a yearly checkup will detect every deadly ailment in time. Some conditions can develop to a serious stage in a year's time but to delay year after year is like playing Russian roulette. Estimates are that 10 to 15 percent of routine examinations reveal a serious health condition. Many more indicate health problems that can be readily attended to. Even diseases such as emphysema, bronchitis, heart disease, and cancer can be cured if detected early enough. Often, physical changes that speed up the aging process can be detected and you can fight them off and live much longer than your parents or grandparents. Certain abuses like overeating, lack of exercise, too much drinking or smoking, and emotional strain can speed up your aging process. To prolong your life avoid these abuses and have a checkup once a year.

QUESTION

True or False. Everyone should have a physical checkup once a year?

APPENDIX F

F VALUES ON NINE VARIABLES DISCRIMINATING
THE CI, NCI AND WC GROUPS

F VALUES ON NINE VARIABLES DISCRIMINATING
AMONG THE CI, NCI AND WC GROUPS

Variable	df	F
BN	2,72	1.2439
BD	2,72	1.8879
PILT	2,72	2.0627
eI	2,72	1.1161
wI	2,72	2.7362
eC	2,72	0.1138
wC	2,72	2.8933
eA	2,72	6.6375 **
wA	2,72	3.8657 *

* p .05

** p .01

F VALUES ON NINE VARIABLES DISCRIMINATING
BETWEEN CI AND WC GROUPS

Variable	df	F
BN	1,48	0.5684
BD	1,48	0.1885
PILT	1,48	1.5979
eI	1,48	2.0216
wI	1,48	5.7676 *
eC	1,48	0.1575
wC	1,48	6.1665 *
eA	1,48	17.2878 **
wA	1,48	9.3116 **

* p .05

** p .01

F VALUES ON NINE VARIABLES DISCRIMINATING
BETWEEN CI AND NCI GROUPS

Variable	df	F
BN	1,48	0.6542
BD	1,48	3.5032 a
PILT	1,48	3.5648 a
eI	1,48	0.0325
wI	1,48	1.0226
eC	1,48	0.0029
wC	1,48	0.8735
eA	1,48	2.3491
wA	1,48	2.8525 a

a p .10

F VALUES ON NINE VARIABLES DISCRIMINATING
BETWEEN NCI AND WC GROUPS

Variable	df	F
BN	1,48	2.6106
BD	1,48	2.4020
PILT	1,48	0.7446
eI	1,48	1.4484
wI	1,48	1.7349
eC	1,48	0.1792
wC	1,48	1.9744
eA	1,48	3.7140 a
wA	1,48	0.7592

a p .10

APPENDIX G

CONSENT FORM FOR HOSPITALIZED SUBJECTS

OKLAHOMA MEDICAL RESEARCH FOUNDATION INC. - OKLAHOMA CITY, OKLAHOMA

DATE _____

NAME _____

MEDICAL RECORD NUMBER _____

I, hereby voluntarily authorize _____, the
 Name Researcher
 Oklahoma Medical Research Foundation, Inc., and such assistants as he
 may designate to perform the following procedure, treatments or studies:

A psychological study of hospitalized patients.

 State nature of procedure or treatment

The nature and purpose of the procedures or treatment, the research aspects, the possible alternative methods, the possibility of discomfort, complications and benefits have been fully and understandably explained to me. All inquiries have been answered to my satisfaction, therefore, I agree and consent to the procedures, treatment, or studies described herein with the knowledge and understanding that medical and psychological studies and investigations are not exact sciences and that no warranties or guarantees have been made to me concerning the proposed procedures, studies or treatments.

I understand that strict confidentiality will be observed of all data collected under the guidelines established by the Oklahoma Medical Research Foundation Inc. Complete anonymity will be preserved and data will be released only to qualified professionals for scientific or training purposes.

I further understand and agree that the data and information related to and resulting from the studies, procedures and examinations will be used for publication in scientific journals but that my name shall not be disclosed in association with these publications without my specific written permission.

I hereby authorize the authorized medical personnel of the Oklahoma Medical Research Foundation Inc. and the University of Oklahoma Medical Center to retain, preserve and use for scientific or teaching purposes, or to dispose of at their convenience, any specimens or data taken from or resulting from these studies, procedures or examinations.

I have been instructed and understand that I am free to withdraw this consent and to discontinue my participation at any time. I further certify that my participation is in the interest of advancing science and/or my own personal well being and that other considerations,

if any, are secondary to my voluntary participation.

The contents of this form have been fully explained to me and I certify that I understand and agree with its contents.

SIGNATURE OF PATIENT _____

NEXT OF KIN OR GUARDIAN _____

SPECIFY RELATIONSHIP TO PATIENT _____

WITNESS _____

WITNESS _____

VITA

James Morris Thomas, Jr.

Candidate for the Degree of

Doctor of Philosophy

Thesis: AN EXAMINATION OF PSYCHOLOGICAL DIFFERENCES AMONG GROUPS OF CRITICALLY ILL HOSPITALIZED PATIENTS, NON-CRITICALLY ILL HOSPITALIZED PATIENTS AND WELL CONTROLS

Major Field: Psychology

Biographical:

Personal Data: Born in Sedalia, Missouri, September 12, 1940, the son of Mr. and Mrs. J. M. Thomas, Sr.

Education: Graduated from Parkview High School, Springfield, Missouri, in May, 1958; received Bachelor of Science degree in Biology from Drury College in 1963; received Master of Science in General Psychology from Eastern Washington State College in 1970; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in May, 1973.

Professional Experience: Communications Officer, United States Air Force, 1963-68; graduate teaching assistant, Department of Psychology, Eastern Washington State College, 1968-70; graduate teaching assistant, College of Arts and Sciences, Oklahoma State University, 1970-71; National Institute of Mental Health Fellow, College of Arts and Sciences, Oklahoma State University, 1971-72.