THE STUDY OF PERSONALITY STRUCTURE IN

POPULATIONS OF ILEITIS/COLITIS

PATIENTS

By

JUDITH ANN NANCE LONG

Bachelor of Science
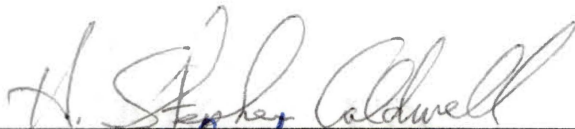Pittsburg State University
Pittsburg, Kansas
1985

Master of Science
Pittsburg State University
Pittsburg, Kansas
1987

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
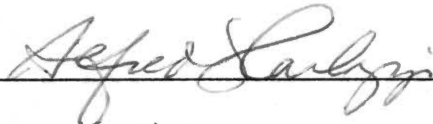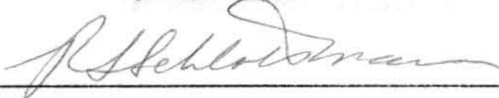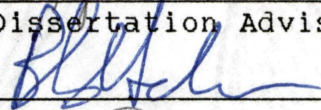the Degree of
DOCTOR OF PHILOSOPHY
December, 1991

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Dissertation Approved:

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Dissertation Adviser

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Dean of the Graduate College

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ACKNOWLEDGMENTS

I wish to express special appreciation to Dr. John Connelly, Pittsburg State University and Dr. H. Stephen Caldwell, Oklahoma State University for their encouragement, support and advice throughout my graduate research career. They both understood my personal intensity relating to my research topic and encouraged and tempered my enthusiasm when needed. Additional thanks go to my dissertation committee for their suggestions and support.

Special thanks go to the numerous research subjects for their participation and encouragement. My gratitude is also extended to the participating physicians, Dr. David Jenkins, Dr. H. William Allred, Dr. Arthur Hale, Dr. Norman Simon and Dr. Barry Eisen.

A special acknowledgement to Dr. David Jenkins for his expert knowledge and opinions in developing this study. To Keith Anderson-Edwards, my information specialist and friend, I will be continuingly grateful for your assistance in gathering appropriate literature for my research interest and professional education.

To my parents, Bob and Alene Nance, and to my
children, Stephen and Amanda, who all hold a
special place in my heart, I give my love and gratitude for
their ever present support and encouragement on whatever
challenges I choose to embark. Without friends like Ron,
Tooter, Robbie, James and Judy my educational endeavors
would have been much more difficult. They all gave me
encouragement and a gentle nudge when needed. A sincere
thank you to all of these people.

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In recent years, the study of many diseases has again

expanded to view these processes as a mind/body interaction.

This is not a new thought, but one that had become lost in

nineteenth century technological medicine. The mind/body

link was discussed by Hippocrates centuries ago.

Hippocrates believed that the condition of the brain

determined whether a person was healthy or not healthy

(cited in Jones, 1923). Mind/body treatment of illness has

been practiced for centuries by Native Americans as well as

other tribal cultures throughout the world.

The study of mind/body has for centuries been

conceptualized as dualism. The question explored by

dualists has been how the two are related. Hergenhahn

(1986) reported the variations of answers explored through

the centuries to the mind/body question. The

interactionistic concept proposes that the mind influences

the body and the body influences the mind. This is the

position taken by Descartes in the 1600's and by members of

the humanist-existentialist camp. The epiphenomenalism

concept claims that mental events are simply by-products of

physical experience. A third concept, psychophysical

parallelism, offers that an environmental experience causes
both mental events and bodily responses at the same time and
that the two are totally independent of each other. Another
position, known as double aspectism, poses that a person
cannot be divided into a mind and a body but is a unity that
experiences things physiologically and mentally at the same
time. Other dualists maintain that there is preestablished
harmony between bodily and mental events. The two kinds of
events are different but are coordinated by some external
agent. The debate as to how the mind and body relate
continues and has again gained popularity as scientists
explore the dualistic view of health, known today as
psychoneuroimmunology.

"Again and again we see the medical profession
insisting on a mechanistic view of things that ignores the
emotional realities in people's lives" (Siegel, 1989, p.
157). Siegel, a surgeon, teacher and author, states that
mind and body are different expressions of the same
information - the information carried by the chemical
transmitters known as peptides. In humans, peptides make
possible the move from perception, or thought of feelings in
the mind, to messages transmitted by the brain, to hormonal
secretions and on down to cellular action in the body. The
messages then return to the mind and brain in a perpetual
feedback loop. Siegel further explains that the place where
body and mind meet and cross over through the action of the
peptides is in the limbic/hypothalamic portion of the brain.

Scientists have found dense numbers of receptors clustered together in these areas. Peptides fit into these receptors, lock and key fashion, to activate the inner workings of the cells on which the receptors are located. However, peptide receptors have also been located in other areas of the body such as the linings on the gut and stomach. Siegel states this may be why people often feel emotions in these areas.

Chopra (1989) reports that in the early 1980's researchers at the National Institute of Mental Health discovered receptors for neurotransmitters in cells in the immune system called monocytes. Monocytes are not nerve cells, but white blood cells, that travel freely through the circulation to every cell in the body. Monocytes, in a sense, are circulating neurons and flood the body with awareness of the brain's thoughts and vice versa. Chopra also discusses the impulses of intelligence that govern the processes of maintenance, repair and creation that constitute the human organism. He explains these impulses (thoughts) as expressing themselves as chemical molecules in the brain and throughout the body. He sees the interface of thoughts and neurochemicals as a literal intersection of mind and matter.

Literature Review

Very few studies have sought to investigate systematically the stability of personality characteristics of people with illnesses. However, one such study was completed by Barton and Cattell (1972) which provides a

basis for furthering our investigation of personality as a
component of chronic illness. Barton and Cattell completed
a five-year longitudinal study focusing on personality
before and after a chronic illness. High school seniors
completed Cattell's Sixteen Personality Factor Questionnaire
(16 PF). Those who reported experiencing "chronic illness"
during the five year period formed one group and those who
reported no such chronic illness formed the second group.
These groups in a five year follow-up were asked to repeat
the 16 PF. The results indicated that the subjects who
experienced a chronic illness differed significantly on
several 16 PF personality factors from subjects who
experienced no such illness. Differences were still
evident between the two groups before the onset of illness
and to a much greater degree five years later. Barton and
Cattell found lower scores on factor C (Affected by
Feelings) and higher scores on factors I (Tender-minded) and
TP (Tough Poise) before the onset of illness. Factors O
(Apprehensive), AX (High Anxiety) and Q4 (Tense) remained
high over their five-year longitudinal study for their
"illness" group and dropped for their "no-illness" group.

Caroline Bedell Thomas, an internist at Johns Hopkins
Medical School, adds to the growing data that physical
health is impacted by family background and psychological
patterns and attitudes formed in childhood. She began her
research in the 1940's on the relationship between
psychological characteristics and disease. She followed the

health status of 1337 medical students from Johns Hopkins between 1948 and 1964. During the 1970's she and her colleagues began to compile and publish their data (Thomas and Duszynski, 1974; Thomas, 1976; Thomas, Duszynski and Shaffer, 1979; Thomas and McCabe, 1980).

Thomas found psychological correlates in heart disease, suicide and mental illness which she had expected. Her studies also produced data supporting psychological correlates in cancer, which she had not expected. In fact, she had expected the opposite. Cancer patients, like the suicides and mentally ill, were more likely to have experienced unhappy childhood relationships with parents and to have reacted by repressing their emotions in future years.

Thomas and Duszynski (1974) utilized the Family Attitude Questionnaire (FAQ) to examine five family variables as possible precursors to disease. Data were gathered and compared on six groups: (1) suicide group, (2) mental illness group, (3) malignant tumor group, (4) hypertension group, (5) coronary occlusion group, and (6) control group. The control group was matched with each subject in the disorder groups by age, sex, race and class in medical school. Each control reported being in good health and free from major or minor mental illness. The "closeness-to-parents" scale was low in the suicide, mental illness and malignant tumor groups where low mean scores signify a lack of closeness to parents, while the mean

scores of the hypertension and coronary occlusion groups were closest to the comparison groups. The mean score for "emotional demonstrativity" was low for the suicide group compared with all other disorders and the comparison group. "Matriarchal dominance" scores were highest for the suicide and mental illness groups and lowest for the malignant tumor group, while means for the hypertension and coronary occlusion groups are closer to those of the comparison group. The means for all groups were negative, indicating an over-all lack of matriarchal dominance. The "father's age at subject's birth" separated the suicides from the other disorders and comparison group with fathers of suicides being significantly older. "Mother's age at subject's birth" shows a similar but less striking trend.

Another study by Thomas and McCabe (1980) utilized The Habit of Nervous Tension Questionnaire (HNT). Results indicate a distinctive pattern of habits of nervous tension (exhaustion or excessive fatigue, increased urge to eat, nausea, and a tendency to check and recheck work to assure oneself of accuracy) that precede the onset of cancer. The mental illness group was characterized by a large cluster of habits of nervous tension cutting across all three of the major HNT scales (depression, anxiety and anger). The suicide group was characterized by six HNT items (difficulty sleeping, urinary frequency, loss of appetite, more urge to be alone, more irritability and less urge to confide). The coronary occlusion group presented a high level of

depression while no cluster of items characterized the hypertension group. Thomas and McCabe state:

> Different patterns of human response to stress
> consisting of different behavioral and affective
> reactions, appear to precede the initial clinical
> manifestations of some major disease states by up
> to 20 or 30 years (p. 142).

A study by Claus Bahnson (1975) also compiled a personality profile of cancer patients. Bahnson notes that psychological studies of cancer have two main themes: a personality style containing denial, repression, strong internalized control and commitment to social norms along with feelings of loss and depression as antecedents to the onset of the disease.

Pelletier's mind/body approach to research encourages a change in attitudes in conjunction with the treatment of the disease. In particular, rather than viewing the mind and body separately, he emphasizes their function as an interactive process. Pelletier (1977) states that although it is difficult to demonstrate a clear causal link between personality factors and disease, many professionals now support the view that when a prolonged neurophysiological stress response is channeled through a particular personality type, a specific disorder may result. Further, he contends that personality clearly affects the way a person handles stress. He suggests that stress experienced early in life may lead to the adoption of specific patterns

of coping with problems. Certain psychological and behavioral defenses are then carried into the adult personality and influence the way that the individual attempts to manage stress throughout life. For many years Engel (1955, 1962, 1967, 1977) has researched, written and advocated the importance of a mind/body approach in the treatment of ileitis and other psychosomatic illnesses. He also believes that professionals should change their attitudes from treating the mind and body separately to considering their interactive process.

The research of Friedman and Rosenman (1974) revolutionized the multifaceted treatment of heart disease patients. Their identification of Type A personalities led to an expanded treatment, which included exercise, nutrition, and stress management. Simonton, Simonton and Creighton (1978) and Siegel (1986, 1989) have also developed a multifaceted approach to the treatment of cancer. These approaches to health care and prevention are in early development in terms of scientific research, although early results are encouraging.

Ileitis, colitis and lupus are among several disorders referred to as autoimmune diseases. Rothenberg (1982) defines autoimmune diseases as a group of diseases in which the individual produces antibodies that attack his own tissues. Solomon (1969) states that there are considerable data to link personality factors, stress, and in particular, failure of psychological defenses with the onset and course

of infectious and autoimmune diseases. Pelletier (1977) explains that since these disorders literally involve the body's "turning on itself", researchers have wondered whether a particular form of self-destructive personality might not translate into an autoimmune, neurophysiological self-destructiveness.

Walton, Beeson & Scott (1986), editors of The Oxford Companion to Medicine define ileitis, colitis and lupus as follows:

> Crohn's Disease (Ileitis) - is a chronic
> inflammatory bowel disease, also known as
> regional ileitis or regional enteritis, the
> aetiology of which is unknown. It has a
> predilection for the terminal portion of the
> ileum, but any part of the intestine may be
> affected. Clinical manifestations are various
> and troublesome; they include chronic
> ill-health, abdominal pain, diarrhoea, weight
> loss, intestinal obstructions, and sometimes
> fistula formation. The condition is very
> persistent, and treatment is generally somewhat
> difficult and unsatisfactory.
> Ulcerative Colitis - is a chronic relapsing
> inflammatory condition of the large bowel,
> usually including the rectum, involving the
> mucosal and submucosal layers and characterized
> by ulceration. The cardinal symptoms are rectal

bleeding, diarrhea, abdominal pain, weight loss,
and fever. Patients are usually young or in
early middle age, with a slight preponderance of
females; remission and relapses are common. The
disease is a serious one, with a significant
mortality rate; and in many cases palliation can
only by achieved by total removal of the colon,
with permanent exteriorization of the terminal
ileum to the abdominal surface (ileostomy). The
causation is unknown and has been the subject of
much speculation. It is now generally thought
that some disturbance of immunological mechanisms
is involved. (Vol. I, p. 268)

Lupus - is a chronic generalized inflammatory
disorder of unknown aetiology, which may or may
not be associated with a skin rash resembling
that of local lupus erythematosus. It is usually
classified with the collagen or connective tissue
disorders (e.g., rheumatoid arthritis,
dermatomyositis, polyarteritis nodosa, systemic
sclerosis, etc.); and autoimmunity seems to be
involved in the pathogenesis. The clinical
manifestations are varied and may affect, apart
from the skin, the joints, other serous
membranes, the kidneys, the central nervous
system and other organs and systems of the body.
(Vol. II, p. 1370)

According to Engel (1968), nearly every study of psychological and socio-economic factors produced evidence that a rather characteristic series of events in a susceptible population underlies the onset of disease symptoms. Nearly 35 years ago Engel (1955) compiled the work of 44 published reports of psychological data on more than 700 patients with ulcerative colitis. Engel then grouped characteristic behavioral patterns that describe these person's peculiar modes of dealing with psychic tension. He described these people as manifesting obsessive-compulsive character traits, including neatness, orderliness, punctuality, conscientiousness, indecision, obstinacy and conformity. He also noted guarding of affectivity, overintellectualization, rigid attitudes toward morality and standards of behavior, meticulousness of speech, avoidance of "dirty" language, defective sense of humor, obsessive worrying and timidity. Some of these patients are described as petulant, querulous, demanding and provocative; but well-directed aggressive action and clear-cut expressions of anger are uncommon. Many of the writers were impressed with the extreme sensitivity of these patients, who have an almost uncanny perception of hostility or rejecting attitudes in others. They are easily hurt and constantly alert to the attitudes and behavior of others toward them; they tend to brood and withdraw. Much activity is devoted to warding off or avoiding rebuffs, which include placating attitudes, submission, politeness, attempts to please and

conform, and seductive behavior. Others use denial and remain proud, nonchalant, haughty and aloof. All observers in various ways described these people as immature. There was a prominence of dependent attitudes, a restricted capacity to tolerate frustration, a relatively low capacity to assume responsibility in family or work, sexual immaturity, and a restricted character in their relationships with people. Some patients give an outward appearance of energy, ambition and efficiency, but this usually proves to be a thin veneer which hides unreasonable feelings of inferiority, an acute sense of obligation, and a need to achieve some sense of security. They avoid chances or dealing daringly with their environment. Engel found obsessive-compulsive character traits to be prominent in his patients. Individual differences in some patients were acknowledged in the article; however, the majority of patients were characterized by the descriptors presented in the article.

The amount of recent research investigating the psychological impact on ileitis/colitis is minimal. A few studies have gathered data about the "quality of life" as experienced by persons with ileitis (Sorenson, Olsen & Binder, 1987; Gazzard, 1987), and another study investigated socio-cultural factors thought to represent life stresses for these patients (Mendeloff, Monk & Siegel, 1970).

According to Sorenson, Olsen and Binder (1987), some patients report decreased work capacity and decreased

leisure activities compared with their own expectations. Most differences in Crohn's (ileitis) patients and controls occur during exacerbations of the disease. Gazzard (1987) states that quality of life of an individual patient is dependent on many pre-existing and unalterable factors such as socioeconomic status, intelligence, age and premorbid personality. Gazzard also indicates exacerbation of the disease, resulting in surgery and ileostomies, affect body image, sexuality and one's general dissatisfaction.

Mendeloff, Monk & Siegel (1970) reported that the colitis group resembled the general population on various socio-cultural factors thought to represent life stresses; the only difference was in respect to the colitis group being significantly more Jewish. However, another group from the study, irritable colon, did have consistently higher scores on the stress index measures.

However, recent scientific research investigating personality factors that may be impacting the ileitis/colitis disease process are rare. The topic of personality factors as a component of a disease process remains controversial due to an attitude that this places blame upon the patient for his/her illness. This viewpoint needs to be reassessed, and diseases should be investigated and treated as processes with multiple components impacting their etiology, severity and chronicity. Treatment plans that address both physiological and psychological components may give patients an added advantage in attaining and

maintaining good health and a higher quality of life.

Long, Caldwell and Connelly (1989) completed a longitudinal study of the ileitis/colitis personality utilizing patients that were members of the National Foundation of the Ileitis/Colitis Foundation. The major findings of this study were that the ileitis/colitis group personality profile, as measured by the 16 PF personality inventory, did differ significantly from the 16 PF normative data and that the ileitis/colitis group personality profile remained stable over a one-year time period. All of the ileitis/colitis group personality factors differing from the normative data in 1989 also differed significantly in the original 1987 phase of the research program.

Long, Caldwell and Connelly found that 9 of the 11 personality characteristics which differentiated the 1987 ileitis/colitis group from the norm group remained stable over the one-year time period. Only two of the personality characteristics found to be significantly different in 1987 did not significantly differentiate the ileitis/colitis group from the normative data in 1989. The following characteristics of the ileitis/colitis patients differed significantly in a negative direction from the normative data: -(C) Cool, -(H) Shy, -(M) Practical, -(EX) Introversion. The following characteristics of the ileitis/colitis patients differed significantly from the normative data in a positive direction: +(O) Apprehensive, +(Q2) Self-Sufficient, +(Q4) Tense, +(AX) High Anxiety,

+(TP) Tough Poise. The last two characteristics (-Q1
Conservative; -IN Independence), found to be significantly
different in 1987 between the ileitis/colitis patients and
the normative data, remained different in the negative
direction, however, not at a significant level.

According to gastroenterologist David Jenkins (personal
communication, July, 1989) ileitis/colitis is a disease
process with remarkable individuality, unpredictability and
chronicity. Patients often endure long periods of time
undiagnosed due to the difficulty in identifying the disease
process in its earlier stages. Dr. Jenkins believes the
impact of this disease process impacts his patients on a
wide range of physiological, as well as psychological,
levels. Many patients appear to suffer severe
manifestations of the illness both physiologically and
psychologically, thus restricting the quality of their
lives, while other patients suffer only mild episodic
complications of their illness and lead normal lives during
a majority of their life.

Dr. Jenkins reviewed the psychological data collected
by Long, Caldwell and Connelly (1989) utilizing
ileitis/colitis patients that were members of the Oklahoma
chapters of the National Foundation for Ileitis and Colitis
(NFIC) and raised concern that these patients may represent
a skewed subpopulation of ileitis/colitis patients that have
endured the most profound impact both physiologically and
psychologically from the ileitis/colitis disease process.

He believes the psychological impact on other patients with a less aggressive course of their disease process may be minimal.

Statement of the Problem

The purpose of the continuing study of the ileitis/colitis disease process by this researcher has been to gain understanding of this disease as one having multiple components impacting its onset, chronicity and severity. It is to be determined through research if a multifaceted treatment approach may be most beneficial for some or all of these patients in decreasing the severity of the disease as well as improving the quality of their lives.

North, Clouse, Spitznagel & Alpers (1990) reviewed all known English-language literature on the association between psychiatric factors and ulcerative colitis to ascertain the evidence for such an association and evaluate the methods used in these studies. They reported that most studies contained serious flaws in research design, such as lack of control subjects, unspecified manner of data collection, and absence of diagnostic criteria. The following are the methodological deficiencies evident in the published literature on psychiatric factors in ulcerative colitis:

(1) Sampling - small number of subjects; gastrointestinal diagnosis not appropriately confirmed; subjects with inflammatory bowel disorders not separated according to specific diagnosis; nonrandom, biased selection.

(2) Control groups - none; not appropriate;
not matched or compared demographically.

(3) Data collection - diagnostic criteria not
used or not specified; instruments not
standardized or lack reliability/validity; lack
of blind assessment/assessor bias; data not
comparable across studies; chart review
inadequacies; retrospective.

(4) Data analysis - not done; not described.

(5) Conclusions - unwarranted on the basis of
available data; erroneous assumption of
causation from mere association (p. 975-6).

Analysis revealed that methodological flaws were
significantly related to the finding of a positive
association between psychiatric factors and ulcerative
colitis. Of the 172 published research reports included in
the literature review by North et al., only seven reports of
studies of adult patients with ulcerative colitis [Esler and
Goulston (1973); Bellini and Tansella (1976); Fava and Pavan
(1976-1977); Helzer et al. (1982); Arapakis et al. (1986);
Andrews et al. (1987); and Tarter et al. (1987)] were found
to contain descriptions of reasonably adequate methods
according to the standards discussed in their review. Four
of these studies tested for personality factors and all
seven tested for psychopathology. Only one study (Arapakis
et al., 1986) found personality factors to be significantly
different from controls and all seven failed to find support

for psychopathology. Arapakis et al. found ulcerative colitis patients to be less dominant, more intropunitive, more anxious and more depressed than the control group.

This study attempts to address these methodological flaws by the use of subject controls, by specifying the manner of data collection, and by using diagnostic criteria provided by attending physicians for subgrouping ileitis/colitis patients. Additionally, appropriate data analyses are presented and a standardized personality instrument that is comparable across studies is utilized.

In reviewing the literature concerning the psychological impact of personality characteristics on diseases such as ileitis/colitis, four major problems exist in interpreting the small amount of data available. This study is an attempt to answer questions along the four dimensions seen in the literature thus far as either vague or unanswered concerning the impact of personality on disease processes.

Research Question 1:

The first question to be addressed through this research was: Does a specific set of personality characteristics exist across groups of ileitis/colitis patients? A follow-up to the study previously completed by Long, Caldwell and Connelly (1989) was conducted to determine if the same group of personality characteristics which were determined to typify that group of ileitis/colitis patients exist within an independent group

of ileitis/colitis patients. If the same personality
profile emerges in this new group of ileitis/colitis
patients, then additional evidence would exist to support
the hypothesis that a specific personality profile can be
identified for ileitis/colitis patients.

Research Question 2:

A second question to be addressed through this research
was: Are these personality characteristics unique to the
ileitis/colitis group or are they representative of persons
that experience other chronic illnesses as well? This
component of the present research utilized another disease
(lupus) as a chronic illness comparison group in further
determining the hypothesis that specific personality
characteristics are unique to each disease group rather than
representative of a population of persons with chronic
illnesses. The same personality instrument (16 PF) will be
utilized with both the ileitis/colitis and lupus groups for
analysis of the data because comparisons among earlier
studies have been difficult due to the use of a diverse
range of psychological instruments. Lupus was chosen as a
comparison disease group due to the fact that it, too, is
considered an autoimmune disease. It has similarities to
ileitis and colitis as it is also an inflammatory disease
with no known etiology or cure and is more prominent in
females than males. These diseases are thought to involve
autoimmunity as part of the pathogenesis. However, lupus's
clinical manifestations are more global throughout the

body's organ systems, whereas clinical manifestations of ileitis and colitis are specific to the digestive system.

Research Question 3:

The third question addressed through this research was: Do patients who exhibit severe/chronic symptoms of ileitis/colitis differ from those that exhibit mild/episodic symptoms? If differences exist between these two subgroups of the ileitis/colitis patients, the data would support the hypothesis that psychological factors are impacted by the severity of the disease process or that the severity of the disease process is impacted by psychological factors in contrast to the existence of an ileitis/colitis personality that is common to all patients within the disease group.

Research Question 4:

If differences were found to exist between severe/chronic patients and mild/episodic ileitis/colitis patients, then a fourth component would be added to this study. The fourth question to be addressed through this research was: Can severity of the disease be predicted by personality characteristics? A "blind study" of an independent group of ileitis/colitis patients would attempt to predict the severity of the disease symptoms. We would attempt to identify the severity of these patients' symptoms by comparing their individual psychological profiles to the severe/chronic group and the mild/episodic group for a profile match. We then would determine their disease severity through medical history gathered on these patients.

If predictability were possible, this would again support
the hypothesis that differences exist due to disease
severity. Predictability of symptom severity would be
helpful in planning future treatment planning for these
patients.

Method

Statements of the Null Hypotheses

For the purpose of this study, the hypotheses are
stated in the null form.

1. None of the groups (1987 Ileitis/Colitis

Group, 1991 Ileitis/Colitis, Lupus Group, Control

Group) can be differentiated on the basis of

personality factors as determined by a MANOVA

analysis.

2. The Mild/Episodic Ileitis/Colitis Group and

the Severe/Chronic Ileitis/Colitis Group cannot

be differentiated on the basis of personality

factors as determined by a MANOVA analysis.

3. Ileitis/Colitis patients cannot be classified

by disease severity (mild/episodic or

severe/chronic) on the basis of personality

factors as determined by a multiple discriminant

analysis.

Subjects

Four major subject groups were utilized for this study:
1987 Ileitis/Colitis Group, 1991 Ileitis/Colitis Group,
Lupus Group, Control Group. The groups were matched for

age, education and geographic location to the original 1987 Ileitis/Colitis Group with each group comprised of 33 subjects. A one-way four-group multivariate analysis of variance (MANOVA) utilizing the $p<.05$ level of significance was computed to determine if significant differences existed between the quantitative data for age and education between groups. The MANOVA analysis, utilizing the Wilks' lambda, indicated no significant differences between the four groups for age, $F(3, 128) = 1.58$, $p<.05$, or for education, $F(3, 128) = 2.66$, $p<.05$.

The ileitis/colitis subjects for this study were patients obtained with the cooperation of practicing physicians in Tulsa, Oklahoma. Subjects were patients under outpatient medical treatment for ileitis/colitis. All subjects for the study were residents of northeastern and central Oklahoma. The 1987 Ileitis/Colitis Group consisted of 26 females and 7 males. They ranged in age from 19 years to 66 years, the mean age being 41.70 years. Their mean years of education was 14.27 years. The 1991 Ileitis/Colitis Group consisted of 25 females and 8 males. They ranged in age from 28 to 76 years, the mean age being 45.61 years. Their mean years of education was 14.85 years. The 1987 Ileitis/Colitis Group was composed of patients who were members of Oklahoma Chapters of the National Foundation for Ileitis and Colitis (NFIC). This researcher and the NFIC staff contacted the 1987 subjects at NFIC support group meetings or by telephone. The 1991 subjects were contacted

during office appointments with their doctors or by
telephone from the doctor's office support staff or this
researcher.

The medical comparison group was comprised of lupus
patients. This comparison group was also comprised of 33
patients matched with the 1987 Ileitis/Colitis Group. The
Lupus Group is comprised of 30 females and 3 males.
According to the Lupus Association of Oklahoma, 1 in 8 lupus
patients are male. Therefore, this male/female ratio,
though not matched for sex with the Ileitis/Colitis and
Control Groups is representative of the Lupus disease Group.
They ranged in age from 19 to 71 years, the mean age being
45.3 years. Their mean for years of education was 13.39
years. The lupus patients were contacted by networking with
known lupus patients within the same areas of northeast and
central Oklahoma. Volunteer lupus patients and this
researcher contacted the lupus subjects by telephone or in
person.

The Control Group was comprised of adult males and
females who do not have diagnosed chronic medical diseases.
These subjects have not presently nor in the past been
diagnosed or treated for a chronic medical problem. They
were obtained from church, social, and business/civic groups
in the northeast and central Oklahoma area and were matched
over age, education and sex with the 1987 Ileitis/Colitis
Group. The Control Group consisted of 26 females and 7
males. They ranged in age from 20 to 70 years, the mean age

being 39.70 years. Their mean years of education was 14.30
years. This researcher contacted these subjects by
telephone or in person.

Jenkins (personal communication, July, 1989) set the
criteria for subgrouping severe/chronic patients from
mild/episodic patients. Patients were considered
severe/chronic if they met any one of the following
criteria: (1) Patient has been hospitalized two times in
the course of the disease; (2) Patient has required
cortisone more than two months in the last year; (3)
Patient has required intestinal surgery or an ostomy. This
researcher found that 13 of the 1991 ileitis/colitis
subjects met at least two of these criteria, thus forming a
stronger case for a severe/chronic disease diagnosis.
Thirteen other subjects met none of the above criteria and
were subgrouped as mild/episodic. The remaining seven met
one of the criteria and were considered to represent a more
moderate diagnosis and were excluded from the subgrouped
dimension of the study.

Materials

A cover letter was included in the packet of materials
disclosing the purpose of this research (see Appendix A).
An additional letter was included by the physician
encouraging participation in the study (see Appendix B).
The packet also included a Subject's Consent Form (see
Appendix C), the Personal Information Questionnaire (see
Appendix D) in order to obtain demographic information on

each patient, and the Sixteen Personality Factor
Questionnaire (16 PF) to be utilized for personality data.

The 16 PF was chosen for use in this research due to
the normal range of personality factors it assesses rather
than a personality assessment instrument that may be
designed to identify more severe psychopathology. In
addition, the 16 PF interpretive manual includes information
specific to a person's susceptibility to medical problems.
The 16 PF was originally developed in 1949 by Raymond
Cattell through factor analysis of items that were designed
to measure personality source traits (Buros, 1985). Source
traits are believed to be the inherent factors underlying
manifest behavioral traits. They are derived from factors
rotated to oblique simple structure (Zuckerman, 1985). The
current test measures 16 independent source trait dimensions
plus 5 secondary traits derived from factoring the primary
traits (IPAT staff, 1986).

As a psychological research scale, the 16 PF is well
documented with a Handbook, Manual, and a Tabular Supplement
for the forms (Buros, 1985). An extensive program of
research on the 16 PF has yielded a substantial body of data
on the test. Reports indicate that the 16 PF provides
substantial normative scores on relevant normal populations
(Butcher, 1985). Statistics indicate test-retest
reliability of .80 for short intervals (Butcher, 1985).
These intervals were based on immediate retest to two-week
intervals (Buros, 1985). Two classes of support for the

validity of the 16 PF are considered. Based on a sample of 17,381 males and females, there is adequate construct validity and criterion-related validity in the structure of the test, according to Krug and Johns (1986). Butcher (1985) also concludes that the multiple empirical examinations of the 16 PF demonstrate that the number and nature of the personality dimensions the 16 PF measures are consistent with the original underlying model.

Additional research indicates that the primary factors reflect lower reliability than the secondary factors. Peterson (1985) concluded that Cattell's primary factors failed to show reasonable replication across age. Eysenck, White, and Souief (1969) factor-analyzed Cattell's 16 PF items and found that the primary factors were not readily replicable from males to females. However, these studies identified the broader second order factors as having more impressive validity coefficients ranging from .70 to .95 across age and sex. Similar ranges were indicated in a 1986 study by Krug and Johns. The second-order factors appear to exhibit the more valid factoring of the 16 personality factors. Therefore, this study included assessment of these five second-order personality dimensions, as well as the 16 primary factors.

In order to more clearly interpret a profile, the following is a capsule description of the 16 primary factors and five secondary factors as defined by the IPAT staff (1986).

16 Primary Factors

Factor A: Cool/Warm. Low score direction: Cool. This person tends to be cool, reserved, impersonal, detached, formal and aloof. High score direction: Warm. This person is warm, outgoing, kindly, easygoing, participating and likes people.

Factor B: Concrete-thinking/Abstract-thinking. Low score direction: Concrete-thinking. This person tends to be less intelligent. High score direction: Abstract-thinking. This person is more intelligent and brighter.

Factor C: Affected by Feelings/Emotionally Stable. Low score direction: Affected by Feelings. This person is emotionally less stable and easily annoyed. High score direction: Emotionally stable. This person tends to be mature, faces reality and is calm.

Factor E: Submissive/Dominant. Low score direction: Submissive. This person tends to be humble, mild, easily led and accommodating. High score direction: Dominant. This person is assertive, aggressive, stubborn, competitive and bossy.

Factor F: Sober/Enthusiastic. Low score direction: Sober. This person tends to be restrained, prudent, taciturn, and serious. High

score direction: Enthusiastic. This person is spontaneous, heedless, expressive and cheerful.

Factor G: Expedient/Conscientious. Low score direction: Expedient. People who score low disregard rules and are self-indulgent. High score direction: Conscientious. This person tends to be conforming, moralistic, staid and rule-bound.

Factor H: Shy/Bold. Low score direction: Shy. This person is threat-sensitive, timid, hesitant and intimidated. High Score direction: Bold. High scorers are venturesome, uninhibited, and can take stress.

Factor I: Tough-minded/Tender-minded. Low score direction: Tough-minded. Low score direction: Tough-minded. Low scorers are self-reliant, no -nonsense, rough and realistic. High score direction: Tender-minded. High scorers are sensitive, over-protected, intuitive and refined.

Factor L: Trusting/Suspicious. Low score direction: Trusting. This person tends to accept conditions and be easy to get on with. High score direction: Suspicious. This person is hard to fool, distrustful, skeptical.

Factor M: Practical/Imaginative. Low score direction: Practical. This person is concerned with "down to earth" issues and is steady. High

score direction: Imaginative. High scorers are absent-minded, absorbed in thought and impractical.

Factor N: Forthright/Shrewd. Low score direction: Forthright. This person tends to be unpretentious, open, genuine and artless. High score direction: Shrewd. This person is polished, socially aware, diplomatic, and calculating.

Factor O: Self-Assured/Apprehensive. Low score direction: Self-Assured. Low scorers are secure, feels free of guilt, untroubled and self-satisfied. High score direction: Apprehensive. This person tends to be self-blaming, guilt-prone, insecure and worrying.

Factor Q1: Conservative/Experimenting. Low score direction: Conservative. This person tends to be respecting of traditional ideas. High score direction: Experimenting. High scorers are liberal, critical and open to change.

Factor Q2: Group-Oriented/Self-Sufficient. Low score direction: Group-Oriented. Low scorers are "joiners", sound followers, and listens to others. High score direction: Self-Sufficient. This person tends to be resourceful and prefers own decisions.

Factor Q3: Undisciplined Self-Conflict/Following

Self-Image. Low score direction: Undisciplined Self-Conflict. This person is lax and careless of social rules. High score direction: Following Self-Image. High scorers are socially precise and compulsive.

Factor Q4: Relaxed/Tense. Low score direction: Relaxed. Low scorers are tranquil, composed, has low drive and is unfrustrated. High score direction: Tense. This person is frustrated, overwrought, and has high drive. (pp. 24-31)

5 Secondary Factors

Extraversion. Low score direction: Introversion. This person tends to be shy, self-sufficient, and inhibited in interpersonal contacts. High score direction: Extraversion. This person is socially outgoing, uninhibited and good at making and maintaining interpersonal contacts.

Anxiety. Low score direction: Low Anxiety. People who score low tend to be those whose lives are generally satisfying and those who are able to achieve those things that seem important to them. Extremely low scores can mean lack of motivation. High score direction: High Anxiety. People who score high are high on anxiety; as a rule, they are dissatisfied with the degree to which they are able to meet the demands of life

and to achieve what they desire.

Tough Poise. Low score direction: Emotional
Sensitivity. People who score low are likely to
be strongly influenced by their emotions, gentle,
sensitive to own feelings as well as others.
High score direction: Tough Poise. People who
score high are likely to be enterprising,
decisive and resilient personalities. They are
influenced by facts rather than feelings.

Dependent. Low score direction: Subduedness -
Dependent. People who score low are group
-dependent, passive personalities. They desire
and need support from other persons, and they
orient their behavior toward persons who give
such support. High score direction:
Independence. People who score high tend to be
aggressive, independent, daring, incisive people.
They seek those situations where such behavior is
at least tolerated and possibly rewarded, and
they are likely to exhibit considerable
initiative.

Superego/Control. Low score direction: Low
control. People who score low on this factor
typically do not act according to other values or
out of a sense of duty. They are nonconformists
who bend rules or develop their own set; they
tend to be flexible but not be as self

-disciplined. High score direction: High

Control. People who score high typically have

strong superego controls; that is, they have

internalized the rules of the milieu in which

they function. They are reliable but may not

bend the rules. They may be so controlled as to

be perceived by others as rigid or moralistic.

(pp. 36-37)

Design and Procedure

Permission was obtained to use human subjects in this

study from the Oklahoma State University Institutional

Review Board. The physicians who participated in the study

specialized in internal medicine and gastroenterology.

The testing packets were hand-delivered or mailed to

the subjects. The subjects were allowed to complete the

test and information sheets at the doctors' offices or at

home. Projected time for completion of the test materials

was 1 1/2 hours. However, subjects were encouraged to

complete the testing at their own rate. Completed forms

were returned to the doctors' office or mailed to this

researcher.

Questions 1 and 2 of this research were analyzed after

computer scoring the 16 PF and averaging the subscale scores

of the four major groups in this study (1987 Ileitis/Colitis

Group, 1991 Ileitis/Colitis Group, Lupus Group, Control

Group). A one-way four-group multivariate analysis of

variance (MANOVA) was conducted to determine if significant

differences existed between groups at the $p<.05$ level of significance. The comparison involved two MANOVA procedures, one for the 16 primary factors and one for the 5 secondary factors. This statistical procedure was chosen in order to control for Type I overall error rate in analyzing multiple factors. If no significant differences existed, the analysis would be complete. If a significant difference was found on either the 16 primary factors MANOVA or the five secondary factors MANOVA, then univariate tests were then conducted, and if significance was found on any factor, the Tukey procedure was used to make pairwise comparisons to determine which factors differentiated the groups.

Research Question 3 analysis divided the 1991 Ileitis/Colitis Group into two subgroups (severe/chronic and mild/episodic) containing equal numbers of patients (13 in each subgroup) by utilizing objective medical history. From medical history, type of medication prescribed, dosage of medication, length of time on medication, and number of surgeries, the doctors categorized the ileitis/colitis patients into two major severity levels; severe/chronic and mild/episodic. Subjects were categorized as severe/chronic if they met two out of three of the following criteria: (1) Patient has been hospitalized two times in the course of the disease; (2) Patient has required cortisone more than two months in the last year; (3) Patient has required intestinal surgery or an ostomy. Subjects were categorized as mild/episodic if they met none of the criteria. The 16

PF subscale scores were averaged for each subgroup. A one-way two-group MANOVA analysis at $p<.05$ was utilized to compare the two subgroups (severe/chronic with mild/episodic). If significant differences were found, univariate tests were conducted to determine the personality factors that differentiated the groups.

Research Question 4 utilized the computer scoring of individual 16 PF questionnaires and compared the individual patient's profile with each of the Ileitis/Colitis Severity Subgroups formed in Research Question 3 of this study. A multiple discriminant analysis at the $p<.05$ level of significance was utilized to determine if it was possible to classify patients into mild/episodic or severe/chronic subgroups. The multiple discriminant analysis allows classification of a new patient whose severity diagnosis is unknown into one of the two Ileitis/Colitis Subgroups. The disease severity of these subjects would then be determined from their medical history to determine if correct predictability of disease severity is possible by analyzing sets of personality characteristics.

Results

Tests of the Hypotheses

The one-way four-group MANOVA analysis of both primary factors and secondary factors was computed on all comparison groups (1987 Ileitis/Colitis Group, 1991 Ileitis/Colitis Group, Lupus Group and Control Group) to test the first hypothesis. The MANOVA analysis, using the Wilks' lambda,

indicated that significant differences existed on the 16
primary factors, $F(3, 128) = 2.22$, $p < .05$. Therefore, the
null hypothesis was rejected. Univariate tests were
conducted and if significant, the Tukey procedure was used
to make pairwise comparisons. The univariate tests
indicated significant differences on five primary factors of
the 16 PF: Factor C (Affected by Feelings/Emotionally
Stable), $F(3, 128) = 13.09$, $p < .05.$; Factor G
(Expedient/Conscientious), $F(3, 128) = 2.76$, $p < .05$; Factor
I (Tough-Minded/Tender-Minded), $F(3, 128) = 3.69$, $p < .05$;
Factor M (Practical/Imaginative), $F(3, 128) = 3.62$, $p < .05$;
and Factor O (Self-Assured/Apprehensive), $F(3, 128) = 2.55$,
$p < .05$. The Tukey procedure indicated the following
differences between the four groups on the significant
primary 16 PF factors. The illness groups (1987
Ileitis/Colitis Group, 1991 Ileitis/Colitis Group and Lupus
Group) scored significantly lower on Factor C than did the
healthy Control Group. The Tukey procedure indicated no
significant differences between the four groups on Factor G.
The 1991 Ileitis/Colitis Group scored significantly lower on
Factor I than did the healthy Control Group. The 1987
Ileitis/Colitis Group scored significantly lower on Factor M
than did the Lupus Group and the healthy Control Group
subjects. The 1991 Ileitis/Colitis Group scored
significantly higher on Factor O than did the healthy
Control Group.

The second MANOVA analysis, using the Wilks' lambda,

indicated that significant differences existed on the five secondary factors of the 16 PF, $F(3, 128) = 2.34$, $p<.05$. Therefore, univariate tests were conducted and if significant, the Tukey procedure was used to make pairwise comparisons. The univariate tests indicated significant differences on two secondary factors of the 16 PF: ANXIETY Factor, $F(3, 128) = 4.48$, $p<.05$ and INDEPENDENCE Factor, $F(3, 128) = 4.04$, $p<.05$. The Tukey procedure indicated the following differences between the four groups on the significant secondary 16 PF factors. The 1987 Ileitis/Colitis Group and the Lupus Group scored significantly higher than the healthy Control Group on the ANXIETY Factor. The 1987 Ileitis/Colitis Group scored significantly lower than the healthy Control Group on the INDEPENDENCE Factor.

For clearer understanding and interpretation of the 16 PF factors for the four subject groups, see Table 1 for means and standard deviations of 16 PF primary factors and Table 2 for means and standard deviations of the 16 PF secondary factors. See Tables 5 - 20 for univariate summary tables of the 16 PF primary factors and tables 21 - 25 for univariate summary tables of the 16 PF secondary factors. See tables 26 - 32 for Tukey's Test of the significant 16 PF factors.

The second null hypothesis states that the Mild/Episodic Ileitis/Colitis Group and the Severe/Chronic Ileitis/Colitis Group cannot be differentiated on the basis

of personality factors as defined by a MANOVA. The MANOVA
analysis, using the Wilks' lambda, indicated that no
significant differences existed on the 16 primary factors,
$F(1, 24) = 1.08$, $p > .05$. The second MANOVA analysis, using
the Wilks' lambda, indicated that no significant differences
existed on the five secondary factors of the 16 PF, $F(1, 24)$
$= .39$, $p > .05$. Therefore, we fail to reject the null
hypothesis.

For clearer understanding and interpretation of the 16
PF factors for the Mild/Episodic and Severe/Chronic
Ileitis/Colitis Subgroups, see Table 3 for means and
standard deviations of the 16 PF primary factors and Table 4
for the means and standard deviations of the 16 PF secondary
factors.

The third hypothesis was to determine if a disease
severity classification could be predicted by multiple
discriminant analysis of a new patient compared to the
Ileitis/ Colitis subgroups (mild/episodic and
severe/chronic). In order to complete this dimension of the
study the MANOVA analysis of the two Ileitis/Colitis
subgroups would have had to indicate significant differences
existed in personality characteristics between the two
subgroups. As indicated in the previous data analysis,
significant differences were not found between these
subgroups, thus Research Question 4 of the study was
eliminated.

Discussion

This chapter presents a general perspective of the
study and an interpretation of the results. Conclusions
drawn from these results are discussed and recommendations
for clinical interventions and future research in this area
are provided.

The purpose of studying the personality structure of
ileitis/colitis patients was to gain an understanding of
this illness as one which may have multiple components
impacting its onset, its chronicity and the severity of the
disease process. This investigation sought information
regarding personality characteristics of two groups of
ileitis/colitis patients. This personality profile of
ileitis/colitis patients was then compared to a chronic
illness group of lupus patients. Finally, the personality
profile of each ileitis/colitis group and the lupus patient
group was compared to healthy control subjects. It was
suggested that a multifaceted treatment approach might be
most beneficial for some or all of these patients in coping
with their illness and in decreasing the severity of the
disease as well as improving the quality of their lives.
Results of this investigation were analyzed in reference to
determining whether a specific psychological treatment
intervention would be beneficial to all persons coping with
a chronic illness or if psychological treatment
interventions need to address specific personality factors
found between illness groups or their subgroups. This study
also made significant methodological contributions for

research designed to detect psychological factors which may be involved in disease processes such as ileitis/colitis.

As of 1990, North et al. reported that most research attempting to determine if there is an association between psychiatric factors and ulcerative colitis contained methodological deficiencies. This study employed numerous research, design, and statistical tools to address these noted flaws. The sample size for this study was 33 subjects per group. This number was sufficiently large to establish the statistical power necessary to make meaningful group comparisons while enabling comparisons with earlier research data compiled by this researcher (Long, 1987; Long, Caldwell & Connelly, 1989) on ileitis/colitis patients. The subjects had been diagnosed by physicians specializing in gastrointestinal disorders and were selected randomly during routinely scheduled appointments. This diagnostic and subject selection process was utilized to avoid bias and meet the criteria by North et al. for subjects not being procured from psychiatric sources. Subject groups incorporated a wide age range of both males and females who were drawn from a specified geographic area. North et al. would, however, criticize the subject group for containing both ileitis and colitis (inflammatory bowel disorders) rather than separating them by specific diagnosis. The decision to include both ileitis and colitis patients was determined by comparisons that were to be made with earlier research data gathered on ileitis/colitis subjects. It is

suggested, however, that future research separate the inflammatory bowel disease group (ileitis and colitis) into an ileitis patient group and a colitis patient group.

This study utilized two distinct groups for the purpose of control comparisons. A group of lupus patients served as a chronic illness comparison group and healthy subjects provided another comparison group. All groups were matched for age, education and geographic residence.

Extensive attention has been given to data analysis in this study. A one-way four-group MANOVA was utilized to analyze the multiple personality factors of the four major subject groups provided by the 16 PF. This design and analysis controls Type I error rate (concluding that the group means are different when, in fact, they are not) and provides a more powerful tool for analyzing multiple factors among groups.

A unique methodologic contribution of this research was the subgrouping of ileitis/colitis patients according to disease severity based on criteria set by a physician. According to the physician, any one of the three criteria set would indicate a severe/chronic disease process. This study strengthened the criteria for the severe/chronic subgroup by including only subjects that met at least two of the three criteria. Those subjects included in the mild/episodic subgroup met none of the severity criteria.

The use of the 16 PF personality inventory was utilized in this study for several reasons. The 16 PF was chosen to

address problems in assessment observed in previous research. Specifically, the 16 PF is a well-researched personality instrument with adequate validity and reliability and provides data across a wide range of personality factors (16 primary personality factors and 5 second-order personality factors). This instrument provides scores on personality factors, described by Cattell and Eber (1970) as source traits, that in combination make up normal personality structure. Sten scores provide information as to where a subject falls along a continuum from low to normal to high levels of each factor. The 16 PF was completed privately by the subjects and computer scored to avoid any examiner bias in the data collection or analysis of the personality factors.

In the small amount of research available in the literature concerning psychiatric factors associated with ileitis and colitis, previous investigators have either attempted to diagnose fully formed psychiatric disorders by DSM-III-R criteria or have looked at a small number of specific personality factors. In this study a wide range of personality characteristics that could relate to a medical illness group were investigated. However, it was not the intent of this investigation to diagnose a psychiatric illness or to infer causation in either the direction of psychological factors causing physical illness or physical illness causing psychological change. It appears most likely that chronic medical diseases are

multifactorial in etiology and impacted by a person's personality and coping style either before and/or after the onset of the illness.

This research has been successful in identifying a personality profile of the ileitis/colitis patient as well as supporting the existence of a generalized "illness" profile. Additionally, a major finding in this study is that ileitis/colitis patients are not a totally homogeneous group and that subgroups within ileitis/colitis patients may cope with their illness in two distinctly different styles.

The analysis of the data extracted from the sixteen primary and five secondary personality factors of the 16 PF found no significant difference when comparing the two Ileitis/Colitis Groups and the Lupus Group. These data indicate that there is no significant difference in patients' personality structure across Ileitis/Colitis Groups. Further, there are no significant differences between Ileitis/Colitis groups and the Lupus Group. Therefore, these data lend support to Barton and Cattell's study (1972) indicating that an "illness" profile exists in persons that experience chronic illnesses.

Although no significant differences exist among groups of ileitis/colitis patients or lupus patients, when comparing them with healthy controls, there was support for the existence of a chronic illness personality profile. In this study, as well as in Barton and Cattell's (1972) study comparing persons who develop illness to those who do not,

Factor C scores were found to be low in the illness population. According to IPAT, those persons that score low on Factor C (Affected by Feelings) are low in frustration tolerance for unsatisfactory conditions, changeable and plastic, evading necessary reality demands, neurotically fatigued, fretful, easily annoyed and emotional, and active in dissatisfaction. They also experience phobias, sleep disturbances and psychosomatic complaints. Additionally, according to Krug (1981) and Cattell, Eber and Tatsuoka (1970), persons with low scores on Factor C are easily annoyed, feel dissatisfaction with the family and experience restrictions of life and health. They feel overwhelmed by the challenges of the day and tend to exhibit obsessive behavior. Low scores on Factor C reflect the highest medical risk element of the 16 PF profile.

Engel (1955) also described ulcerative colitis patients as extremely sensitive, worrisome, dependent, obsessive-compulsive, and restricted in their capacity to tolerate frustration. These comparisons provide evidence that low Factor C scores may be indicative of an "illness" profile and may exist prior to the onset of an illness.

In addition to the low Factor C score, the Lupus Group, like the 1987 Ileitis/Colitis Group, scored significantly higher than the healthy control subjects on the ANXIETY factor. Low Factor C (Affected by Feelings) and high ANXIETY scores appear to surface as part of an "illness" profile not only in this study but also in Barton and

Cattell's (1972) study. Those with low Factor C scores appear to be emotional and easily annoyed, have low frustration tolerance and manifest the highest risk for medical problems. Persons with high ANXIETY scores are dissatisfied with the demands of life and their ability to achieve what they desire. High anxiety is generally disruptive of performance and produces physical disturbances. It is apparent that the intense emotional needs of these persons should be the focus of therapeutic interventions whether in group or individual sessions.

Although all three illness groups included in this study scored low on Factor C, each group differed from healthy control subjects in unique ways. In addition to the low Factor C score, the 1991 Ileitis/Colitis Group scored lower than controls on Factor I (Tough-minded) indicating that they tend to be tough, realistic, "down to earth", independent and responsible, but skeptical of subjective, cultural elaborations. They are sometimes unmoved, hard, cynical, and smug. They tend to keep a group operating on a practical and realistic "no-nonsense" basis.

In addition to the low Factor C score, the 1987 Ileitis/Colitis Group scored lower on Factor M (Practical) and on the secondary factor INDEPENDENCE and higher on Factor O (Apprehensive) and the secondary factor ANXIETY than the healthy control subjects. Low Factor M scores indicate persons who tend to be anxious to do the right thing, are attentive to practical matters, and are subject

to the dictation of what is obviously possible. They are

concerned over detail, able to keep their heads in

emergencies, but are sometimes unimaginative. In short,

they are responsive to the outer, rather than the inner

world. The low INDEPENDENCE factor indicates that they tend

to be group dependent and passive. They are likely to

desire and need support from other persons and are likely to

orient their behavior toward persons who give such support.

The high Factor O score indicates a strong sense of

obligation and high expectations for themselves. They tend

to worry, feel anxious and be guilt-stricken over

difficulties. Often they do not feel accepted in groups nor

feel free to participate. High ANXIETY scores indicate that

they experience exaggerated levels of anxiety. However,

they need not be neurotic since anxiety could be

situational. The high anxiety and low dominance

characteristics, found to differentiate the 1987

Ileitis/Colitis Group from healthy controls, also

differentiated ulcerative colitis patients in the Arapakis'

et al. (1986) study.

The results of this study also provide evidence that

those ileitis/colitis patients that join a support group

(1987 Ileitis/Colitis Group), such as National Foundation

for Ileitis and Colitis (NFIC), may be a skewed sample of

ileitis/colitis patients. This group of ileitis/colitis

patients appears to need group support. They prefer to work

and make decisions with other people, they like and depend

on social approval, and they seek admiration. The 1991
group of ileitis/colitis patients have chosen not to
affiliate with a support organization and appear to take a
tough, realistic, "down to earth", independent stance in
coping with life. This finding has important implications
for clinical interventions with ileitis/colitis patients.
Those patients who are group oriented would likely benefit
from group therapy where they receive acceptance and support
from others and find ways of coping with their illness
through group discussions and decisions. The more
independent group would likely be uncomfortable in a group
setting and benefit more from individual therapy where they
explore their individual thoughts, feelings and coping
strategies.

The new dimension established through this study
subgrouped ileitis/colitis patients by disease severity
criteria. Significant differences were not found between
the mild/episodic and the severe/chronic ileitis/colitis
patients. This evidence supports the existence of an
ileitis/colitis personality that is common to all patients
within the disease group. The evidence does not support a
hypothesis that psychological factors are impacted by the
severity of the disease process or that the severity of the
disease process is impacted by psychological factors. The
sample size for these comparison groups (n = 13) in this
study was small and replication of this dimension with a
larger sample size is needed before conclusions are drawn.

Barton and Cattell's (1972) investigation of persons who developed chronic illnesses identified an "illness" profile containing several personality factors that differentiated them from persons who did not develop chronic illnesses. Those factors included in the "illness" profile were the 16 PF primary Factors C, I and O, and secondary Factors TOUGH POISE and ANXIETY. This researcher's investigation found Factor C to be a characteristic of all three illness groups. Factors I, O and ANXIETY were also found to differentiate specific illness groups but were not determined to be generalizable personality characteristics for all three chronic disease groups. Factor M and INDEPENDENCE were also found in this study as factors that differentiate illness groups from healthy control subjects, but they were not identified in the Barton and Cattell's (1972) study. This investigation, therefore, provides supporting evidence that certain personality factors may be generalizable to all persons developing chronic illnesses. However, it also indicates that specific illness groups may incorporate unique personality factors that are not generalizable to other illness groups.

Future research will need to continue to be sensitive to illness group differences, as well as subgroup differences within each illness group. Finally, it is the recommendation of this researcher that future investigations utilize the strict methodological standards employed in this study plus those suggested by North et al. (1990).

Research similar to that of Barton and Cattell (1972), which accumulates data prior to the onset of illnesses for comparison with data at the time of the onset of illness and longitudinally throughout different stages of the disease process, is ideal. However, a more economical approach would be to accumulate data at the time of initial diagnosis and longitudinally throughout the illness to determine if there is a generalizable set of personality characteristics for ileitis/colitis patients and/or are specific characteristics impacted by the chronicity and/or severity of these diseases.

Continued expansion of research in the area of personality and disease is imperative to this illness group. If people suffering from chronic illness are to receive a complete multifaceted treatment program, this type of research must be progressively expanded and refined.

A critical step toward constructive change in these patients is in the identification of personality characteristics that may negatively interact with or be related to the disease process. Identification of personality characteristics of illness groups lead directly to the development of appropriate psycho-social treatment plans. Patients can then be provided therapeutic interventions such as stress management, group therapy, family therapy, or individual therapy to address their psychological needs. It is of utmost importance that personality characteristics, unique to specific disease

groups or generalizable to "illness" personalities, be identified in order that holistic treatment methods be developed to help the person maintain both a healthy mind and a healthy body.

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Table 1

Means and Standard Deviations on Group Scores of Primary
Personality Factors of the 16 PF

16 PF Factors	Ileitis/Colitis 1987		1991		Lupus		Healthy	
	M	SD	M	SD	M	SD	M	SD
A	4.94	1.97	4.73	2.08	5.03	2.31	4.94	2.11
B	5.88	2.13	6.21	1.92	5.48	1.68	6.21	1.56
C	4.24	2.19	4.00	2.12	3.12	1.60	6.03	1.78
E	5.33	2.48	5.97	1.88	5.64	1.87	6.39	2.30
F	5.00	2.14	4.70	2.26	4.45	2.07	5.33	2.07
G	5.79	1.67	5.18	1.89	6.27	1.96	5.18	1.78
H	4.42	2.00	5.36	2.29	4.94	2.05	5.39	2.61
I	5.00	2.12	4.55	2.33	5.06	2.24	6.27	2.14
L	5.85	1.80	5.03	1.86	5.76	1.85	5.09	2.26
M	4.06	2.14	4.58	2.37	5.33	2.01	5.33	1.85
N	6.21	2.69	5.33	2.12	6.06	1.82	5.79	2.36
O	6.97	2.49	5.91	2.45	6.39	2.28	5.45	2.11
Q1	4.30	2.60	5.58	2.37	4.85	2.48	5.63	2.01
Q2	6.21	1.71	7.15	1.95	6.24	1.62	6.58	1.64
Q3	5.00	1.48	5.73	2.21	6.03	1.91	5.30	2.35
Q4	6.58	1.60	5.88	2.27	5.97	1.95	5.56	2.03

Table 2

<u>Means and Standard Deviations on Group Scores of</u>

<u>Second-Order Personality Factors of the 16 PF</u>

16 PF Factors	<u>Ileitis/Colitis</u> 1987		1991		Lupus		Healthy	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
EXT	4.52	1.72	4.38	2.05	4.51	2.00	4.85	1.98
ANX	6.96	1.94	6.14	1.97	6.66	1.92	5.40	1.78
TP	6.56	2.23	6.38	2.16	5.78	1.84	5.55	1.97
IND	4.39	2.20	5.67	1.79	5.08	1.86	5.98	2.17
CON	5.45	1.43	5.41	2.00	6.21	1.51	5.19	1.89

Table 3

Means and Standard Deviations on Subgroup Scores of Primary
Personality Factors of the 16 PF

16 PF	Ileitis/Colitis					
Factors	Mild		Severe		Healthy	
	M	SD	M	SD	M	SD
A	5.00	2.31	4.85	1.41	4.94	2.11
B	6.54	1.90	6.38	1.98	6.21	1.56
C	4.46	2.22	3.69	1.65	6.03	1.78
E	6.31	2.29	5.23	1.59	6.39	2.30
F	4.62	1.94	5.00	2.71	5.33	2.07
G	5.31	1.80	5.23	1.88	5.18	1.78
H	5.92	2.17	4.92	1.98	5.39	2.61
I	4.23	2.49	4.85	2.58	6.27	2.14
L	4.62	1.85	4.77	1.88	5.09	2.26
M	5.31	1.97	3.85	2.41	5.33	1.85
N	5.62	2.18	5.54	2.30	5.79	2.36
O	5.62	2.50	6.38	1.85	5.45	2.11
Q1	5.15	2.27	6.23	1.88	5.63	2.01
Q2	7.15	2.27	7.00	1.91	6.58	1.64
Q3	5.38	2.26	6.38	2.22	5.30	2.35
Q4	5.77	2.80	5.54	1.94	5.56	2.03

Table 4

Means and Standard Deviations on Subgroup Scores of Second-
Order Personality Factors of the 16 PF

16 PF	Ileitis/Colitis				Healthy	
Factors	Mild		Severe			
	M	SD	M	SD	M	SD
EXT	4.65	2.19	4.35	2.12	4.85	1.98
ANX	5.79	2.37	6.21	1.33	5.40	1.78
TP	6.45	2.03	6.09	2.37	5.55	1.97
IND	5.96	2.17	5.26	1.27	5.98	2.17
CON	5.34	1.87	5.75	2.10	5.19	1.89

Table 5

Univariate Summary Table for the 16 PF Factor A

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	1.64	0.55	0.12	0.95
Error	128	575.27	4.49		
Corrected Total	131	576.91			

R-Square	C.V.	Root MSE	A Mean
.003	43.18	2.12	4.91

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	1.64	0.55	0.12	0.95

Table 6

Univariate Summary Table for the 16 PF Factor B

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	11.84	3.95	1.19	0.32
Error	128	424.79	3.32		
Corrected Total	131	436.63			

	R-Square	C.V.	Root MSE		B Mean
	.03	30.63	1.82		5.95

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	11.84	3.95	1.19	0.32

Table 7

Univariate Summary Table for the 16 PF Factor C

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	147.42	49.14	13.09	.0001*
Error	128	480.55	3.75		
Corrected Total	131	627.97			

	R-Square	C.V.	Root MSE		C Mean
	0.23	44.56	1.94		4.35

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	147.42	49.14	13.09	.0001*

*p<.05

Table 8

Univariate Summary Table for the 16 PF Factor E

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	20.52	6.84	1.48	0.22
Error	128	591.82	4.62		
Corrected Total	131	612.33			

R-Square	C.V.	Root MSE	E Mean
.03	36.86	2.15	5.83

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	20.52	6.84	1.48	0.22

Table 9

Univariate Summary Table for the 16 PF Factor F

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	14.33	4.78	1.06	0.37
Error	128	578.48	4.52		
Corrected Total	131	592.81			

	R-Square	C.V.	Root MSE		F Mean
	.02	43.64	2.13		4.87

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	14.33	4.78	1.06	0.37

Table 10

<u>Univariate Summary Table for the 16 PF Factor G</u>

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	27.64	9.21	2.76	0.05*
Error	128	427.88	3.34		
Corrected Total	131	455.52			

	R-Square	C.V.	Root MSE		G Mean
	.06	32.61	1.83		5.61

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	27.64	9.21	2.76	0.05*

*<u>p</u>>.05

Table 11

Univariate Summary Table for the 16 PF Factor H

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	20.42	6.81	1.33	0.27
Error	128	655.45	5.12		
Corrected Total	131	675.88			

R-Square	C.V.	Root MSE	H Mean
.03	44.98	2.26	5.03

GP	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	20.42	6.81	1.33	0.27

Table 12

Univariate Summary Table for the 16 PF Factor I

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	54.02	18.01	3.69	0.01*
Error	128	624.61	4.88		
Corrected Total	131	678.63			

	R-Square	C.V.	Root MSE	I Mean
	.08	42.32	2.21	5.22

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	54.02	18.01	3.69	0.01*

*$p > .05$

Table 13

Univariate Summary Table for the 16 PF Factor L

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	20.14	6.71	1.75	0.16
Error	128	492.48	3.85		
Corrected Total	131	512.63			

	R-Square	C.V.	Root MSE		L Mean
	.04	36.01	1.96		5.45

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	20.14	6.71	1.75	0.16

Table 14

Univariate Summary Table for the 16 PF Factor M

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	46.61	15.54	3.62	0.02*
Error	128	549.45	4.29		
Corrected Total	131	596.06			

	R-Square	C.V.	Root MSE		M Mean
	.078	43.27	2.07		4.79

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	46.61	15.54	3.62	0.02*

*$p > .05$

Table 15

Univariate Summary Table for the 16 PF Factor N

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	14.73	4.91	0.95	0.41
Error	128	658.24	5.14		
Corrected Total	131	672.97			

	R-Square	C.V.	Root MSE		N Mean
	.022	38.77	2.27		5.85

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	14.73	4.91	0.95	0.41

Table 16

Univariate Summary Table for the 16 PF Factor O

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	41.88	13.96	2.55	0.05*
Error	128	699.76	5.47		
Corrected Total	131	741.64			

	R-Square	C.V.	Root MSE		O Mean
	.056	37.82	2.34		6.18

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	41.88	13.96	2.55	0.05*

*p>.05

Table 17

Univariate Summary Table for the 16 PF Factor Q1

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	40.00	13.33	2.36	0.07
Error	128	722.91	5.65		
Corrected Total	131	762.91			

	R-Square	C.V.	Root MSE		Q1 Mean
	.052	46.68	2.38		0.07

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	40.00	13.33	2.36	0.07

Table 18

Univariate Summary Table for the 16 PF Factor Q2

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	18.85	6.28	2.08	0.11
Error	128	385.88	3.01		
Corrected Total	131	404.73			

R-Square	C.V.	Root MSE	Q2 Mean
.047	26.53	1.74	6.55

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	18.85	6.28	2.08	0.11

Table 19

Univariate Summary Table for the 16 PF Factor Q3

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	20.48	6.83	1.68	0.17
Error	128	520.48	4.07		
Corrected Total	131	540.97			

	R-Square	C.V.	Root MSE	Q3 Mean
	.038	36.56	2.02	5.52

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	20.48	6.83	1.68	0.17

Table 20

Univariate Summary Table for the 16 PF Factor Q4

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	13.12	4.37	1.10	0.35
Error	128	510.61	3.99		
Corrected Total	131	523.73			

	R-Square	ANOVA SS	Mean Square	F Value	Pr>F

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	13.12	4.37	1.10	0.35

Table 21

Univariate Summary Table for the 16 PF Factor EXTRAVERSION

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	407.54	135.85	0.37	0.77
Error	128	46993.27	367.13		
Corrected Total	131	47400.81			

	R-Square	C.V.	Root MSE	EXT Mean
	.009	41.99	19.16	45.63

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	407.54	135.85	0.37	0.77

Table 22

Univariate Summary Table for the 16 PF Factor ANXIETY

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	4737.30	1579.10	4.48	0.005*
Error	128	45123.64	352.53		
Corrected Total	131	49860.93			

	R-Square	C.V.	Root MSE	ANX Mean
	.10	29.81	18.78	62.98

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	4737.30	1579.10	4.48	0.005*

*$p > .05$

Table 23

Univariate Summary Table for the 16 PF Factor TOUGH POISE

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	1823.48	607.83	1.42	0.24
Error	128	54875.27	428.71		
Corrected Total	131	56698.75			

	R-Square	C.V.	Root MSE	TP Mean
	.032	34.47	20.71	60.25

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	1823.48	607.83	1.42	0.24

Table 24

Univariate Summary Table for the 16 PF Factor INDEPENDENCE

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	4829.03	1609.68	4.04	0.008*
Error	128	50942.61	397.99		
Corrected Total	131	55771.64			

	R-Square	C.V.	Root MSE		IND Mean
	.087	37.77	19.95		52.82

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
GP	3	4829.03	1609.68	4.04	0.008*

*p>.05

Table 25

Univariate Summary Table for the 16 PF Factor CONTROL

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	3	1984.09	661.36	2.23	0.08
Error	128	37915.88	296.22		
Corrected Total	131	39899.97			

R-Square	C.V.	Root MSE	CON Mean
.05	30.93	17.21	55.65

Source	DF	ANOVA SS	Mean Square	F Value	Pr>F
	3	1984.09	661.36	2.23	0.08

Table 26

Tukey's Test for the 16 PF Factor C

Tukey Grouping	Mean	N	Group
A	6.0303	33	Healthy Control
B	4.2424	33	1987 Ileitis/Colitis
B	4.0000	33	1991 Ileitis/Colitis
B	3.1212	33	Lupus

Note. Means with the same letter are not significantly different.

Table 27

Tukey's Test for the 16 PF Factor G

Tukey Grouping	Mean	N	Group
A	6.2727	33	Lupus
A	5.7879	33	1987 Ileitis/Colitis
A	5.1818	33	1991 Ileitis/Colitis
A	5.1818	33	Healthy Control

Note. Means with the same letter are not significantly different.

Table 28

Tukey's Test for the 16 PF Factor I

Tukey Grouping	Mean	N	Group
A	6.2727	33	Healthy Control
B A	5.0606	33	Lupus
B A	5.0000	33	1987 Ileitis/Colitis
B	4.5455	33	1991 Ileitis/Colitis

Note. Means with the same letter are not significantly different.

Table 29

Tukey's Test for the 16 PF Factor M

Tukey Grouping	Mean	N	Group
A	5.3333	33	Healthy Control
A	5.3333	33	Lupus
B A	4.5758	33	1987 Ileitis/Colitis
B	3.9091	33	1991 Ileitis/Colitis

Note. Means with the same letter are not significantly different.

Table 30

Tukey's Test for the 16 PF Factor O

Tukey Grouping	Mean	N	Group
A	6.9697	33	1991 Ileitis/Colitis
B A	6.3939	33	Lupus
B A	5.9091	33	1987 Ileitis/Colitis
B	5.4545	33	Healthy Control

Note. Means with the same letter are not significantly different.

Table 31

Tukey's Test for the 16 PF Factor ANXIETY

Tukey Grouping	Mean	N	Group
A	69.909	33	1987 Ileitis/Colitis
A	66.576	33	Lupus
B A	61.394	33	1991 Ileitis/Colitis
B	54.030	33	Healthy Control

Note. Means with the same letter are not significantly

different.

Table 32

Tukey's Test for the 16 PF Factor INDEPENDENCE

Tukey Grouping	Mean	N	Group
A	59.788	33	Healthy Control
B A	56.697	33	1991 Ileitis/Colitis
B A	50.848	33	Lupus
B	43.939	33	1987 Ileitis/Colitis

Note. Means with the same letter are not significantly different.

APPENDIX A

Researcher's Cover Letter

LETTER TO LUPUS AND ILEITIS SUBJECTS

(Date)
6129 S. Hudson Ave.
Tulsa, Oklahoma   74136

RE: Ileitis and Lupus Research

Dear Ileitis and Lupus Research Participants:

Please accept my appreciation for your interest in furthering our knowledge of the disease processes known as ileitis/colitis and lupus. Like you, I also have dealt with a long term chronic illness (ileitis) for many years. For the past several years I have been investigating through research disease processes as possibly having multiple components that may impact the chronicity and severity of the disease. The coping style of patients dealing with chronic diseases is of particular interest in determining if additional treatment of stress management and/or life style changes may be beneficial in managing the affects of chronic illness.

As a clinical psychology major I am studying the emotional components that may be impacting our lives and diseases. It is hoped that as we continue to gain knowledge we can expand the treatment possibilities that will improve the quality of our lives and health.

Your individual identity will be kept confidential within the research team and scores will be analyzed by averaging of scores, not as individual scores. If this research becomes publishable your identity will remain confidential.

Your participation in this research is invaluable to all of us who cope with chronic illness. I hope you will understand the importance of your participation in this research as we fight to unravel the complexity of our disease processes.

Please read the enclosed instruction sheet and fill out the information sheet and test packet. Complete the forms as your convenience and return them to me in the enclosed, stamped envelop. Please return the materials to me as soon as possible. If, for any reason, you are unable to participate, please return the testing materials.

Hopefully in the near future, we will gain knowledge that brings about a cure for these diseases. If you have further questions please feel free to call me Thursday through Sunday or leave a message on my answering machine and I will return your call as soon as possible (918) 492-3466.

Respectfully,

Judith Ann Long
Ph.D Student
Psychology Dept.
Oklahoma State University

LETTER TO CONTROL SUBJECTS

(date)
6129 S. Hudson Ave.
Tulsa, Oklahoma   74136

RE: Ileitis and Lupus Research

Dear Ileitis and Lupus Research Participant:

In doing research it is always important to acquire
knowledge about persons that are different from those being
studied as primary subjects in the study. In the case of
this research project we are in need of information
concerning persons that have not experienced major medical
problems or diseases. This is why you are being asked to
participate as part of this control group of healthy
individuals. Comparisons will be made between those of you
who maintain good health versus those who experience chronic
illnesses.
Please accept my appreciation for your interest in
furthering our knowledge of the disease processes known as
ileitis and lupus. I have dealt with ileitis for many
years. For the past several years I have been investigating
through research this disease process as possibly having
multiple components that may impact the chronicity and
severity of the disease. The coping style of patients
dealing with chronic diseases is of particulary interest in
determining if additional treatment of stress management
and/or life style changes may be beneficial in managing the
affects of chronic illnesses.
As a clinical psychology major I am studying the
emotional components that may be impacting our lives and
diseases. It is hoped that as we continue to gain knowledge
we can expand the treatment possibilities that will improve
the quality of our lives and health.
Your individual identity will be kept confidential
within the research team and scores will be analyzed by
averaging of scores, not as individual scores. If this
research becomes publishable your identity will remain
confidential.
Your participation in this research is invaluable to
all of us who cope with the chronic illnesses known as
ileitis or lupus. I hope you will understand the importance
of your participation in this research as we fight to
unravel the complexity of our disease processes.
Please read the enclosed instruction sheet and fill out
the information sheet and test packet. Complete the forms
at your convenience and return them to me in the enclosed,
stamped envelop. Please return the materials to me as soon
as possible. If, for any reason, you are unable to
participate, please return the testing materials.
Hopefully, in the near future, we will gain knowledge

that brings about a cure for ileitis and lupus. If you have
further questions please feel free to call me Thursday
through Sunday or leave a message on my answering machine
and I will return your call as soon as possible (918) 492-
3466.

Respectfully,

Judith Ann Long
Ph.D. Student
Psychology Dept.
Oklahoma State University

APPENDIX B

<u>Physician's Cover Letter</u>

PHYSICIAN'S COVER LETTER

TO MY PATIENTS WITH ILEITIS/COLITIS:

I have met with Judith Long who is engaged in a research project oriented to the emotional impact of Ileitis/Colitis. I have reviewed the study she is doing and believe that it can add valuable information to our knowledge of this condition. I have offered to be of assistance in giving her access to patients who have dealt with this condition. I understand that you are willing to participate.

I wish to thank you for your help. If you have any questions in regard to this project, please feel free also to call me.

Sincerely,

(physician's name), M.D.

APPENDIX C

Consent Form

CONSENT FORM

I,_____hereby
authorize or direct Judith A. Long, a graduate student in
Psychology at Oklahoma State University, Stillwater,
Oklahoma or associates or assistants of her choosing to
collect and analyze my personal information and 16 PF
personality data in order to conduct research concerning the
impact of psychological characteristics on disease
processes. I understand that I am to receive no
compensation. The projected time for completion of the
research materials is 1 1/2 hours. I understand that I can
inquire about the research prior to my participation and
withdraw at any time during the testing after notifying the
project director. My privacy will be protected and my name
will not be attached to the research in any way. I further
understand that the results may be submitted for
publication.

I may contact Judith A. Long at telephone number (918)-
492-3466 should I wish further information about the
research. I may also contact Terry Maciula, University
Research Services, 001 Life Sciences East, Oklahoma State
University, Stillwater, OK 74078; Telephone: (405) 744-
5700.

I have read and fully understand the consent form. I
sign it freely and voluntarily. I affirm I am 18 years of
age or older. A copy has been given to me.

"This is done as part of an investigation entitled <u>The Study
of Personality Structure in Populations of Ileitis Patients</u>"

Date:_____   Time_____(am/pm)

Signed:_____
               (signature of subject)

I certify that I have personally completed this form
and included a letter of explanation to the subject before
requesting the subject to sign it.

Signed:_____
               Judith A. Long, Project Director

APPENDIX D

Personal Information Sheet

PERSONAL INFORMATION
(Confidential)

SUBJECT ID#_____

NAME_____

ADDRESS:_____

        _____

PHONE #:_____

AGE:_____   MARITAL STATUS:_____   SEX: M____F____

EDUCATIONAL HISTORY:

    High School_____# of years

    College_____# of years

DISEASE HISTORY:

    I have had Ileitis or Lupus_____# of years.

    Others in my family diagnosed with Ileitis or
    Lupus:

      Mother_____ Brother_____ Grandmother_____ Aunt_____

      Father_____ Sister_____ Grandfather_____ Uncle_____

    I have been under active treatment by a Doctor
      within the past 2 years?_____(yes or no)

    I have been hospitalized_____times during the
      past 2 years due to complications with my
      disease.

    I have been hospitalized_____times during the
      course of my disease. (total hospitalizations)

    I have taken the following prescription drugs
      within the past year:

      Drug Name: Dosage: Length of time taken:

    _____

    _____

    Has dosage of prescription drugs been increased
      in past year? _____ (yes or no)

Drug Name: Dosage increased from____to_____:

_____

_____

I have undergone_____# of surgical procedures due
   to Ileitis or Lupus?

I have undergone_____# of surgical procedures in
   the past 2 years due to Ileitis or Lupus?

Surgery has resulted in an ostomy procedure?
   ___Yes___No (Ileitis patients only)

In the past year my Ileitis or Lupus condition
   has been:

      very serious_____   not very serious_____

      serious_____   in remission_____

      moderate_____

COMMENTS:

What emotional impact do you feel Ileitis or Lupus has had
on you? (continue on back of sheet if needed)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

PERSONAL INFORMATION   (Control Group)
(Confidential)

SUBJECT ID#_____

NAME_____

ADDRESS:_____

_____

PHONE #:_____

AGE:_____   MARITAL STATUS:_____ SEX: M____ F_____

EDUCATIONAL HISTORY:

High School_____ # of years

College _____ # of years

MEDICAL HISTORY:

Are you now, or have you ever been diagnosed with
a chronic (long term) illness or disease?
_____Yes _____No

Are you presently being treated for any type of
medical illness?
_____Yes _____No

Have you ever been hospitalized?
_____Yes _____No
If yes, please give explanation of
hospitalization?

_____

Are you presently taking any prescription
drugs? _____Yes _____No
If yes, please list name of drug and dosage.

_____

COMMENTS:

What do you feel has contributed to your good
health?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

VITA *2*

Judith Ann Nance Long

Doctor of Philosophy

Dissertation: THE STUDY OF PERSONALITY STRUCTURE IN
POPULATIONS OF ILEITIS/COLITIS PATIENTS

Major Field: Clinical Psychology

Biographical:

Personal Data: Born in Miami, Oklahoma, May 25, 1947,
the daughter of Robert A. and Alene Nance.

Education: Graduated from Nowata High School, Nowata,
Oklahoma, in May 1965; received Bachelor of
Science Degree in Psychology from Pittsburg State
University at Pittsburg, Kansas in December, 1985;
received Master of Science degree in Psychology
from Pittsburg State University at Pittsburg,
Kansas in July, 1987; completed requirements for
Doctor of Philosophy degree in Clinical Psychology
from Oklahoma State University at Stillwater,
Oklahoma in December, 1991.

Professional Experience: Practicum Student,
Department of Human Services, Miami, Oklahoma,
September, 1985, to December 1985. Practicum
Student, St. John' Hospital, Joplin, Missouri,
May, 1986, to August, 1986. Practicum Student,
Psychological Services Center, Oklahoma State
University, August, 1987, to August 1988.
Practicum Student, Marriage and Family Clinic,
Oklahoma State University, August, 1988, to May,
1989. Practicum Student, Family Mental Health
Center, Tulsa, Oklahoma, August, 1988, to July,
1989. Practicum Student, Children's Medical
Center, Tulsa, Oklahoma, September, 1989, to May,
1990. Intern, Children's Medical Center, Tulsa,
Oklahoma, September, 1990, to August, 1991.