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Object Relations and Alexithymia in Patients with Ulcerative Colitis

A Dissertation

presented for the

Doctor of Philosophy Degree

University of Tennessee, Knoxville

Kim Withers Keinath

May 1994

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DEDICATION

This dissertation is dedicated to my husband, Derek Allister Cooze. His unswerving love and support helped me through countless frustrations.

ACKNOWLEDGMENTS

Several people deserve my gratitude for their help in the realization of this dissertation. I would like to thank the members of my committee, Drs. Kathleen Lawler, Robert Levey, and Sandra Thomas for their time, effort, and suggestions. Dr. Len Handler, as my committee chair, mentor, professor, and advisor especially has earned my respect and gratitude. Thank-you to the physicians, Drs. Ron Pruitt, Christopher Lind, Dewey Dunn, and Derek Cooze, who expressed interest in this project and assisted in the recruitment of subjects. Special thanks are due to my good friend and research colleague, Erlete Ascençao who has been so supportive, empathic, and helpful over the past few years in our research endeavors. Last, but not least, my heartfelt thanks to Kathy Herbst and Ghislene Miller, hard-working and dedicated research assistants who helped collect and code data.

ABSTRACT

The purposes of this study were to explore object relationships and personality features of patients with ulcerative colitis (UC), to examine the construct of alexithymia in object relational terms, and to demonstrate the validity of analytic concepts for psychosomatic medicine. The literature review traces psychoanalytic developments in psychosomatic medicine from conversion hysteria models to modern object relations theory and alexithymia. Psychological literature pertaining to ulcerative colitis is also presented.

Hypotheses addressed clinical observations from the literature contending that UC patients would; (1) exhibit more impaired object relations as measured by Westen's four scales on the Thematic Apperception Test (TAT), (2) evidence a dependent character structure, (3) describe their mothers as domineering, (4) be more closely identified with a key other, (5) evidence less maternal assimilation, (6) show less differentiation between a key other and their maternal representation, and (7) be more alexithymic than a healthy control (HC) group. An eighth hypothesis predicted that alexithymia would be positively correlated with degree of maternal assimilation.

Subjects consisted of 20 UC patients, matched by age, race, and gender with 20 HC subjects and 20 patients with

rheumatoid arthritis (RA). All subjects were administered the TAT, Leary Interpersonal Checklist (ICL), Toronto Alexithymia Scale (TAS), and Minnesota Multiphasic Personality Inventory (MMPI). The TAT was scored using Westen's system, yielding four variables; Affect Tone (AT), Social Causality (SC), Emotional Investment (EI), and Complexity of Representations (CR). The ICL yielded descriptions of self (level IIs), mother (IIm), father (IIf), and key other (IIso). Levels Is (Public Communication) and IIImm (Basic Intentionality) were derived from the MMPI. From these measures, the variability indices; Conscious Identification, Maternal Assimilation, and Mother-Significant Other Equation, were derived. Several post-hoc, exploratory analyses were also performed, including between-group comparisons on the MMPI validity and clinical scales.

The design of this descriptive, exploratory study was a three group comparison, controlling for the effects of chronic illness with the inclusion of a psychosomatic (RA) control group. Hypothesis 1 was partially confirmed with the UC group scoring lower on three of Westen's scales (CR, EI, and SC) than the HC group, suggesting that these patients are characterized by lower level capacities for emotional investment in people, are less accurate in understanding human interactions, and have less sense of people's subjective states and motives. The ICL variables

largely failed to differentiate the groups. On the level of Public Communication (Is), UC subjects appeared significantly more conventional and "hypernormal" than HC subjects. Both psychosomatic groups evidenced greater degrees of Conscious Identification and Mother-Significant Other Equation than the HC group, although these differences were not statistically significant for the UC group. There was also a nonsignificant trend toward higher alexithymia scores among the UC subjects. Contrary to prediction, no correlation was found between Maternal Assimilation and alexithymia as measured by the TAS. On the MMPI scales, the UC group scored higher ($p \leq .05$) than the HC group on scales L, K, and D, and significantly lower on the Ma scale. Theoretical consistencies and inconsistencies in the data are discussed as are the limitations of the study and implications for research and practice.

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I. INTRODUCTION

Current models of psychosomatic medicine are complex and multifactorial, drawing on concepts from diverse fields. It is this author's contention that psychoanalytic observations, particularly those derived from object relations theory, may further the understanding of certain puzzling and debilitating diseases. All too often, however, analytic insights have been accepted uncritically, and seldom subjected to empirical validation. This is an important first step in reintegrating analytic ideas into an expanding psychosomatic framework. The present study proposes to objectively evaluate the types and levels of object relationships in patients with ulcerative colitis, in an attempt to support previous observations and prevailing psychoanalytic theory.

Ulcerative colitis is a disease that has received considerable attention in the psychosomatic literature. Certain interpersonal patterns and personality features have been widely implicated in ulcerative colitis, yet there is a paucity of methodologically sound evidence actually linking these variables to patients with this disease. Psychological research in this area has lagged far behind clinical observation and theoretical speculation, yet may be strengthened by starting from an a priori object relational framework, particularly given

recent advances in the measurement of object relations. Specifically, this study proposes to evaluate some of the observations summarized by Engel (1955) with respect to these patients' interpersonal features, compared with both psychosomatic and healthy control groups.

Methodologically, this study will attempt to redress some flaws in earlier psychosomatic studies, using recommendations put forth by H. Weiner (1977) and Fava and Wise (1987), including the use of appropriate controls, valid psychometric instruments, and careful diagnostic criteria. In addition, this study will attempt to recruit a consecutive series of patients versus a more selected sample, minimizing selection bias. By including data from a psychosomatic control group, features characteristic of ulcerative colitis patients can be distinguished from features associated with a chronic disease.

A collateral aspect of this study is to evaluate the alexithymia construct in object relational terms. It is hypothesized in the literature that alexithymia is negatively related to an internal representation of the mother, and this will be tested by correlating a measure of maternal assimilation with a measure of alexithymia. It is also hypothesized that ulcerative colitis patients are more alexithymic than healthy control subjects. According to Taylor (1987), alexithymia may be more important than overt psychopathology in the etiology of many psychosomatic

illnesses, yet the relationship between object relations, unconscious dynamic processes, and alexithymia is relatively untapped.

In sum, this author recognizes a strong theoretical convergence between object relations theory, psychosomatic diseases, and the recent alexithymia construct. By exploring relationships among these ideas in patients with ulcerative colitis, it is expected that this study will shed some light not only on a mysterious and disruptive disease, but also on the validity of object relations theory for psychosomatic medicine.

II. REVIEW OF THE LITERATURE

Psychoanalytic Developments in Psychosomatic Medicine

Although humans throughout history have puzzled over the relationship between mind and body, the emergence of psychosomatic medicine as a field is a 20th century development. In retrospect, psychosomatic medicine may be viewed as a reaction to Descarte's mechanistic view of man and Virchow's infectious model of disease, both of which advocate treating the illness, not the patient. The psychosomatic point of view offered a "new" approach to the formal study of physical illness, reintroducing the importance of psychological factors contributed by the patient. Freud is typically credited with reuniting psyche and soma in the field of medicine. His psychoanalytic method added to "the optical microscope, a psychological microscope" (Alexander, 1950); a technique by which the patient's emotions and their role in psychosomatic illness could be systematically scrutinized. In his studies of hysterical patients, Freud distinctly demonstrated that prolonged emotional conflicts can contribute to chronic physical disturbances (i.e. conversion hysteria). Historically, the field of psychosomatic medicine not only originated in, but is intimately linked with psychoanalysis. The contributions of psychoanalysis to psychosomatic medicine have paralleled the development of

analytic theories from Freud's drive-conflict-defense model to the concept of object relations and adaptive capacities of the human organism. This section proposes to trace the development of psychoanalytic ideas in psychosomatic medicine, from theories of conversion to the development of object relations theory. Furthermore, the validity and centrality of analytic theories in psychosomatic medicine will be emphasized. But first, a brief description of some current controversies regarding the field of psychosomatic medicine, including problems of definition will be outlined.

Over 30 years ago Wittkower (1960) warned that it "must be borne in mind that psychosomatic medicine came into being as a reaction to the laboratory era of medicine and that, unless we remain on guard, we may end up where we started" (p. 311). He wondered where the field was heading, speculating that it would either become a branch of psychoanalysis or a basic science. By 1965 Wittkower claimed that the hopes of analytic psychosomatics remained unfulfilled and predicted that psychosomatic medicine would become dominated by physiological research and experimental psychiatry (Wittkower, 1965). In fact, with the explosion of knowledge in the biological sciences and the growing endorsement of holistic, systems approaches, it often appears that psychoanalytic models have been relegated to little more than historical significance. Lipowski (1977)

attributed this, in part, to the "excesses" of psychoanalytic theories in the 1940's and 50's, which frequently equated "psychosomatic" with "psychogenic". There also has been a tendency among non-analysts to associate all analytic ideas with Freudian conflict theory and a general ignorance of evolving analytic concepts. Given problems of defining and measuring analytic concepts, research into psychological factors of disease lagged far behind progress in bio-medical and epidemiological research. Investigators thus increasingly turned their attention toward physical mechanisms and situational factors related to illness. To emphasize the gap between psychosomatic medicine and psychoanalysis, L. Deutsch (1980) cited his computer search of articles concerned with all aspects of psychosomatic medicine, noting 40,000 references between 1967 and 1979. Cross-referencing psychoanalysis against psychosomatic medicine produced only 325 citations during the same period, and only a fraction of these were published in English language journals! Had the "march of events in psychosomatic research" (Hunter, 1979. p. 383) left behind some 80 years of observations of somatic disorders by psychoanalysts? Fortunately since the late 1970's there appears to be increasing interest and investment in re-integrating important analytic insights into an expanding psychosomatic framework.

Before moving on, a note is warranted concerning the definition and domain of "psychosomatic medicine". There is much current debate about this concept, disagreement about what it implies, and questions of whether the term should even be retained. Some feel it propagates the dualism between mind and body (the Expert Committee of the World Health Organization, 1964), others maintain it refers to a monistic approach (Alexander, 1950; Wolman, 1988). Lyketsos and Lyketsos (1987) point out that the term might imply there is a clear distinction between diseases that are and diseases that are not "psychosomatic", an unresolved debate which itself depends upon the definition. Problems of definition are exemplified by the changing versions of the Diagnostic and Statistical Manual of Mental Disorders (DSM). DSM-I (American Psychiatric Association, 1952) referred to the awkward "Psychophysiological Autonomic and Visceral Disorders" in place of the commonly used "psychosomatic disorders". The definition given in DSM-II (APA, 1952) stated "this group of disorders is characterized by physical symptoms that are caused by emotional factors and involve a single organ system..." The latest edition of DSM-III-R (APA, 1987) refers to Psychological Factors Affecting Physical Condition, deemphasizing the role of psychological causation of somatic disease.

In reviewing the literature it seems there is no precise, consensual definition of the term psychosomatic or its scope of inquiry. There is a trend, however, among the "giants" in the field (for example, Alexander, Engel, Lipowski, Reiser, and H. Weiner) to espouse a multidimensional approach, which recognizes the impact of psychological, social, and biological factors in the development and maintenance of disease. Lipowski's (1984) three-part definition appears to be representative of the prevailing view of psychosomatic medicine: (1) the science of the relationship between biological, psychological, and social variables as they are related to human health and disease; (2) an approach to medicine that advocates psychosocial factors in the study, prevention, diagnosis, and treatment of disease, and (3) therapeutic activities. This broad definition leaves a great deal of room for the inclusion of psychoanalytic theory and research. It also raises the question as to how psychosomatic medicine differs from behavioral and holistic medicine. Retaining the term psychosomatic due to its historical association with psychoanalysis seems preferable to the author. After all, the individual person serves as the meeting ground for biological and social forces, and individual psychology remains of central interest to many psychosomatic theorists. To quote von Weizsacker (1949): "Psychosomatic

medicine must be centered on depth psychology or it will not exist" (p. 339).

Conversion Hysteria Model

According to Freud (1895/1962) conversion occurs when some "unbearable idea is rendered innocuous by excitation being transmitted to bodily expression." Some of the earliest analytic theories were based on extending Freud's conversion model to disturbances of organs innervated by the autonomic nervous system. Freud himself had applied this model only to symptoms of the voluntary nervous system which expressed unconscious conflicts via symbolization. He maintained that such conversion reactions could not occur prior to an Oedipal level of development. By contrast, there have been many attempts to apply conversion to psychosomatic diseases, in which organic symptoms were believed to have primary symbolic meanings, representing unconscious conflicts or fantasies. One of the most radical proponents of this view, Georg Groddeck (1925), theorized that "when a person has bad breath, his unconscious does not want him to be kissed, and when he coughs, it wants something not to happen" (p. 40). In another case (Groddeck, 1925), a woman with a small wart on her inner thigh was told that she wanted to become a man and her unconscious had therefore produced a tiny penis!

Felix Deutsch (1953) believed that there is no separation of organic symptoms into those with and those without psychological importance. He construed the body as a channel for libido which creates problems when there is an overcathexis of a particular organ. Otherwise the "language of the organic" served to discharge pent-up libido, a normal, healthy process necessitated by culture. For F. Deutsch (1953), Sperling (1973), Garma (1953), and Ferenczi (1926), among others, conversion also explained the question of organ choice. For example, Garma (1953) argued that peptic ulcer is the symbolic expression of an internalized aggressive mother.

Certain classically oriented analysts today continue to explain psychosomatic illness using the conversion model or variations of it. Although there is more tendency to acknowledge that symptoms are multi- and over-determined, they adhere to this model based upon analytic treatment successes (Wilson & Mintz, 1989). Sarnoff (1989), though distinguishing among several categories of illness, would reserve the term "psychosomatic" exclusively for disorders in which organs are used "as symbols". Although difficult to validate experimentally within the psychoanalytic frame, the symbolic meaning of symptoms, whether primary or secondary, has been useful and therefore clinically valid in the individual psychotherapy of many patients.

The conversion model can be criticized on several accounts, but there is most disagreement regarding the role of primary symbolization in organic diseases. The current trend is to consider the notion "pregenital conversion" an oxymoron, in that symbolic ability is not thought to occur at pregenital levels of development. Thus in psychotherapy with presymbolic level patients, interpretations of the unconscious, symbolic quality of symptoms are thought to be meaningless. Another criticism is that symbolic meaning of a symptom can be acquired secondary to the disorder, or even iatrogenically. McDougall (1982) points out that apparent symbolism could be superimposed in a neurotic overlay, concealing more primary processes and deficits. Although they are a minority, the conversion theorists are most optimistic about the role of psychoanalysis in treating psychosomatic disorders (L. Deutsch, 1980). Many, however, have taken exception to Sperling's extreme approach that the analyst should be the sole treating physician (Sperling, 1949). Her rationale that more than one physician would dilute the transference seems to suggest that a transference cure is operative, rather than structural development based upon interpretative statements.

Specificity Theories

Another line of development in psychosomatic theory arose from Freud's (1895/1962) concept of "anxiety neurosis" which differs fundamentally from conversion hysteria. He had observed that certain organic symptoms, such as tachycardia, hyperventilation, diarrhea, and dizziness which frequently accompanied anxiety states, were irreducible to psychological interpretation, and thus "not combatable through psychotherapy". Freud maintained that the physical reaction did not come from any repressed ideas and did not serve to represent any psychological content. Rather, he believed that the somatic excitation is denied access to the psyche and is abreacted, in the form of an organic symptom. He therefore was reluctant to apply psychoanalytic explanations to any physical disorder not mediated by the voluntary nervous system. This may explain, in part, the reluctance of many analysts through the decades to treat psychosomatic patients.

Flanders Dunbar, a pioneer in psychosomatic medicine, elaborated the idea of somatic anxiety in her attempts to correlate descriptive personality profiles with specific physiological disorders. Her method consisted of fairly superficial case studies and observational data. To highlight personality characteristics of the syndromes of concern, Dunbar referred to hypertensives as "top-dogs",

angina sufferers as "big frogs in little puddles", and diabetics as "muddlers" (Grinker, 1953). She has been criticized for not accounting for these correlations and for ignoring deeper levels of the personality. Nevertheless her studies bear a theoretical resemblance to current studies of the relationship between Type A personality and coronary heart disease.

Franz Alexander, whom many consider to be the "founder of psychosomatic medicine" (Ammon, 1979), had an unquestionable impact on the field. While others were expanding upon the conversion model, Alexander took the opposite approach, distinguishing between conversion and the organic disturbances of psychosomatic illnesses, which he referred to as "vegetative neuroses". This label implied that psychosomatic diseases occur in the vegetative organs innervated by the autonomic nervous system and are therefore not in any direct connection with ideational processes. Like Freud, he insisted that these organic symptoms do not serve as symbolic expression for psychological contents, but simply reflect physiological aspects of an emotional state. Although conversion symptoms and vegetative neuroses are both responses to some psychological stimuli, they are fundamentally different, psychodynamically and physiologically. While Alexander's theory appears similar to that of Freud by distinguishing between these two modes of somatic dysfunction, he differed

in his belief that psychodynamic exploration of emotional states could further the understanding and treatment of vegetative neuroses (Alexander, 1950). Freud, on the other hand, relegated these disorders solely to biology. Alexander spent his entire career furthering psychodynamic knowledge of vegetative and psychosomatic disorders. He focused on seven diseases (the "Chicago seven"; i.e. duodenal ulcers, essential hypertension, bronchial asthma, thyrotoxicosis, rheumatoid arthritis, ulcerative colitis, and neurodermatitis), which were chosen for availability of patients. Alexander himself maintained that all diseases are "psychosomatic".

Alexander (1950, 1968) is best known for his specificity of conflict theory, probably because of the conflict it engendered itself. Unfortunately his other, more moderate and comprehensive ideas are often ignored or forgotten. His formulations were derived from extensive, in-depth analytic investigations with hundreds of physically ill patients, in contrast to Dunbar's more superficial studies. Alexander defines specificity as "the physiological responses to emotional stimuli, both normal and morbid, [which] vary according to the nature of the precipitating emotional state". Thus "the vegetative responses to different emotional stimuli vary... according to the quality of the emotions. Every emotional state has its own physiological syndrome. [For example] increased

blood pressure and accelerated heart action are a constituent part of rage and fear [and] increased stomach secretion may be a regressive response to an emergency" (1950, p.68). These physiological concomitants were felt only to correlate with emotions and were not felt to be causally related. Symptoms were interpreted as the end result of a chain of organic processes.

Alexander and his followers were especially interested in the "choice" of disease, and the specific conflicts and defenses associated with a particular illness. He postulated two kinds of vegetative response to blocked emotional states. Blocking of hostile, aggressive impulses results in mobilization of vegetative processes, leading to disorders such as migraine, hypertension, and arthritis. Conversely, blocking of dependent tendencies disrupts the parasympathetic nervous system, resulting in "vegetative retreat", and precipitating disorders such as peptic ulcer, ulcerative colitis, and asthma. In either case the body prepares for some sort of action in response to the emotion (functional change), and when the action is not carried through, due to the emotional conflict surrounding the action, a chronic, vegetative change can occur (structural damage). Each process is related to specific symptoms, so once triggered, a limited range of disorders is likely to occur. Specific, unconscious conflicts, though not unique to people with a given

disease, were, however, considered specific to a particular disease. For example, peptic ulcer disease was associated with an unconscious wish to be dependent and fed, which is in conflict with one's adult strivings toward self-sufficiency. The validity of specificity theory received support from a study demonstrating that each of the seven classical psychosomatic diseases could be diagnosed based upon psychological data alone. Using a team of psychoanalysts "blind" to patient diagnosis, Alexander, French, and Pollock (1968) demonstrated that correct diagnosis was predicted at better than chance probability based on transcripts of clinical interviews. Diagnostic accuracy greater than 60% however, was never achieved.

So far, this theory may seem overly simplistic and linear, yet Alexander (1950) actually proposed a multiplex, interacting model in which D = f(a,b,c,d,e,f,g,h,i). This model can be boiled down into three parts: Disease (D) is a function (f) of (a) genetic constitution, (b) one's characteristic psychological conflict, and (c) situational events which mobilize the conflict. Although this model does not fully address why people develop certain conflicts, it allows for the idea that early, reciprocal problems between the mother and child might be involved. The idea that early interpersonal problems can sensitize one to later environmental stresses is the basis for object

relations theories of psychosomatic disease presented in a later section.

Alexander's theories stimulated much psychophysiological research (reviewed by Taylor, 1987 and H. Weiner, 1982) which rather than unilaterally supporting specificity, serve instead to question its underlying assumptions that specific conflicts are reliably correlated with specific vegetative changes. Various studies have both refuted and supported Alexander's ideas, suggesting psychosomatic diseases may reflect psychological as well as physiological heterogeneity (H. Weiner, 1977). Lipowski (1977) criticizes Alexander for linking variables at different levels of abstraction, (i.e. psyche and soma) without due regard for transducing mechanisms. Nevertheless, Alexander can be credited for creating the basis for an interdisciplinary approach to psychosomatic medicine and for the heuristically powerful and elegant nature of his theory.

Contemporary advocates of specificity theory include Pollock (1977a&b) and Bastiaans (1977). Pollock's "combinatorial specificity" model proposes that each psychosomatic disease is marked by a unique configuration of psychological, biological, social, and genetic factors. He also remarks on the validity of specificity as the basis for all classification schemas. Bastiaans (1977)

emphasizes the pragmatic importance of specificity theory for the analytic treatment of psychosomatic patients.

Contributions from Ego Psychology

In contrast to Alexander's specificity theory, other investigators approached the psychosomatic problem by studying psychological traits these patients have in common. Investigators such as Jurgen Ruesch (1948), Roy Grinker (1953), Günter Ammon (1979), and Henry Krystal (1988) have proposed that psychosomatic patients are prone to periods of ego regression with concomitant "resomatization" of affect. General personality features marked by immaturity, poor coping ability, and excessive dependence and passivity in interpersonal relationships are all hallmarks of what Ruesch referred to as the "infantile personality", hailed as the "core problem in psychosomatic medicine" (Ruesch, 1948). Grinker (1953) felt the most appropriate focus of inquiry should be the forces which contribute to "psychosomatic unity, its developmental differentiation, and its unhealthy disintegration" (p. 61), a sentiment echoed in recent times by Ammon (1979). In this model, psychosomatic syndromes are indications of either a failure to attain mature psychological organization or a regression to primitive modes of functioning. Krystal (1988) provides clinical evidence for regression in post-traumatic stress situations,

particularly in survivors of concentration camps who have been observed to suffer more frequently from psychosomatic disorders than the general population. He describes psychosomatic diseases as regressions in the form of emotional expression from verbal and differentiated to a totally somatic form. Giovacchini (1959) called attention to the negative effects of ego disruption on both interpersonal relationships and physical illness, often creating a vicious cycle between the two. Because psychosomatic patients often appear to function well and present a "pseudo-normal" façade, Reiser (1966) suggests that changes in ego state may represent limited, split-off spheres of ego dysfunction, or are of time-limited duration in response to stressful life events, similar to changes often seen in patients with borderline and other character pathologies.

The main contribution of ego psychology to psychosomatic theory is the notion of a personality disorder or character deficit underlying and interacting with the psychosomatic process. Object relations theories expand upon the personality deficit concept and its causation. These ideas are also reflected in the search for a disease-prone personality (Friedman & Booth-Kewley, 1987), have contributed to the concept of alexithymia (Nemiah, 1982), and have also been incorporated into a more

comprehensive psychobiological disregulation model of disease (Taylor, 1987).

Specificity - Generality Debate

One of the lingering debates in psychosomatic medicine alluded to above, is between specificity theories and the idea of a general psychosomatic personality. Friedman and Booth-Kewley (1987) performed a meta-analysis on over 100 studies investigating the personality-disease relationship. Their results pointed to the probable existence of a generic "disease-prone" personality. This finding, along with the present interest in the concept of alexithymia, Type A personality, deficit theories, etc. suggests the "generality" hypothesis is currently in ascendance. But there is also research and clinical support for the specificity hypothesis (Pollock, 1977a&b). Nemiah (1982) and Lipowski (1977) argue that although the issue is unresolved, it may be moot. Both propose that generality and specificity theories represent a false dichotomy and oversimplify an obviously very complex situation. Several contemporary psychosomaticians suggest psychosomatic patients suffer general personality characteristics, such as alexithymia, in addition to specific psychological conflicts, which predispose them to somatization as well as to its particular form (McDougall, 1989; Taylor, 1987). Assuming that specific response tendencies and general

traits may be complementary might eventually improve the ability to predict illness and more accurately identify people at risk.

Object Loss, Giving-up, and Disease Onset

No overview of psychosomatic medicine can ignore the contributions of George Engel, an analytically trained internist, and his co-workers from the University of Rochester. Apart from his comprehensive Biopsychosocial Model of illness (Engel, 1980), which is beyond the scope of this review, Engel extensively investigated the relationship between object loss, its psychobiological impact on the person, and the onset of illness. Engel (1962, 1968) focused on the reactions to object loss as a specific form of psychosocial stress, especially for individuals who are excessively reliant on others for external support (a "key figure"), and who possess poor coping skills and inadequate defenses.

Much of the impetus for Engel's later theoretical developments was based on his extensive studies of patients with ulcerative colitis during the 1950s (Engel, 1955). He had observed their extreme dependency on caretaking figures and noted that disease onset and exacerbation was frequently related to disruptions in these significant "key" relationships, along with feelings of helplessness and hopelessness. In contrast to other life events

researchers such as Holmes and Rahe (1967), Engel and his colleagues recognized the experience of loss for the individual was more salient than actual loss. Adamson and Schmale (1965) found that 45 of 50 patients admitted to hospital had reported loss of a highly valued source of gratification and an emotional reaction of defeat ("giving-up") in the time period preceeding hospitalization. Many of these patients also reported suffering significant losses during their formative years and regarded their most recent loss as a "last straw" event. Engel (1968) describes several poignant cases of sudden death following major losses and proposes an intervening psychbiological state, the "giving-up/given-up complex", which contributes to the onset of disease. In and of itself, however, this complex is neither sufficient nor necessary for disease to occur, but interacts with other predisposing variables, such as organ vulnerability. The "giving-up/given-up" complex is marked by feelings of helplessness and hopelessness, depreciated self-image, loss of gratification from relationships or life roles, a disrupted sense of continuity, and reactivated memories of earlier giving-up episodes (Engel, 1968).

With a tradtional analytic focus, Schmale (1964) linked these attitudes to developmental arrests during the oral and phallic stages, rooting the complex in earlier conflicts, which resulted in failure to achieve effective

defense and coping mechanisms. Taylor (1987) reformulates Schmale's hypothesis from an object relations framework in proposing that the "giving-up/given-up" complex might be related to problems in separation-individuation. With inadequate or inconsistent gratification from the mothering person, one might remain overly dependent on others for external gratification, thus hampering optimal individuation. Either way, early experiences with loss and giving-up set the stage for how these experiences are handled later in life.

Engel's (1968) work on the "giving-up/given-up" complex pointed toward the importance of interpersonal relationships for homeostatic regulation of psychobiological functions. In his studies of ulcerative colitis patients Engel attributed ego dysfunction to pathological mother-child relationships and introduced the concept of surrogate "key figures" to whom these patients frequently cling. Thus, many of his notions are similar to object relations formulations discussed below. Being classically trained, however, he and his associates failed to integrate his observations and ideas with the British object relations theorists (who were not yet an integral part of American analytic thought). Hence, one criticism levied against Engel and Schmale is that they presented a deceptively simple and superficial view of object loss (Taylor, 1987). Engel also largely ignored the

intrapsychic implications of, and functional relationship between, the patient and his/her objects. Therefore, there was little emphasis on developing analytic treatment strategies to mend intrapsychic defects and thereby reduce a patient's vulnerability to the giving-up complex.

Nevertheless, there is much to recommend Engel's model. Its important concepts are easily operationalized and have led to various prospective studies supporting its validity (see Taylor, 1987 for a review of these studies). Additionally, we should not ignore the fact that although he was a medical doctor himself, Engel was a strong critic of the dogmatic biomedical model. Rather, he advocated a systems approach to medicine, encouraged the study of the individual, dyad, family, etc. and supported the validity of the analytic method, emphasizing the importance of its contributions to an overarching theory of psychosomatic disease.

Object Relations Theory and Psychosomatosis

In contemporary psychoanalytic theories there has been increasing emphasis on the impact of early object relations on subsequent personality development. These theoretical developments have been spurred on by interactional studies of infants and their mothers (Brazelton, Tronick, Adamson, Als, & Wise, 1975; Stern, 1977), Hofer's experimental

studies of psychobiological regulation (1978), as well as clinical work with primitive personality disorders.

In recent years there has been more interest in the field of psychoanalysis on developmental deficits versus dynamic conflicts, interpersonal relationships versus tension reduction, and "primitive" versus neurotic psychopathology (Eagle, 1984). Object relations theory, in contrast to ego psychology discussed above, focuses more explicitly on the interpersonal nature of psychopathology and its genesis. Boundaries are blurred, however, and there are many similarities between the two schools of thought. It is not the intention of the author to discuss at this point the complexities of, and factions within, the object relations framework; but rather, to provide a general overview of more or less universal ideas in object relations theory, and how these might apply to psychosomatic dysfunction. Common to all object relations theories is the importance of the early relationship between infant and caretaker for subsequent personality organization and development of the self. An object most typically refers to a person that is invested with emotional energy. An external object refers to an actual person whereas an internal object refers to a mental image, memory, or fantasy about another person (Hamilton, 1988). Internal objects are also referred to as object representations. Stierlin (1970) speaks of the "gyroscopic

function" of internal objects, which serve as "automatic stabilizers that hold the ship on course against the forces of wind, wake, and tide" (p. 321). It is apparently this regulatory function that is disturbed in psychosomatic patients. Numerous analysts and psychosomaticians in the literature have remarked upon the apparent lack of effective internal "stabilizers", or of a psychic defect in these patients which leads them to form a rigid, clinging dependency upon external objects. This psychic defect has also been linked to the frequent "alexithymic" presentation of psychosomatic patients, a tendency to experience affect somatically rather than symbolically, and to their extreme vulnerability to object loss.

Margaret Mahler's (1968) stages of early childhood development provide a useful framework for understanding early object relations in both normal and pathological development. Her work has been of central importance in virtually all American object relations theories (Hamilton, 1988). Based upon detailed observations of infants and their mothers, Mahler, Pine, and Bergman (1975) describe the phases leading up to what they refer to as the "psychological birth of the human infant". These stages include: Autism (0 to 2 months), Symbiosis (2 to 6 months), Separation-Individuation (6 to 24 months) and finally the development of object constancy after the second year.

In light of recent infant research (Davis, 1981; Stern, 1977), the validity of Mahler's Autistic phase is disputed. The evidence seems to suggest rather than beginning life as an insular entity, the newborn is more attuned to the mother and environment than was previously thought.

During Symbiosis the infant behaves and functions as though he/she and his/her mother were a single, omnipotent system - "a dual unity within one common boundary" (Mahler, 1968, p. 8). The mother and infant form what Ammon (1977) refers to as a "psychosomatic unit", demonstrating that "there is no such thing as an infant" (Winnicott, 1960). There is evidence that this close symbiotic relationship serves important biological regulatory functions which precede the development of later self-regulatory capacities as the infant internalizes the maternal functions. Conceptualizing the mother-child dyad as a regulatory system which maintains physiological homeostasis is an alternative to the original psychoanalytic notion that this first relationship serves mainly to provide instinctual gratification. Taylor (1987) suggests that disruptions in these early mother-child regulatory processes might alter one's ability to achieve homeostasis, and therefore increases one's susceptibility to organic dysfunction later in life. Likewise, Hofer (1983) points out one goal of the symbiotic relationship

is "its own dissolution through the establishment of the infant's individual homeostatic organization" (p. 62). It is probable, however, that this process continues well into the next phase.

At around six months of age the infant is postulated to mature to the Separation-Individuation stage, which is further subdivided into differentiation, practicing, rapprochement, and individuation. If Separation-Individuation is adequately negotiated, the infant moves from symbiotic relatedness to the establishment of a sense of self apart from the mother at around age two. This requires the mother to be optimally sensitive to the child's fluctuating needs to separate from her, to explore the environment, and to return to her periodically for emotional "refueling". She must be neither rejecting nor impinging, but "good-enough" (Winnicott, 1960), or consistent and responsive, putting the child's needs ahead of her own. This poses a problem for mothers with character pathology who often use their children "like a drug" (McDougall, 1989), to regulate their own self-esteem. Many investigators have indeed found that the mothers of psychosomatic patients are alternately impinging, overprotective, and latently rejecting (McDougall, 1989; von Rad, 1984; Sakin, 1985). They tend to reinforce the child's dependency, demonstrate overconcern with somatic functions, and punish the child's autonomous striving with

threats of abandonment. Normally at the end of the Separation-Individuation phase the child is able to disengage physically from the mother, secure in the knowledge that she will be there when she is needed. Individuation refers specifically to the development of intrapsychic autonomy, evocative memory, and a sense of cognitive separation or selfhood. The two processes, separation and individuation, go hand in hand and both are thwarted when the mother is unable to support the child and accept his/her autonomous strivings. In normal development the child develops a whole internal representation of the mother as both soothing and frustrating, good and bad. Henceforth, the child is able to evoke her image as both a soothing as well as a prohibiting figure. When this process goes astray, the child's internal representation of mother is incomplete, resulting in over-reliance upon external objects to make up for the internal deficit. Recall that extreme dependency upon external objects has been observed repeatedly in psychosomatic patients (e.g. Alexander, 1950; Engel, 1955). Object relations theory thus provides a way of accounting for this observation.

Grotstein (1981) defines object representations as symbols of external objects that can effectively replace departed external objects and fulfill many ego functions, including self-regulation, self-defense, and self-stimulation. The development of object representations is

felt to be necessary for a healthy, creative symbolic capacity. As Taylor (1987) notes, the capacity for symbolization enables a person to produce fantasies, dreams, and memories, all of which may help to regulate and modulate affect. Development of symbolic capacity may be hampered by the maternal failures noted above. For example, a chronically preoccupied, alexithymic mother is likely to be unable to contain and "detoxify" the child's primitive projections (Grotstein, 1981). Subsequently the child will have difficulty processing, neutralizing, and modulating intense affect which will be experienced as "too much", and may be subverted to somatic channels as its only mode of expression. Reusch's (1948) landmark article on the infantile personality calls attention to problems with symbolic capacity often seen in psychosomatic patients. This particular cognitive dysfunction has since been a consistent finding in many psychosomatic patients and is a core feature of the alexithymia concept (Sifneos, 1972). Although alexithymic characteristics are neither unique to, nor universal in, psychosomatic patients, the concept has acquired importance for both psychosomatic medicine and contemporary psychoanalysis. It is now regarded as "one of several possible general onset situations or risk factors that seems to increase the susceptibility to disease" (H. Weiner, 1982, p. 41), and is discussed in more detail in the next section.

Alexithymia

Definition and Description

From the Greek: a=lack, lexis=word, thymos=mood, emotion.

The euphonic term alexithymia is relatively new, having been coined by Sifneos in 1972 to describe a cluster of behaviors frequently seen in psychosomatic patients. The term refers to a cluster of behaviors indicating disruption in cognitive, affective, and interpersonal processes, seen mainly in clinical interview situations and derived primarily from observations of patients with so-called "psychosomatic conditions". The term has gained widespread acceptance among psychological researchers, and literally hundreds of articles have been published since its inception in 1972. Cognitively, these patients are described as "stimulus bound" in that they concentrate on minute details of everyday life, are oriented toward "pragmatic" thought content, and prefer action to reflection and fantasy (Lolas & von Rad, 1989). Affectively, these patients have difficulty expressing feelings verbally. Their language is relatively devoid of emotional metaphor and their ability to symbolize in general seems impaired. They have difficulty differentiating feeling states and are relatively unable to articulate inner experience. Associations refer to

external events rather than to internal fantasies. They seldom report dreams and when they do, dream content focuses on the day residue, lacking the bizarre symbolic quality of primary process dreams (Taylor, 1984). Regarding interpersonal relationships, these patients often appear "pseudo-normal", that is, their deficits are primarily apparent in certain circumstances such as the dynamic, clinical interview. Unable to label their feelings and use them as signals of inner conflict or of responses to external situations, alexithymic individuals tend to focus on the physical symptoms of emotional arousal and on other normal bodily sensations which they often amplify and misinterpret as signs of physical disease (Barsky & Klerman, 1983). Thus, they are often referred to as "hypochondriacs" or "persistent somatizers" and have frequently been observed to suffer from classical psychosomatic disorders (McDougall, 1989; Taylor, 1987).

Whereas to society at large these people usually appear conforming and well-adapted, to a more sensitive observer they seem to mechanically go through life "almost like following an instruction manual" (Taylor, 1984). Clinicians frequently find these patients dull, boring, and intractable in psychotherapy, what the French authors refer to as "rélation blanche" (de M'Uzan, 1974). A phenomenon of "projective reduplication" (i.e., the inability of such individuals to perceive the other as a separate and

distinct person) has been described. Instead, alexithymics tend to view the other as another version of themselves (Lolas & von Rad, 1989).

These clinical characteristics have been described with much consistency over time and across different countries such as Japan, Turkey, France, Germany, and the United States. The definition of alexithymia at present, however, is purely descriptive, with no necessary diagnostic or etiological implications. Whether or not it is a primary disposition or secondary to illness (Krystal, 1974), a trait or state, (Warnes, 1986), discrete or continuous, innate or acquired, a feature of the patient or a product of the dyad (Kirmayer, 1987) is yet unknown.

Although a new term, alexithymia is not a novel idea. Alexithymic-like attributes have been observed in psychosomatic patients since Ferenczi (1924) described patients who produced no fantasy and spoke of memories with no affect. Perhaps most influential were the observations of Ruesch (1948) who described the "infantile personality", consisting of traits common to "all" psychosomatic patients, as being the "core problem of psychosomatic medicine". He noted that those individuals who lack the ability to discharge tensions by verbal, symbolic, and interpersonal means, are prone to channel their tensions into physical symptoms. These patients were also designated "emotional illiterates" by Freedman and Sweet

(1954) to describe their inability to discharge tension through verbal or creative symbolism. Rather, "self-expression occurs on either the level of action or organ expression, especially with respect to tension" (Ruesch, 1948; p. 136). Alexander (1950) invoked intrapsychic defenses such as denial and repression to explain the apparent absence of fantasy and affect in psychosomatic patients. Around this time also, P. MacLean (1949), who was developing his notion of the "triune brain", noted that many psychosomatic patients show an apparent inability to verbalize feelings. He speculated a neural disconnection between the limbic system and neocortex to account for his observations.

Shands (1958), in his studies on the suitability of patients for psychotherapy, described "difficult patients" who possess characteristics similar to alexithymia. These features, identified by content analysis of interviews, include the inability to relate feelings, not valuing people as individuals, vague somatic complaints, and circumstantial speech patterns. Shands also observed that an inordinate number of psychosomatic patients belonged to this "difficult" category.

In 1963 the French psychoanalysts Marty and de M'Uzan described "la pensée opératoire" or operational thinking as a core aspect of psychosomatic patients. Operational thinking is a cognitive tendency to stick to the facts and

there is also a paucity of dreaming and fantasy, which if present, are reduced to externally perceived situations.

Also in 1963, but quite independently, Nemiah and Sifneos examined transcripts of clinical interviews with 20 psychosomatic patients and found that 16 of them showed a "marked difficulty in verbally expressing or describing their feeling and an absence or striking diminution of fantasy" (p. 28). Fragments of these interviews, providing clear examples of operational thinking and inability to verbalize affect, can be found in Nemiah and Sifneos (1970). Other clinicians (M. Jackson, 1977; McDougall, 1974) studied the overly adaptive social behavior that Reusch originally reported in psychosomatic patients and were impressed by their apparent psychological normality, termed by M. Jackson as "pseudo-normality" and McDougall as "normopathy".

From this brief sketch of the background of alexithymia it is clear that its attributes have been described by many observers over a span of several decades. The characteristics are consistent and there is consensus that these features can be observed and described. As these observations converged, the alexithymia construct was defined; its causes are being speculated upon, measurement instruments are developing, and its validity is being tested. Despite agreement at the phenomenological level, there continues to be much disagreement with respect to

etiology of alexithymia, its relationship to other disorders (e.g. psychosomatic illness, drug addiction, post-traumatic stress disorder, etc.), and its stability versus malleability.

Psychodynamic Theories of Alexithymia

Psychodynamic theories can be roughly split into two camps; alexithymia as deficit and as defense. The deficit model is similar to the notion of alexithymia as a trait, in that deficits result in stable, enduring personality features. This model proposes that alexithymic characteristics are the result of developmental difficulties which produce ego deficits, especially in the areas of cognition and object relationships. The deficit model derives from significant reformulations of psychoanalytic theory over the past few decades and is based on modern analytic notions of very early, pre-Oedipal development. The genesis of alexithymic characteristics is thought to stem from problems in the mother-infant relationship. McDougall (1989) describes two predominant trends in this relationship which are apt to give rise to alexithymic pathology. Very simply, the mother provides either too much gratification of the infant's needs, or she unduly prohibits their normal gratification. In both cases the mother is likely to be out of touch with her infant, her responses to the child tend to be dysynchronous, and

the infant's spontaneity is stifled and discouraged. The mother is unable to contain and tolerate the infant's primitive affect, which is thus split-off and disowned in order to protect the developing child from undue anguish. The infant's sense of symbiotic union with the mother is prematurely disrupted, preventing the child from developing an internalized, mental representation of the mother as compensation during her absences. This early mental image of "mother" is held to be a prototype of fantasy, and failure to develop it damages later ability to utilize the imagination in symbolic expressions of needs. This, in turn, results in problems modulating affect, regulating biological functions, and soothing oneself (Taylor, 1987). Thus, there is often a reliance upon externally provided, concrete gratifications such as drugs and alcohol (Krystal, 1978, 1988), and/or upon other people, in the form of dependent, symbiotic relationships. Alexithymic individuals are felt to be externally oriented due to a paucity of internalized regulatory mechanisms arising out of their primitive self and object representations (Simon, 1986; Taylor, 1987). Early object relational deficiencies thus give rise to cognitive deficits in symbolic capacity and in the ability to elaborate affect at the conscious level (Simon, 1986).

A major psychoanalytic view is that emotion is first experienced in a somatic form and progressively

"desomatized" during development (Krystal, 1974). Emotions are thought to be desomatized through verbalization and symbolic elaboration. This permits increased differentiation of affect and increased complexity of the personality, including the use of mature defense mechanisms (for example, repression and sublimation instead of splitting and projecting), and the development of a strong sense of self (Witkin, Dyk, Faterson, Goodenough, & Karp, 1974). Alexithymia seems to reflect a less psychologically differentiated personality in which positive and negative self and object representations are not integrated and differentiated (Kernberg, 1976). Hence alexithymic individuals are thought to operate at more primitive levels in various areas of functioning. However, because ego development occurs unevenly along different lines (Kernberg, 1976), some alexithymic individuals may appear to be superficially well-adjusted, or in fact operate at high levels in certain areas, such as intelligence.

The deficit model maintains that alexithymia is not so much a conscious, defensive ploy against awareness of painful affect as it is an inability to elaborate affect at a conscious, verbal level. McDougall (1982) states "feeling is not disavowed, it no longer exists" (p. 84). This sentiment is echoed by Sifneos (1974) who states that what appears to be the denial of emotion in alexithymic

patients is actually its absence. Taylor, Bagby, and Parker (1991) believe that the alexithymic person's vulnerability to illness can be linked to deficits in the cognitive processing of emotions. However, they take a more moderate stance in maintaining that such deficits may involve variations in brain organization as well as faulty patterns of affective interchange between mother and infant during development. With respect to analytically-oriented therapy, the deficit model implies that the therapist must at times function as a "good-enough mother" to make up for what the original mother was unable to provide.

Very few studies have sought to empirically explore psychoanalytic theories of alexithymia. Horton, Gewirtz, and Kreutter (1989) compared alexithymic patients with neurotic level patients and normal controls regarding their use of self-solacing strategies in stressful situations. The alexithymic subjects used fewer of these strategies, a finding which supports the hypothesis that alexithymia may, in some cases, represent a basic deficit in feeling. By inference this finding can be taken to support the deficit model. Studies which are more directly geared toward assessing these patients' object relationships and cognitive deficits are greatly needed.

Alexithymia alternately is viewed as a result of defenses (i.e. splitting, denial, repression) which protect the person from primitive terror, anxiety, depression, and

turmoil. Thus it can also be activated later in life following severe trauma, as noted by Krystal (1978) in his studies of concentration camp survivors and Vietnam veterans. Implicit in this conception is that alexithymia is treatable by analyzing and removing defenses, which allows the patient to recover and express emotion.

Nevertheless, these patients are usually considered notoriously difficult to treat by psychodynamic therapy (Shands, 1958). Without more research there is no way to decide whether a deficit or defense model accounts better for alexithymia and leads to clearer prognostic and treatment predictions. Because they are derived retrospectively, psychodynamic theories of alexithymia are difficult to test, and the emphasis on highly abstract concepts precludes easy operationalization. The benefit of the alexithymia concept to analytic theories is that it more precisely defines patients who were often previously dismissed as not psychologically minded and untreatable. Much effort is currently going into modifying dynamic therapies specifically to meet the needs of psychosomatic and alexithymic patients (Krystal, 1982; McDougall, 1989; Warnes, 1985). Such modifications include the therapist taking a more active and affective stance, emphasizing and modeling emotional experience and imagination, and de-emphasizing intellectualized interpretations. Often patients need to be taught to first observe, tolerate, and

finally verbalize their feelings. There is increasing focus on non-verbal communication and use of body techniques such as progressive relaxation, deep breathing, and biofeedback to improve the regulation of pent-up affect. These patients must be taught that emotions are an important source of information which, when reflected upon, can help them adapt more effectively to stressful situations and interpersonal relationships. Ammon (1979) has found that alexithymic patients benefit greatly from group therapy with neurotic level patients. Taylor (1987) stresses the need for the therapist to use his/her countertransference responses to understand the patient's primitive internal object world. The ultimate goal of all analytically-oriented therapy with alexithymic patients is to elevate the experience of affect from a primitive, sensorimotor level to a more mature, symbolic, respresentational level (Taylor et al., 1991). By studying problems posed by alexithymic patients, psychoanalytic theory and technique is enriched.

Ulcerative Colitis

Definition and Description

Ulcerative colitis is one of several inflammatory bowel diseases, referred to as "nonspecific" because of a lack of knowledge about its etiology and pathogenesis, despite abundant publications on both psychological and

biological processes. Biological research covers many areas, and especially implicates genetic, viral, bacteriological, and immunological processes in this disease. Kirsner and Shorter (1982), and H. Weiner (1977) provide excellent reviews of the biomedical research in ulcerative colitis. This disease is a chronic, recurrent ulcerative and inflammatory process affecting primarly the mucosa and submucosa of the colon, with varying degrees of involvement. The worldwide incidence appears to be on the rise, with approximately 1.5 million people afflicted in the United States (Kirsner & Shorter, 1982; H. Weiner, 1977). Because there is no known cure, and often substantial disability is associated with ulcerative colitis, it may be considered one of man's most devastating diseases. It "can be as incapacitating as chronic renal insufficiency, as destructive in young people as leukemia, as relentless as multiple sclerosis, and as malignant as a neoplasm" (Kirsner, 1971, p. 683).

Symptoms and complications. By most accounts, the onset of ulcerative colitis is marked by rectal bleeding, abdominal pain, stools containing pus, mucous, and/or blood, fever, and anorexia. Onset may be acute or gradual, with mild or severe symptoms. It can be distinguished from other idiopathic bowel disease such as Crohn's disease in about 80% of cases, but in some patients symptoms overlap and accurate diagnosis is difficult (Strang, 1989). The

course is variable, with intermittent symptoms and exacerbations which alternate with remissions of various durations. Rarely, patients develop a chronic, relentless course, or conversely, experience only one episode. Nevertheless once the disease has developed, it is thought that the bowel mucosa remain permanently abnormal, despite lengthy remissions (Dick, Holt, & Dalton, 1966). Thus the patient is felt to always be at risk for relapse, given some facilitating circumstance(s).

Perhaps just as disturbing as the bowel dysfunction are the many systemic and local complications which may accompany ulcerative colitis. Kirsner and Shorter (1982) have identified over 100 complications in other organ systems which appear to be strongly related to this disease, including arthritis, skin lesions, iritis, anemia, hepatic, renal, and pulmonary disorders, and growth retardation. Most of these problems develop after the onset of the bowel disease and subside during remissions or following colectomy (Strang, 1989). Local complications may include perforation of the bowel wall, perianal absesses, and increased risk of colon cancer. Needless to say, ulcerative colitis and its complications can be extremely disabling, disruptive, and sometimes fatal.

Epidemiology and etiology. Despite conflicting data and methodological problems pertaining to diagnosis, certain epidemiological trends have been reported in

ulcerative colitis. Because the colonic mucosa remain permanently altered once the disease is established, prevalence data reflect the assumption that every patient in whom the diagnosis has been made should be regarded as affected with the disease until the colon is resected or removed (Mendeloff, 1975). Incidence of ulcerative colitis is estimated to be between 2 and 7 per 100,000 population, and prevalence between 40 and 100 per 100,000 population. Because mild, untreated forms undoubtedly exist, it is hard to know the true figures. Although onset may occur at any age, approximately one-half of the cases experience onset between the ages of 10 and 30 years. Thus, it is often considered to be a disease of adolescents and young adults. Another rise in incidence occurs between the ages of 55 and 60, leading to the speculation that either two different diseases are operative, or two different populations are affected (Mendeloff, 1980).

Data on factors such as gender and socioeconomic status have revealed no strong trends. Reports of racial distribution are more consistent. In the United States, whites with the disease outnumber blacks by about 3 to 1 (Monk, Mendeloff, Siegel, & Lilienfeld, 1969) and Jews appear to be at higher risk for developing the disease than non-Jews (Acheson, 1960; Mendeloff, 1980; Singer, Anderson, Frischer, & Kirsner, 1971). Interestingly, in other parts of the world, including Israel, there is a much less

striking incidence among the Jewish population (Mendeloff, 1975). Found worldwide, ulcerative colitis is nevertheless more common in people from Western and Northern Europe, Scandinavia, and the United States, than for example, Japan, the Soviet Union, and South American countries (Kirsner & Shorter, 1982). In general, epidemiological data have been contradictory and puzzling, and have not significantly advanced knowledge about the role of environmental or socio-cultural factors in the development of ulcerative colitis.

The role of genetic factors in this disease is supported by the higher incidence in whites and Jews, and also by an increased family incidence between 5 and 10% among patients already afflicted (De Dombal, 1971). Although usually only one other family member (if any) is diagnosed with the disease, it has been reported to occur among more family members and across consecutive generations (H. Weiner, 1977). Ulcerative colitis has been associated with the known genetic disorder ankylosing spondylitis, a form of spinal arthritis. Relatives of ulcerative colitis patients also have a tendency to develop disorders such as bronchial asthma, allergic rhinitis, urticaria, and dermatitis in which a certain class of immunoglobins (IgE) plays an etiologic role. Finally, H. Weiner (1977) reports that fairly conclusive evidence has shown that anticolon antibodies occur with considerable

frequency in female members of families of patients with ulcerative colitis. All these findings strongly implicate a genetic mechanism in this disease, probably involving polygenic inheritance with the interaction of several genes (Singer et al., 1971).

Other intensively studied areas regarding the etiology of ulcerative colitis include infectious processes, immunology, virology, and psychology. It is likely that multiple interactive factors play a role in the susceptibility to and onset of this disease. To further complicate matters, H. Weiner (1977) suggests that ulcerative colitis is probably a heterogeneous disease with different predisposing factors. This would explain much of the contradictory evidence garnered so far. Possibly the only thing that can be said for sure is that this disease is "mysterious, multiplex, and menacing" (Kirsner, 1971). All this uncertainty mandates that researchers carefully specify subject selection criteria including duration of disease, age at onset, gender, ethnicity, and control for what possible confounding variables they can. Also it is important that the diagnosis has been reliably made and confirmed by the appropriate gastrointestinal procedure, such as sigmoidoscopy, and that infectious agents have been ruled out. From this background understanding of ulcerative colitis let us turn our attention to the psychological literature.

Personality Traits and Psychopathology

Since 1930 when Murray first identified the relevance of psychological factors in ulcerative colitis, an extensive literature has accumulated addressing this topic. There has been a running debate between those who believe it to be purely organic (for example, Feldman, Cantor, Soll, & Bachrach, 1967) and those who consider it clearly psychogenic in origin (for example, Sperling, 1960). Intermediate between these two extremes are those who believe that ulcerative colitis has multiple interacting causes, and that personality and emotional factors are somehow involved. Writers who have extensively reviewed the literature point out that there is in fact, widespread agreement that psychological processess have a major influence in this disease (Engel, 1973; H. Weiner, 1977). What seems to have emerged from most psychological studies is a picture of ulcerative colitis patients as "people who may differ from each other in degree, but who demonstrate a spectrum of personal sensitivities and vulnerabilities that are brought to the fore in certain life settings or in the face of certain experiences" (H. Weiner, 1977, p. 516). Likewise Engel states that while certain character traits are not specific to people with this disease, "... given the diagnosis of ulcerative colitis, the possibility of describing the major character traits of the patient

without even seeing him is excellent" (1955, p. 233). Although research with psychometric measures has not always strongly supported the relationship between psychological factors and ulcerative colitis, the clinical impression of such a relationship has been strong for over 60 years, based on patient contact and observation. Empirical psychometric evaluation of these observations is a fairly recent development. The remainder of this section will critically review the literature pertinent to the psychological study of ulcerative colitis, including data pertaining to personality traits, psychopathology, interpersonal (object) relationships, and onset situations. These divisions are neither mutually exclusive nor exhaustive, but are offered merely as a framework for organizing an extensive literature.

Observational data. One of the earliest trends in exploring psychological factors in ulcerative colitis was the case history, a methodology fraught with problems, yet still widely used. These qualitative studies are directed at identifying psychopathology and personality traits found in patients with ulcerative colitis, and frequently have been purely descriptive with little connection to theory about why such observations might occur. Often, a simplistic linear causality has been assumed, for example between suppressed anger and activation of a hypermobile colonic response (Prugh, 1951). Generally, case studies

have been based upon extensive biographical interviews with patients or data from patients in psychoanalysis. Murray (1930) was the first to describe the "emotional immaturity" of these patients and noted that symptoms usually developed in association with a "conflict between the mother-tie and a desire for marriage" (p. 241). His observations were followed by those of Sullivan and Chandler (1932), Daniels (1942), Sperling (1946), Chambers and Rosenbaum (1953), Craddock (1953), and Groen and Bastiaans (1954) to name a few. All had been impressed by the relationship between disease onset and specific emotional conflicts, often involving loss, suppressed anger, helplessness, and the intense, abnormal attachment to the mother. Additional observations suggest that these patients are frequently intelligent; exhibit compulsive, oversensitive features; have a great need for love and attention, yet experience inhibited sexuality; and have difficulty speaking about their inner lives (Groen, 1947). Paully (1950), summarizing his observations of 173 patients, reports an almost uniform psychological structure with features similar to those described by Groen. However, he adds that these patients are also self-righteous and lack a sense of humor. Their most striking feature seems to be inability to express emotions, which Paully attributed to emotional immaturity.

After about 25 years of similar findings, Engel (1955) summarized the reports published up to that time, representing over 700 patients with ulcerative colitis. Engel grants much credence to the psychoanalytic method, which due to its lengthy and detailed nature, establishes that major personality trends long antedate the onset of disease. Thus it would appear that psychodynamic trends predispose patients to the disease instead of being secondary to adjustment to a chronic, debilitating disorder.

Because of the incredible consistency of the descriptions of ulcerative colitis patients over the years, these observations must be granted some validity. Nevertheless, they cannot be considered infallible. It is difficult to know which interpretations are based upon de facto observations and which are reflections of expectations from earlier reports. For a good example of leading questions in a biographical interview, see Chambers and Rosenbaum (1950). The personality traits mentioned are often vague, and almost never defined operationally to permit objective evaluation. No systematic control groups are used, leaving no way to determine whether such characteristics are unique to ulcerative colitis patients or represent a more general "psychosomatic personality". In general, scientific methodology is lacking in these early reports, prohibiting necessary comparison and

replication of the results. In addition, prior to 1960, ulcerative colitis was not distinguished from other irritable bowel diseases, so the patients studied were, in all likelihood, suffering from different disorders (Lockhart-Mummery & Morson, 1960). Finally, patients seen by psychiatrists and analysts were probably a select group, possibly better educated, with more severe illness, and/or more severe psychopathology. Thus observations made on this group do not necessarily extend to all patients with ulcerative colitis.

On the other hand, the accumulated observational data should not be underestimated as a source of information indicating certain psychodynamic trends in these patients. "With better understanding of the factors involved in character formation one not only may find clues to common dynamics, but also to factors which may be covariant to both the psychological and somatic processes" (Engel, 1955, p. 233). What is required are studies using standard psychometric instuments and sound research methodology to support observational data. To these data we now turn.

Empirical data. Many attempts have been made to identify psychological features of ulcerative colitis patients which distinguish them from normal and medically ill control groups, using psychological tests and/or standardized interview procedures (Arapakis, Lyketsos, Gerolymatos, Richardson, & Lyketsos, 1986; Feldman et al.,

1967; Fischler & Fogel, 1973; Fullerton, Kollar, & Caldwell, 1962; Helzer, Stillings, Chammas, Norland, & Alpers, 1982; Liedtke, Freyberger, & Zepf, 1976; McKegney, Gordon, & Levine, 1970; McMahon, Schmitt, Patterson, & Rothman, 1973; Nilsson, Haglund, & Lofstedt, 1986; Rabavilas, Christodoulou, Lappas, Perissaki, & Stephanis, 1980; Rigatelli, 1981; West, 1970). The Minnesota Multiphasic Personality Inventory (MMPI) has been the most frequently used psychological test.

Fullerton et. al., (1962) compared MMPI data for 32 ulcerative colitis patients and a control group representing a variety of psychosomatic and psychiatric diagnoses at a VA hospital. A disproportionate number of ulcerative colitis patients (40%) had Depression as their highest elevation compared with 18% of the control group. The most frequently found profile among ulcerative colitis patients was a depressed, passive, feminine one. That the ulcerative colitis patients also scored significantly lower on the Mania scale was interpreted to mean that these patients are less aggressively active than the controls.

Comparing 30 ulcerative colitis patients with 30 healthy, matched controls, Liedtke et al. (1977) found the patients scored significantly higher on the MMPI Hypochondriasis, Depression, Paranoia, and Social Introversion scales. They interpreted these findings as supporting the often observed hypersensitivity of these

patients. These results were found to be independent of the length of illness, and were thus felt to represent primary personality characteristics rather than a reaction to being ill.

West (1970) compared MMPI data from 56 ulcerative colitis patients to data obtained from 122 patients with a variety of other psychosomatic diagnoses. The psychological pattern of the ulcerative colitis patients resembled that of medical patients in general and not the "psychopathological pattern" of the other psychosomatic patients. In fact the ulcerative colitis patients scored lower on all clinical scales, leading West to conclude that there were no distinguishing MMPI variables for ulcerative colitis.

McMahon et al. (1973) examined personality differences in 23 patients with irritable bowel disease (IBD; a mixed group including patients with ulcerative colitis and regional enteritis) and their healthy siblings, utilizing the MMPI among other measures and observational data. In this case the MMPI was the only psychometric instrument to reveal differences between the two groups, with IBD patients scoring higher on Hypochondriasis and Hysteria, and exhibiting, in general, less autonomy than their siblings. The siblings were seen as going through normal identity crises and emerging as independent individuals,

while the IBD patients appeared to maintain identification with and attachment to idealized parental figures.

Data from other objective personality tests indicate that ulcerative colitis patients are: (a) more intropunitive and less dominant than patients with other illnesses (Arapakis et al., 1986); (b) more obsessive and rigid than anxiety neurotics (Rabavilas et al., 1980) and medical controls (Helzer et al., 1982); and (c) tend toward "internalization" compared with migraine patients who tend toward "externalization" (Schucman & Thetford, 1970).

Several studies have utilized structured interviews to determine if there is a higher prevalence of psychiatric disorders among ulcerative colitis patients relative to the normal population (Feldman et al., 1967; Helzer et al., 1982; Magni, Bernasconi, Mauro, D'Odorico, Sturniolo, Canton, & Martin, 1991; Tartar, Switala, Carra, Edwards, & Van Thiel, 1987). Feldman's study is the most widely cited, and often taken by gastroenterologists to indicate that psychological factors play no role in the development of ulcerative colitis. These investigators studied 34 consecutive patients with ulcerative colitis, comparing them to the general population and patients with other gastrointestinal disorders. The primary finding was that the ulcerative colitis group did not differ from the control groups in either the range or severity of psychiatric disturbance. Twenty-nine of the ulcerative

colitis patients were reported to be essentially "normal" and five "abnormal", yet all 34 fell within the distribution of "normality" as arbitrarily defined by the authors. Although commendable in its attempts to include comparison groups and quantify normality, this study has been faulted on several grounds, including use of a nonstandardized personality assessment scale, and the absence of projective test data. Quantification was based on subjective inferences from the interview material, the raters were not blind with respect to subject group, and the study employed a hypothesized normal distribution curve that would assign 70% of the members of any group to the normal range (H. Weiner, 1977). Finally the authors failed to consider that ulcerative colitis patients tend to deny problems at a superficial level of inquiry, and frequently present with a "pseudo-normal" adjustment (McDougall, 1989).

Helzer et al. (1982), using a structured interview, also failed to find greater prevalence of psychiatric disorders in ulcerative colitis patients compared to a medical control group. Their conclusions are more tentative, however, as they allowed for the likelihood that other psychological tests may reveal important differences between the groups. They also acknowledge that their criteria for diagnosing psychopathology were conservative to minimize false positives. These authors emphasize the

need for clinicians to be aware of psychopathology in ulcerative colitis patients to permit optimal treatment.

Using a standardized interview to diagnose depressive and schizophrenic disorders (SADS-L) and the Symptom Checklist (SCL), Magni et al. (1991) found that ulcerative colitis patients presented with a greater frequency of psychiatric disorders (primarily anxiety and depression) compared with a medical control group. These data are in agreement with those gathered by Tartar et al. (1987) who, using DSM-III criteria, found a prevalence of anxiety disorders of about 29.5 percent in ulcerative colitis patients who volunteered for their study. Both sets of authors concluded that the psychological disturbance is secondary to the physical disease and recommend a comprehensive approach to patients with ulcerative colitis.

Studies which attempt to categorize ulcerative colitis patients according to personality or psychiatric diagnosis show variable results from which solid conclusions cannot be drawn. Research which concludes that these patients show no more psychopathology than the general population tend to view psychopathology in superficial, symptomatic terms and rely primarily upon patient self-report. That psychosomatic patients are often poor reporters of their inner lives and feelings (Groen, 1947; Reusch, 1948) is not taken into consideration. Except for the MMPI, many personality inventories are used in only one study, and

some possess questionable reliability and validity. Little effort is made to tie objective results to theory about why such findings might obtain. Conflicting results, such as those reviewed above, have failed to advance psychosomatic theory and sometimes have led to the faulty conclusion that an illness cannot be psychosomatic if measurable psychopathology is not found (Taylor & Doody, 1982). Possibly there is no directly causal relationship between psychopathology as traditionally defined and psychosomatic illness. Psychopathology (with its implicit value judgement) should be differentiated from an exploration of personality characteristics, interpersonal relationships, and developmental factors which might render people more susceptible to disease. Psychological studies could be strengthened by starting from an a priori theoretical framework, such as object relations, in order to provide a basis for research questions. In particular more research is needed using projective tests to tap "deeper" aspects of the personality, which, by nature, are more closely linked with dynamic personality theory. The theoretical construct of alexithymia, which proposes that psychosomatic disturbance is reflected in cognitive style, verbal expressiveness, and other subtle ego deficits, may be more important in the understanding of ulcerative colitis than identification of rampant psychopathology or isolated personality traits. Psychoanalytically oriented

researchers need to be especially alert to developmental defects in ego functioning which may be concealed by a pseudo-normal presentation. Close attention to the nature of these patients' object relationships should help to identify the underlying deficit pathology if it exists (Taylor, 1987).

Starting from an object relations theory of psychosomatic disorders, Nilsson et al. (1986) examined levels of defenses and object relations in ulcerative colitis patients and healthy controls. They used TAT-like stimuli reflecting attachment and separation themes, presented via tachistoscope. The rapid presentation of stimuli prevented subjects from altering their immediate unconscious reaction with higher level conceptual strategies. The ulcerative colitis group exhibited signs of primitive "dissolution" anxiety pertaining to the pre-neurotic level themes mentioned above. This suggests that anxiety in these subjects is causally related to very early experiences with possibly serious implications for subsequent development. This group was also more likely to show signs of pre-neurotic or "borderline" defenses such as devaluation, splitting, and fusion when presented with disturbing stimuli.

The construct of alexithymia has gained wide currency as a predisposing factor in psychosomatic disorders and several studies have found alexithymic features in

ulcerative colitis patients. The psychodynamic theory of alexithymia, which proposes that these characteristics result from early, pre-neurotic pathology in the mother-child relationship, leading to arrested development of the capacity for fantasy, is remarkably similar to observations of object relational themes in ulcerative colitis patients (Fava & Pavan, 1976/77b; M. Jackson, 1977). Fantasy may be regarded as an ego function which develops from the infant's gradual capacity to internalize a representation of the mother, which eases the experience of separation during her absences. A mother who is either chronically impinging or unavailable may prevent the development of this self-regulatory function, with the consequence that fantasy life is impoverished, as is the capacity for symbolization in general. McDougall (1974) sees this early environmental failure as a likely basis for "pseudo-normality" or alexithymia and also as a general predisposing factor in the development of psychosomatic illnesses at a later date.

Fava and Pavan (1976/77b) investigated the presence of alexithymic features as described by Sifneos (1973) in a consecutive series of 60 patients suffering from large bowel disorders [ulcerative colitis, irritable bowel syndrome (IBS), and appendicitis]. Patients with IBS, which is often considered to be a neurotic disorder, reported the highest percentage of psychiatric disturbance

and had the lowest alexithymia score. Conversely, patients with ulcerative colitis showed very pronounced alexithymic traits, with limited overt psychopathology. The authors hypothesized that alexithymic traits in these patients represent either psychic defenses against painful affect and/or a developmental deficit in learning to make connections between words and emotions.

Nakagawa, Sugita, Nakai, and Ikemi (1979) compared the prevalence of alexithymic traits among patients with digestive disorders including ulcerative colitis, peptic ulcer, chronic pancreatitis, and irritable bowel syndrome (IBS). The ulcerative colitis and pancreatitis patients evidenced the most pronounced alexithymia according to the author's criteria, while the IBS patients demonstrated few alexithymic but many neurotic features.

In an impressionistic and uncontrolled study of 16 patients with ulcerative colitis, using TAT data, Rigatelli (1981) found evidence of alexithymia, inhibited aggression, and obsessive-compulsive traits in this group. This poorly conceived study underscores the need for (a) objective scoring criteria when using projective measures, (b) control groups, and (c) conclusions based upon statistically significant results rather than subjective speculation.

Taylor, Doody, and Newman (1981) compared twenty patients with irritable bowel disease [IBD, (ulcerative

colitis and Crohn's disease)] to twenty matched, neurotic patients to assess differences in psychopathology, verbal expression, and fantasy formulation. The method consisted of clinical interviews, several standardized psychological tests, an alexithymia questionnaire, and two projective measures (TAT and Rorschach). Projective data indicated that the neurotic patients had higher levels of psychopathology, were more verbally productive, more able to verbalize emotion, and better able to modulate affect. These findings are in accord with those Fava and Pavan (1976/77b) and Nakagawa et al. (1979), and partially support the existence of alexithymic features in patients with ulcerative colitis. The authors speculated that higher levels of overt psychopathology contribute to greater verbal expression of emotion, but that in psychosomatic patients the psychopathology is not neurotic but rather is represented by the physical symptom.

In an extension of this study, Taylor and Doody (1982) were able to differentiate the Crohn's disease and ulcerative colitis patients from each other using discriminant function analyses. Results indicated that neurotic and Crohn's disease patients shared similar levels of psychopathology on several tests but the ulcerative colitis group evidenced significantly less psychopathology overall. Despite these differences, both IBD groups showed the same reductions of verbal-emotional expression compared

to the neurotic group. The authors concluded that alexithymic characteristics are independent from other forms of psychopathology, supporting the notion that an alexithymic disturbance may be more important in the pathogenesis of psychosomatic disorders than the level of overt psychopathology.

Although alexithymia has consistently been found in psychosomatic patients, little research has attempted to determine whether there are variations in alexithymia between psychosomatic patient groups. Some preliminary findings (Keltikangas-Jarvinen, 1985) indicate that ulcerative colitis patients may be more alexithymic than those with other disorders, such as peptic ulcer disease. Acklin and Alexander (1988) however, found chronic pain patients to be more alexithymic than patients with various gastrointestinal disorders. Part of the problem is in failing to clearly specifying patient groups. As H. Weiner (1977) warns, heterogeneous grouping of patients in research and treatment programs is a highly questionable procedure, at our present level of knowledge. Also, until the development of the Toronto Alexithymia Scale (Taylor, Bagby, Ryan, & Parker, 1990), no adequately reliable and valid measure of alexithymia existed, and the evaluation of this construct has been based on a variety of dubious procedures. Further research of alexithymia in

psychosomatic patients is necessary and will undoubtedly be enhanced by the use of this psychometrically sound scale.

Object Relationships in Ulcerative Colitis

Object relations, a concept which is at the forefront of contemporary psychoanalytic theory, refers to the subjective experience of self and others, and the manner in which these internal representations are manifested in interpersonal behavior (Bellak & Hurvich, 1969). Engel's series of papers on ulcerative colitis (1954 a&b, 1955, 1958) contain important observations on these patients' object relationships, which are still considered valid (Almy, 1980; Taylor, 1987; H. Weiner, 1977). Engel's landmark papers served to shift the prevailing theoretical focus from the importance of intrapsychic conflicts in the development of this disease to the vicissitudes of these patients' interpersonal relationships, from infancy to adulthood. In general, all object relations theorists emphasize the impact of the earliest mother-child relationship on subsequent personality development and dysfunction. The most commonly reported interpersonal feature of the ulcerative colitis patient is his/her extreme dependency upon a key figure; in early life, usually the mother; later, a mother substitute, often the spouse. This later dependency is thought to recapitulate the earlier mother-child relationship, as the patient

unconsciously seeks a partner with whom he/she can repeat the pathological object interaction of childhood (Wilson, 1989). The patient uses this key figure as an extension of the self, as part of his/her "equipment" for dealing with the world (Engel, 1975), without whom his/her ability to feel secure vis à vis the world is severely compromised (Bastiaans, 1977). In object relational terms, ulcerative colitis patients are felt to be stuck at the symbiotic stage of interpersonal development, never having successfully achieved separation-individuation with its attendant sense of identity, object constancy, and symbolic capacity. Failure to complete the separation-individuation process results in serious ego deficits which are likely to affect self-regulatory capacities and psychobiological homeostasis, and thus may predispose one to the development of psychosomatic disease, given some constitutional vulnerability (Hofer, 1978; Taylor, 1987). Because of their primitive symbiotic attachments, it is thought that ulcerative colitis patients are particularly fearful of abandonment or loss of significant ("key") others, and their subsequent sense of helplessness. To guard against such abandonment these patients are typically compliant and avoid overt expression of anger or hostility, at all costs. A close temporal relationship between recent object losses and the onset or relapse of ulcerative colitis has been documented by many investigators (Freyberger, 1970;

Fullerton et al., 1962; Levitan, 1976/77; Lindemann, 1950; Paull & Hislop, 1974). The frequent onset of ulcerative colitis during adolescence and early adulthood might be linked to conflicts about the typical adolescent desire to separate from the mother and the need to maintain symbiotic relatedness (Blos, 1967; Masterson, 1972).

In spite of the clinging dependency which characterizes these patients, they seem to have limited ability to establish warm, genuine friendships with others (Engel, 1955, 1958). Their sensitivity to rejection and rebuff may lead them to adopt a submissive, polite, and conforming demeanor or appear to remain uninvolved, aloof, and nonchalant (Engel, 1975). In either case they tend to avoid or deny conflict. Such a presentation shares many similarities with McDougall's (1989) notion of "pseudo-normality" and the construct of alexithymia described above.

These patterns of relating frequently extend to the patient's relationship with his/her physician or therapist. Either he/she becomes extremely dependent and attached, relating to the doctor as a "key other", or remains distant and superficial. Those who establish a dependent relationship and form a positive, idealizing transference generally have a better prognosis (Freyberger, 1970), but those few patients who are truely "individuated" have the best prognosis of all (Karush, Daniels, Flood, & O"Connor,

1977). Thus the study of object relationships in these patients is not only of academic, theoretical interest, but may have some practical application as well. Several internists who have dealt extensively with patients who have this disease recommend that the treating physician should function as though these psychological characteristics pertain to all ulcerative colitis patients. They suggest that the relationship between patient and doctor is at least as important as medical management (Engel, 1975; Freyberger, 1970; Lepore, 1965).

Mothers. From an object relations framework the mother plays a prominent role in the development of personality and its disorders. Mothers of ulcerative colitis patients have been described with impressive consistency, across several types of data including direct observation (D. Jackson & Yalom, 1966; Sojit, 1969; Sperling, 1946), patient description (Engel, 1955; 1958), and psychological test profiles (H. Weiner, 1977). Sackin (1985), based on an extensive review of the literature of parents of children with psychosomatic disorders, describes a composite "psychosomatic mother". She is: (a) domineering; (b) exceedingly demanding; (c) discouraging of any behavior by the child that suggests autonomous strivings; (d) rejecting when the child shows initiative; (e) unempathic and insensitive; and (f) narcissistic. She may also be pessimistic, cold, and unpredictable (Engel,

1955). Because she does not "permit" individuation, she and the child are caught up in an ambivalent "emotional symbiosis" (Sperling, 1946). In many areas of life these patients give up their sense of individuality and act "as proxy for the mother, enjoying only what she would enjoy and forever seeking assurance that no transgression had taken place" (Engel, 1958, p. 319). Again, no linear causality should be assumed between maternal traits and the development of ulcerative colitis. Mother-child symbiosis is a transactional concept in which the protagonists mutually interact and influence each other. The child's constitutional endowment or temperament could itself lead to personality features which "pull" for the mother's control and domination (Engel, 1958). It should also be kept in mind that many of the characteristics ascribed to the mother are based on the patient's subjective, mental representation of her, and do not necessarily mirror reality.

Fathers. Literature on the fathers of ulcerative colitis patients is sparse and contradictory, and objective data are lacking. He is alternately described as mild and ineffectual, or cruel and punitive (Engel, 1958). His role in the development of psychosomatic vulnerability may be through enabling the mother-child symbiosis by his lack of involvement with the child or family (Sackin, 1985). More

information is needed on how ulcerative colitis patients perceived their fathers while growing up.

Family dynamics. Family studies have focused on families with sick children in the home, which is an important confounding variable. However, family interactions appear to be similar across studies and support the notion that individuation is discouraged. Families of children with ulcerative colitis have been described as "restrictive", discouraging humor, dissension, and originality (D. Jackson & Yalom, 1966); as being "pseudo-mutual", i.e., presenting a united, conflict-free front (Finch & Hess, 1962); as overprotective (G. MacLean, 1976); and as being rigidly cohesive (Titchener, Riskin, & Emerson, 1960). There is no information in the literature on whether these family interactions are similar to those of patients with adult-onset disease while they were growing up.

Because of problems operationalizing and measuring theoretical constructs such as object relations, one again finds a dearth of objective evidence for the observations described above. Blatt (1974) and Taylor (1987) have stressed the importance of objectively evaluating impairments in object relations and their potential role in vulnerability to psychopathology and psychosomatic disease. The evaluation of object relations should be useful in identifying ego deficits and primitive pathology as opposed

to neurotic level pathology. Engel (1958) proposed that ulcerative colitis develops when significant object relationships are threatened or disrupted and the patient is left in a psychobiological state of helplessness and hopelessness: "As long as an object relationship is maintained other pathological processes may become manifest but not ulcerative colitis" (p. 326). If this is true, the elucidation of object relational constructs constitutes a most important problem for research.

Onset Situations

Many studies claim that certain distressing events precede the onset or exacerbation of ulcerative colitis (Dûret-Cosyns, 1975; Engel, 1955, 1975; Fullerton et al., 1962; Lindemann, 1950; McKegney et al., 1970; Paull & Hislop, 1974). A variety of precipitating stressors have been cited, including engagement, pregnancy, death or illness of a family member, rejection, job or school change, loss of physician, domestic stress, etc. (Almy, 1980; Freyberger, 1970; Lindemann, 1950; McKegney et al., 1970). The common denominator of these situations was defined by Engel (1955) as "a real, a threatened, or a fantasied interruption of a key relationship" (p. 253). Other elements of the precipitating circumstances involve demands for performance which the person feels incapable of meeting, especially when support is not available, and

strong, overwhelming disapproval, leading to fear of rejection (Engel, 1958). Any of these situations can lead to feelings of being overwhelmed and helpless, resulting in a collapse of psychological defenses and inability to cope, i.e. the "giving-up/given-up" complex mentioned earlier. H. Weiner (1977) considered this state of helpless despair as a "failure of adaptive capacity in psychological functioning", which is not specific to ulcerative colitis, but which frequently precedes it. He further states "The specificity of the disease which ensues must be determined by a biological predisposition and by (unknown) brain, autonomic, and hormonal correlates of the biological state of adaptive failure, which is expressed psychologically as the giving-up/given-up complex and which sets in motion unknown pathogenetic mechanisms" (p. 520). This sense of despair, helplessness, defeat and loss of self-esteem has been linked to ulcerative colitis by a number of observers over the years and seems to be a consistent feature preceding the onset of this disease (Dûret-Cosyns, 1975; Engel, 1968; Freyberger, 1960; Fullerton et al., 1962; Lindemann, 1950; Prugh, 1951; Sifneos, 1964; Sperling, 1946). The frequency with which such onset phenomena are identified varies widely, from 2% (Feldman et al., 1967) to over 90% (Prugh, 1951). Almy (1980) points out that the significance of onset events is more likely to be underestimated than overestimated as ulcerative colitis

patients do not easily reveal their innermost feelings and/or are unable to make connections between significant life events, their emotional sequelae, and the onset of symptoms, which themselves may be hard to pinpoint. Generally when patients have been studied intensively in ongoing psychotherapy, precipitating events are more often identified than not. When patients are interviewed briefly, results have been mixed (Strang, 1989). Other investigators have questioned the validity and reliability of uncontrolled studies and have tried to systematically study the impact of stressful events on the development of ulcerative colitis. Mendeloff and his collegues (Mendeloff, Monk, Siegel, & Lilienfeld, 1970) compared life stress scores among three groups; irritable bowel patients, ulcerative colitis patients, and non-medical controls. Structured interviews were carried out by lay interviewers who did not know the subjects' diagnoses. A life stress score was compiled for each individual based on socio-cultural factors thought to represent significant life stressors (i.e. socio-economic mobility, age at parent's death, whether the subject lived alone, number of marriages, jobs, residences, etc.). The ulcerative colitis group resembled the general population in the incidence of the particular stressors assessed, while irritable bowel patients scored higher. The authors conclude that stress events are not important in the etiology of ulcerative

colitis. However, this study has been strongly criticized on many counts, including the validity of their stress index (H. Weiner, 1977) and the use of a superficial assessment procedure using lay interviewers (Schmitt, 1970). Again, it is probably not external events per se which distinguish ulcerative colitis patients from others, but rather their respective tendencies to regress psychologically in response to significant events (Strang, 1989) such as perceived or threatened loss.

McKegney et al., (1970) studying a consecutive series of ulcerative colitis patients, found that a "well-defined and serious life crisis" occurred in the six months prior to the disease onset in 86% of these patients. In some of these cases the judgement was made on chronology alone as some patients denied any possible relationship between the event and disease onset. In most cases, however, the onset situation was "clear cut, and on face value, of serious significance" (p. 163).

Fava and Pavan (1976/77a), using the Paykel Life Events Questionnaire, compared a consecutive series of ulcerative colitis patients to irritable bowel and appendicitis patients. They found that the onset of ulcerative colitis and irritable bowel syndrome was frequently preceded by undesirable events involving losses or exits from the social field, whereas appendicitis seemed to follow generic psychosocial difficulties. There does

not seem to be any correlation, however, between stressful life events using the Paykel Life Events Questionnaire and symptom severity in ulcerative colitis (Helzer et al., 1982). The incidence of life crises occuring prior to the onset of symptoms was documented in 50 consecutive patients with ulcerative colitis and was found to be significantly higher in the patient group than in a matched group of normal controls (Paull & Hislop, 1974). These investigators used a series of interviews with special attention to changes in life setting and interpersonal relationships (i.e. death, severe illness, pregnancy, marital separation, migration etc.) within the family group. Most symptoms were found to develop within six months following a life crisis. Although these findings are similar to those reported by Fullerton et al. (1962), both studies are flawed by the absence of a medically ill or psychosomatic control group. Therefore they do not address whether this special vulnerability to loss is unique to ulcerative colitis, or as Engel (1968) proposes, whether it is a part of a more general susceptibility to somatopsychic/psychosomatic disease.

Summary

According to H. Weiner (1977) the accumulated evidence supports the hypothesis that psychological factors do account for an unidentified portion of the etiological and

pathogenetic variance in ulcerative colitis. Many of the studies, however, both supporting and refuting the roles of these factors, are methodologically flawed, making conclusions tenuous at best. The interpersonal relationships of these patients have been consistently described for decades and, from an object relations framework, continue to be a compelling area of study, particularly given recent advances in the measurement of such constructs. Engel's careful and consistent observations of ulcerative colitis patients, in particular, merit research using the methodological recommendations set forth by the International College of Psychosomatic Medicine in 1987 (Fava & Wise, 1987). These include the use of representative, homogeneous samples, preferably unselected or consecutive series of patients; appropriate control groups, including healthy and psychosomatic comparison groups, matched on potentially biasing variables; the use of reliable, valid psychometric instruments; cautious interpretation; replication; and communication of results.

III. HYPOTHESES

The following hypotheses, derived from the literature on psychosomatic medicine, ulcerative colitis, and object relations, were investigated:

1. The ulcerative colitis (UC) group will demonstate lower levels of object relations compared to the healthy control (HC) group, evidenced by lower scores on Westen's four TAT scales. The psychosomatic control group [subjects with rheumatoid arthritis (RA)] scores on these measures will be compared to the other two groups, but no predictions are being made with respect to this group's performance.

2. Subjects with UC will place in Octants 5 or 6 on level IIImm, indicating an underlying dependent, docile, and/or self-effacing character structure. Healthy control subjects will place in random octants with fewer scores in Octants 5 and 6. No predictions are being made with respect to where the RA control subjects would place on level IIImm.

3. Subjects with UC will place their mothers in Octants 1 or 2 on level IIm, being described as domineering and exploitative more frequently than the mothers of HC subjects, who will be placed in random octants. No predictions are being made with respect to where the RA control subjects will place their mothers on level IIm.

4. Subjects with UC will be more closely identified with their significant other (usually the spouse) than the HC group, measured by Leary's "Conscious Identification" variability index (amount of discrepancy between levels IIso and IIs). The RA control group will be compared to the other two groups (UC and HC) on this variable with no predictions being made regarding differences.

5. Subjects with UC will evidence less maternal assimilation than healthy control subjects, indicated by higher scores on the "Maternal Assimilation" variability index (discrepancy between levels IIm and IIImm). No predictions are being made regarding the RA group on this measure.

6. Subjects with UC will evidence lower scores on the "Mother-Significant Other Equation" variability index (amount of discrepancy between levels IIm and IIso) than healthy control subjects, indicating their attempt to secure maternal regulatory functions in contemporary, significant relationships. No predictions are being made with respect to the RA control group's score on this index.

7. Subjects with UC will score higher on the Toronto Alexithymia Scale than healthy control subjects. No predictions are being made with respect to the RA control group's score on this measure.

8. Maternal assimilation scores (higher scores indicating less assimilation) will be positively correlated with Toronto Alexithymia Scale scores across all subjects.

IV. METHOD

Subjects

Subjects consisted of 60 people between the ages of 18 and 60, with at least a 9th grade education, forming the following groups; (a) twenty healthy control subjects (HC) with no diagnosed or demonstrable physical or mental illness, (b) twenty subjects with rheumatoid arthritis (RA), serving as a psychosomatic control group, and (c) twenty subjects with ulcerative colitis (UC), diagnosed by a gastroenterologist.

Healthy subjects were recruited from adult evening school courses at the University of Tennessee and from notices posted in the offices of family practitioners. Subjects with ulcerative colitis were obtained with the assistance of their gastroenterologists who posted recruitment notices in their offices and informed these patients of the study. Subjects with rheumatoid arthritis were recruited in the same manner from rheumatologists, from local RA associations, and from newspaper advertisements (see Appendix A for recruitment notices). The participation of all subjects was kept strictly confidential. Subjects who completed the study received $15.00 or extra-credit for the adult evening schoool participants.

Measures

Toronto Alexithymia Scale (TAS)

In order to determine whether or not alexithymia is an important feature of psychosomatic patients in general, and ulcerative colitis patients specifically, the TAS was used. This test has been developed in accordance with contemporary standards of test construction, and subjected to repeated and rigorous assessment of reliability and validity (Fava & Wise, 1987). The development of the TAS is a significant advance over earlier measures of alexithymia such as the Schalling-Sifneos Personality Scale (SSPS and SSPS-R), the Beth-Israel Questionnaire, and the MMPI Alexithymia scale which were developed with little attention to psychometric theory (Bagby, Taylor, & Ryan, 1986; Norton, 1989; Paulson, 1985). The TAS on the other hand, is a 26 item, self-report inventory (Appendix B) which was devised specifically to validate the alexithymia construct rather than simply to measure it with the presumption that its validity had already been established. In the field of personality theory, this is referred to as a measurement-based approach (Hogan & Nicholson, 1988). The requirements of such a test, described by Loevenger (1957) are: (1) the item content should represent the theoretical domains of the construct, (2) these domains should relate to one another in a theoretically consistent

manner, (3) the test should produce results that are consistent with theoretical predictions, and (4) the test should be distinct from measures of different personality constructs, but similar to tests thought to measure the same construct or its separate domains. A good deal of research has demonstrated that the TAS does indeed converge and diverge in a pattern theoretically congruent with the alexithymia construct (Bagby et al., 1986; Parker, Bagby, & Taylor, 1989; Parker, Doody, & Keefe, 1988; Taylor, Parker, & Bagby, 1990).

Items for the TAS were selected from those which appeared to reflect the alexithymia construct (i.e. for their face validity). A 41 item pilot scale was eventually reduced to 26 items which correlated most highly with the item-total scale and item-factor scales. This 26 item scale is internally consistent (Cronbach's alpha = .79), with good split-half reliability. Factor analysis revealed a stable four factor solution congruent with the alexithymia construct (identifying feelings, communicating feelings, externally-oriented thinking, and impoverished fantasy). Likert scaling of the items permits assessment along a continuum, and several items are negatively keyed to control for response bias.

Test-retest reliability with three separate subject samples over one week ($r = .82$), five week ($r = .75$), and

three month (r = .77) periods is excellent (Sriram, 1986; Taylor, Ryan, & Bagby, 1985).

Construct validity of the TAS has been supported by results from several studies examining the relationship of this scale to other personality measures. The TAS has been found to correlate positively with measures of hypochondriasis, the Psychosomatic Symptom Checklist, and the somatization subscale of the SCL-90-R, and correlated negatively with measures of psychological mindedness, imagination, and ego strength (Taylor & Bagby, 1988). These findings support the clinical contention that alexithymic individuals respond poorly to insight-oriented psychotherapy. Moreover, the validity of the TAS was demonstrated with a sample of behavioral medicine outpatients (Taylor et al., 1988). Patients rated as alexithymic by two out of three clinicians scored significantly higher on the TAS than patients rated as non-alexithymic, based on extensive interview data. From this study, statistically conservative cutoff scores were selected to maximize the diagnostic validity of the TAS. While total scores can range from 26 to 130, a score of 74 or higher is recommended to identify alexithymia.

The relationship between the TAS and socio-demographic variables has also been investigated (Parker, Taylor, & Bagby, 1989) since it has been argued that alexithymia may be explained by low intelligence and/or cultural factors

(Kirmayer, 1987). TAS scores however were not associated with age, gender, educational level, SES, or intelligence as measured by Raven Advanced Progressive Matrices. TAS scores have also been found to be independent of depression (Wise, Mann, Hryvniak, Mitchell, & Hill, 1990).

Research using the TAS has also provided empirical evidence supporting the theoretical formulation and clinical impression of an association between alexithymia and somatic disorders such as psychogenic pain disorder (Sriram, Chaturvedi, & Gopinath, 1987), rheumatoid arthritis (Fernandez, Sriram, & Rajkumar, 1989), anorexia nervosa (Parker et al., 1989), alcoholism (Taylor et al., 1990), and abnormal illness behavior (Wise et al., 1990). Additional studies are needed using other clinical samples. Many of the interesting studies of the past decade which link alexithymia to various disorders, such as ulcerative colitis, should be replicated using the TAS, instead of the psychometrically poor measures mentioned above. If this link still holds, the next step would be to attempt to explore unconscious dynamics and object relations in alexithymic patients, improving upon theoretical formulations of this construct.

The Leary System

The Leary system presents a multi-level view of a person's behavior and interpersonal style. It was derived

from the theoretical assumption that people are social beings, always involved in crucial interactions with family members, contemporaries, and society (Leary, 1957). The system is not oriented toward evaluating different types of psychopathology as discrete phenomena, but rather, it measures human behavior and personality on a continuum, from adaptive to maladaptive. In particular, the system centers on adjustive and maladjustive interpersonal behavior, making it particularly useful for studying object relationships. An important feature of the Leary system is that it acknowledges that personality is multi-dimensional and that different aspects of the personality may be in conflict. Any statement about personality must therefore indicate the level to which it refers, and each level must be operationally defined and measurable, using the same variables. Thus, using the Leary system, it is possible to make direct comparisons among levels, and measure discrepancies, conflicts, and concordances between levels.

Data at all levels of description are organized on a circular, two-dimensional grid, representing a continuum of interpersonal themes (Figure 1). The vertical axis measures the dimension of Dominance-Submission (DOM) and the horizontal axis measures the Love-Hate (LOV) dimension. These two orthogonal dimensions were chosen for their optimal ability to relate an extensive list of generic interpersonal themes to each other. The relationship

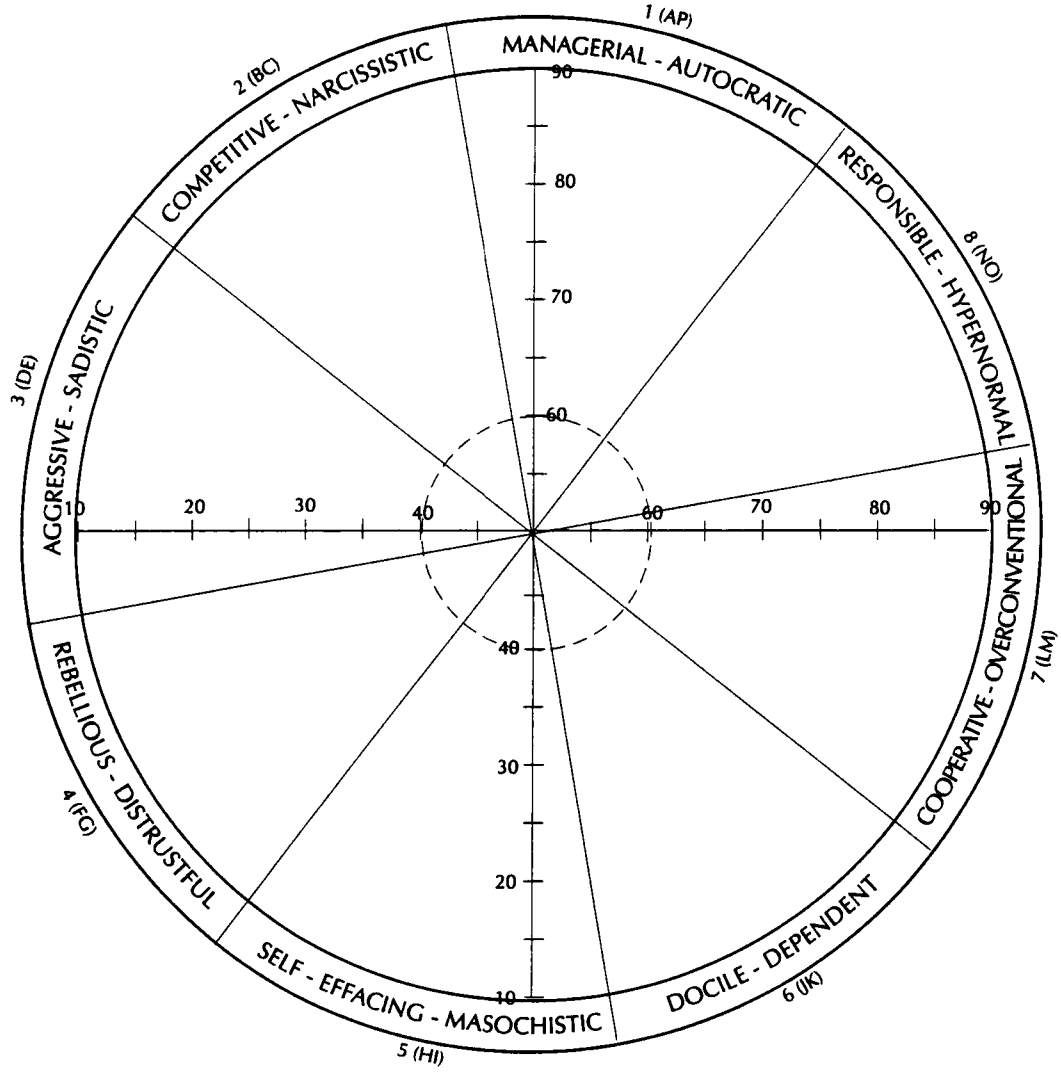

Figure 1: Leary Circumplex Model of Interpersonal Behavior.

between any two variables is a function of their proximity on the perimeter of the circle. Adjacent variables are theoretically similar and should be highly and positively correlated, whereas opposite variables should be negatively correlated. The center of the circle represents the mean (μ=50, s.d.=10) of the normative population (Leary, 1957). Thus, the distance and direction of a subject's summary score reflects both the particular kind of interpersonal behavior as well as its degree of deviation from the norm. The circle is divided into 8 octants, with each octant representing characteristic modes of relating to others. Each octant has moderate (adaptive) and extreme (maladaptive) intensities reflected in its label as follows:

Octant 1: Managerial - Autocratic
Octant 2: Competitive - Narcissistic
Octant 3: Aggressive - Sadistic
Octant 4: Rebellious - Distrustful
Octant 5: Self-Effacing - Masochistic
Octant 6: Docile - Dependent
Octant 7: Cooperative - Overconventional
Octant 8: Responsible - Hypernormal

These octants can be grouped into various configurations. Leary (1957) considers octants 1, 2, 7, & 8 to reflect healthier or more socially desireable adjustments than the other octants. Similarly, octants 1, 6, 7, & 8 are considered affiliative whereas octants 2, 3, 4, & 5 reflect an oppositional adjustment. The octants may

also be collapsed into quadrants for the purpose of classification or statistical analysis.

The Leary system enables one to classify personality into five levels: I. Public Communication, II. Conscious Description, III. Basic Intentionality, IV. Unexpressed Unconscious, and V. Values. The source of the data determines the level of classification. In the present study, only levels I, II, and III, are investigated and are described more fully below.

1. The level of Public Communication (Level Is) is conceived as the social impact that one person has on another (Leary, 1957). Level Is data are objective or public, rather than private or subjective. These data reflect how a person appears to another, or to the world. This social behavior is usually involuntary, spontaneous, and reflexive, rather than deliberate. Level I is what the subject does, while level II is what one says one does. Leary's theory maintains that a particular category of interpersonal behavior (for example, dependency) will elicit, or "pull" for a particular response from others (for example, leadership). That such a stimulus-response connection exists in level Is interpersonal behavior was supported by Shannon and Guerney (1973). The diagnosis of public communication may be obtained in several ways, including the use of MMPI scales which reflect the interpersonal pressure generated by the person's behavior

(Leary, 1957). The following formulae are applied to MMPI subscale T-scores:

DOM = (Ma - D) + (Hs - Pt)
LOV = (K - F) + (Hy - Sc)

The raw DOM and LOV scores are converted into standard scores provided by Leary (1956, p. 86) which are, in turn, used to plot the location of the summary point in one of the octants on the diagnostic grid. Klopfer (1961) has questioned the validity of using the MMPI to measure the DOM dimension at this level, but demonstrated that the MMPI did adequately predict the LOV dimension. Leary (1957) found a high correlations between MMPI data and sociometric ratings for psychiatric patients, and was also able to distinguish among obese females, prisoners, student nurses, and others on the basis of these measures. Further support for the utility of the MMPI in measuring this level is provided by Heintzelman (1983), McDonald (1968), and Schoolar, White, and Cohen (1972).

2. The level of Conscious Description (II) includes the content of all statements that a person makes about the interpersonal behavior of oneself and others. The concern is with the person's own descriptions, not their consensual accuracy. Thus, to use object relation terminology, these descriptions are an indication of one's mental representations. To obtain level II data, scores from the Interpersonal Adjective Checklist (ICL) are used (Appendix

C). In the present study, subjects will rate themselves, mother, father, and spouse or significant other on the 128 items of the ICL. Of these 128 items, there are 16 items pertaining to each octant. If none of the items in a given octant apply to the person being rated, he/she would not seem to manifest any of that octant's characteristics. On the other hand, if all items in a given octant were checked, the person would be considered to have an extreme intensity of that trait. Optimally, a well-adjusted person will possess some of all the traits, based on Leary's notion that adjustment is related to interpersonal flexibility and a wide repertoire of responses to the environment.

3. The level of Basic Intentionality (IIImm) defines a person's motives and aims vis à vis the environment; one's character structure which underlies overt, symptomatic adjustment. This level has been conceptualized by Cohen, Johnson, and Hanson (1971) as the ground from which public behavior emerges and becomes figural. Basic intentionality is a pervasive characteristic flavoring one's entire existence. It is stable and enduring, having developed through the life-long process of mediating internal and external needs. Level IIImm is what would remain if more conscious and public adaptive levels were to fail under stress or be stripped away (Cohen et al., 1971; Warren, 1977). This measure can be used to explore whether or not

ulcerative colitis patients approach their world differently than other psychosomatic patients and/or normal controls, and if so, in what way? This level is determined by plotting the intersection of a subject's Pd and Mf T-scores (from the MMPI) using a special diagnostic grid provided by Leary (1956, p. 108-109). Level IIImm has been found to distinguish between drug abusers and outpatients (Schooler et al., 1972) and between cooperative and competitive undergraduates (Warren, 1977).

Data from the Leary system are most useful in their relationship to each other. Because data are plotted on a uniform grid, they are felt to be directly comparable, yielding what Leary calls Indices of Variability (1957). The rigidity or flexibility of one's behavior can be determined via comparisons between levels, and similarities or discrepancies between one's mental representations of others can also be measured. Leary (1957) provides operational definitions and mathematical formulations for 48 specific variability indices. Variability scores range from 0 to 114 and form a continuous variable as described by Leary (1957, ch. 13). Scores between 0 and 44 represent no significant discrepancy, scores between 44 and 66 represent moderate discrepancy, and scores above 66 represent significant discrepancy. The maximum score of 114 is obtained when the two ratings being compared fall directly opposite each other on the circumplex.

The variability indices that are explored in the present psychosomatic study are: (a) conscious identification with significant other (level IIs vs level IIo), (b) maternal-significant other equation (level IIm vs level IIo), and (c) maternal assimilation (level IIm vs level IIImm). Maternal assimilation was derived by Cohen, White, and Schoolar (1971) to assess the degree to which one describes one's mother as consistent with or discrepant from one's basic intentionality or character structure. This variability index is thought to indicate the degree of assimilation of maternal functions into the self-structure, providing the basis for the development of a mature identity separate from the mother (Horner, 1991). Some validity for this measure is provided by Cohen et al., (1971) and Horner, (1991). In the present study, based on object relations theory, it is felt that subjects with ulcerative colitis would evidence maternal assimilation to a lesser degree than control subjects, rendering them more dependent upon significant others for self-regulation and more prone to alexithymic symptoms. Whether or not this pattern will also characterize subjects with other psychosomatic disorders, such as rheumatoid arthritis, is an open and interesting question.

Most psychometric research data focus on the Interpersonal Adjective Checklist (ICL) which was specifically developed for use in the Leary system. The

accumulated evidence suggests that its psychometric properties are quite good. The fourth and final version of this checklist was the product of a substantial amount of careful research (Leary, 1957, pp. 453-463). Items were chosen to ensure that they were as clear as possible, that the effects of various response biases (e.g. acquiescence and social desirability) were minimized, and that the distribution of item "intensities" were comparable throughout the circle. Several studies report adequate (r >.70) test-retest reliability for the DOM and LOV summary scores (Armstrong, 1958; LaForge, 1977; Leary, 1957; Shopler, 1959, cited in Lake, Miles, and Earle, 1973). After reviewing these and other data, Lake et al., (1973) concluded, "Given that such reliabilities are based on 4-item and 8-item scales, they are surprisingly high" (p. 116). Lomont (1960) found acceptable interrater reliability of interpersonal style by subjects' peers for DOM and LOV summary scores. Armstrong (1958) reported that the internal consistency of the ICL was highly significant (Kuder-Richardson reliabilities >.95) across different populations of raters (alcoholic and normal) and regardless of who is rated. Paddock and Nowicki (1986) found adequate internal consistency (Cronbach's alpha >.70) for octant scales especially in the Friendly-Dominant quadrant of the circumplex. They suggest that the Hostile-Submissive scales may be somewhat less internally consistent, at least

for college women. Evidence for split-half reliability has been reported by Angleitner (1977/78). With respect to reliability, ICL scores are sufficiently stable to be useful in personality research.

In their book, Measures of Social Psychological Attitudes, Robinson and Shaver (1969) reported that predictions relating to construct validation of the Leary model had stood up well to empirical test. They cited the Leary checklist as offering "great promise" (p. 135) but as not yet having received "sufficient response from other researchers" (p. 137). However, evidence supporting the concurrent and discriminant validity of the ICL does exist as reported below.

Based on mother's ratings of normal and emotionally disturbed children, Guerney, Meininger, and Stover (1973) found that the disturbed children showed significantly less DOM and LOV than their normal peers. Paddock, Woodruff, and Pate, (1984) found similar results based on teachers' ratings of normal and emotionally disturbed adolescents. A discriminant function analysis showed that using scores for octants 5 (Self-effacing-Masochistic) and 6 (Docile-Dependent) 65% of the normal and 75% of the emotionally disturbed students were correctly classified. The emotionally disturbed students were defined by scores for octant 5, while normal students were defined by scores for octant 6.

Several studies have addressed validity by comparing ICL scores to scores obtained from other psychometric instruments. Meers and Neuringer (1967) found concurrent validity of ICL measures of adherence of social conventions with several independent measures of social desirability and social adherence. Hamilton (1971) reports that ICL DOM scores converged with three other measures of dominance; Gynther, Miller, and Davis (1962) found correlations between needs measured by Edward's Personal Preference Schedule and behavior measured by the ICL; and Roemer (1985) was able to distinguish between Type A and B behavior patterns using the Leary system.

The extent to which hypothesized DOM and LOV dimensions truly underlie ICL scores has been investigated with the use of factor analytic studies (Angleitner, 1977/78; Briar & Bieri, 1963; Foa, 1961; Truckenmiller & Schaie, 1979; Wiggins, 1979) which largely confirm the orthogonal emergence of these factors. Carson (1969, pp. 98-107) provides additional and substantial support for Leary's two factors as generic themes or social denominators of human interaction. Evidence for the circumplex ordering of interpersonal styles comes from correlational studies showing that the "relationship between any two variables is a monotonic decreasing function of their separation" (LaForge & Suczek, 1955, p. 105). Angleitner (1977/78) and Terrill (1961) both found

that correlations among the octant scores support the circumplex structure. Additional evidence supporting the circular ordering of the ICL octants is provided by Lyons, Hirshberg, and Wilkinson (1980) using complex multidimensional scaling programs, and by Wiggins, Steiger, and Gaelick (1981) using a sophisticated multivariate procedure designed specifically for evaluating the extent to which personality data conform to circular ordering. An explanation of these complicated metholodologies is beyond the scope of this review and the interested reader is referred to the original sources cited above.

Thematic Apperception Test

The Thematic Apperception Test (TAT), a widely used clinical instrument, has seldom been used systematically, beyond identifying prominent themes. However it is a particularly good test for assessing object relations because the stimuli are social, and the stories that subjects are asked to make up provide considerable access to cognitive and emotional patterns related to one's interpersonal functioning.

Westen and his colleagues (1985) developed four scales to assess different dimensions of object relations from TAT responses. Although object relations is often referred to as a unitary phenomenon, ranging from developmentally

immature to mature, Westen conceptualizes object relations as a multidimensional concept, made up of a conglomerate of cognitive and affective processes. These processes include specific and general representations of self and others, perspective taking, emotional investment, regulations of affect intensity, observing ego, etc. (Westen, 1991a). These qualities are seen as interrelated, but distinct, differing in the level of maturity which they reflect, and/or differing across situations. They can be measured independently of each other, and for research purposes they have been operationalized as orthogonal (Westen, Lohr, Silk, & Kerber, 1985). The specific scales devised for use with the TAT measure four dimensions of object relations: (1) complexity of representations of people (tendency to represent people in rich and elaborate ways and to distinguish clearly their subjective experiences and points of view); (2) affect tone of relationship paradigms (affective quality of the object world or interpersonal expectancies, from malevolent to benevolent); (3) capacity for emotional investment in relationships and moral standards (need-gratifying interpersonal orientation versus investment in values, ideals, and committed relationships); and (4) understanding social causality [tendency to attribute causes of behavior, thoughts, and emotions in complex, logical, accurate, and psychologically-minded ways, (Westen, 1991a,b)].

Each dimension is measured with a five level scale, where level five is the most mature level of functioning and level one is the most primitive (see Appendix D). With the exception of Affect Tone, the scales have been shown to measure developmental trajectories (Westen, Klepser, Ruffins, Silverman, Lifton, & Boekamp, 1991), and in fact were constructed with this in mind. Each measure was derived from clinical observation, object relations theory and research, and research in cognitive development (see Blatt & Lerner, 1983; Damon, 1977; Selman, 1980; Shantz, 1983; Urist, 1980). The measures were constructed so scale points reflect their underlying logic and basis in empirical observation, and represent relatively equal intervals from a theoretical perspective (Westen et al., 1985). Numerical data derived from these scales therefore can be considered continuous and subjected to the appropriate statistical analyses.

The four scales attempt to assess "working representations" which Westen describes as "momentarily activated schemata that reflect current situational cues as well as the person's developmental history and characteristic ways of processing social information" (Westen et al., 1991, p. 407). This procedure contrasts with the information obtained from Leary's ICL in that cognitive structures derived from the TAT are assumed to be less accessible to introspection, whereas ICL items elicit

more conscious prototypical representations. Because TAT data are relatively broad and projective in scope, and less subject to defensive biases, this test complements other more objective data which will be used to study object relations in psychosomatic patients. Before discussing the psychometric properties of these scales, a brief synopsis of each is presented next.

Complexity of representations of people. Object relations theorists generally agree that development of self and object representations is characterized by three phenomena. First, development of representations is characterized by increased differentiation across objects, in which ideas of self and others are gradually more clearly distinguished. Second, object representations become more complex and integrated with increasing maturity. Third, while young children have difficulty integrating both positive and negative attributes, adults should be able to integrate more complex or multivalent representations. The logic of this scale, then, is based upon movement from poor differentiation between people; to simple but differentiated representations; to complex, multifaceted, and integrated representations of enduring dispositions and subjective experiences.

Affect tone of relationship paradigms. This is conceptualized as the emotional coloring of the object world, ranging from malevolent to benevolent. It is the

extent to which a person expects relationships to be painful and threatening, or pleasurable and enriching. Unlike the other scales, this scale does not assess a dimension that develops with age. Low scores reflect malevolent expectations, whereas high scores reflect mixed expectations with a predominantly positive flavor.

Emotional investment in relationships and moral standards. "Emotional investment" refers to endowing representations (of a goal or relationship) with affect so that divergence of reality from that goal leads to negative affect and convergence of reality with that goal leads to positive affect (Westen, 1985). All object relations theorists agree that development proceeds from a need-gratifying pattern of emotional investment (termed "narcissistic") to mature relationships based on mutual respect and concern for others. The logic of this scale then is based upon movement from an investment in one's own desires, to a conventional investment in rules and relationships, to a commitment to values and relationships acknowledging the needs of self and others that may transcend conventional standards.

Understanding social causality. Extensive research in the development of social cognition in children (Piaget, 1951; Selman, 1980; Shantz, 1983) suggests a number of developmental changes in the way children infer causality in the social realm, including increased complexity,

abstractness, accuracy, internality, and understanding psychological processes. On the other hand, clinical experience with patients with severe personality disorders suggests that these patients tend to make highly idiosyncratic, illogical, and inaccurate attributions of people's intentions. This scale assesses the logic, complexity, accuracy, and psychological-mindedness of attributions. The underlying logic of this scale is movement from an absence of causal understanding, to simplistic understanding of connections between observable events, to more complex understanding of the mediating role of mental processes.

Westen et al. (1985) recommend that TAT data, obtained by standard administration, be coded by graduate students or Ph.D. psychologists with clinical experience, due to the psychological complexity of the four scales. A detailed scoring manual is provided, along with training protocols and scoring rationales. Using the recommended training procedures detailed in the manual, inter-rater reliabilities have been obtained in the range of .80 to .95. In a preliminary inter-rater reliability study done in our lab, a Pearson Product Moment correlation coefficient of .80 was obtained between two independent raters, with only 2% of 54 observations differing by more than one scale point. It is recommended that coders be given stories one to a page in random order, so that

ratings of stories in the same protocol are independent. Internal consistency, as assessed by Cronbach's alpha, depends on the number of observations. With an adequate number of items assessed (ranging from 4 to 16), alphas have been in the range of .65 to .85. The number of observations (TAT cards/protocol) necessary for reliable measurement depends on the nature of the sample and particular scale. A minimum of six card per subject is recommended, although as few as two cards per subject has reliably discriminated between children of different ages (Westen et al., 1991). The measures tend to intercorrelate in ways one would expect. The two cognitive measures (complexity and social causality) correlate highly with each other, moderately with emotional investment, and poorly with affect tone. The two more affective measures (affect tone and emotional investment) tend to correlate moderately with each other (Westen, 1991b).

The scales have been validated in a number of ways (for a complete review, see Westen, Lohr, Silk, Gold, & Kerber, 1990). They have been showm to be correlated with clinician and self-reported adjustment and have been found to predict various criterion groups (e.g. clinical psychology students score higher than natural science students on social causality and complexity, but not on affect tone; Westen, Lohr, et al., 1990). The measures have been able to successfully distinguish borderline

patients from psychiatric and normal controls in both adolescent and adult samples (Westen, Ludolph, Lerner, Ruffins, & Wiss, 1990). TAT scores on each dimension tend to correlate with scores on the same scale assessed from interview data (Barends, Westen, Leigh, Silbert, & Byers, 1990). This research also found predicted relationships between the TAT scales and relevant validated measures such as Loevenger's (1976) Sentence Completion Test for Ego Development, which correlates with affect tone and emotional investment; Blatt, Wein, Chevron, & Quinlan's (1979) measure of complexity and affective qualities of significant others; and Weissman's Social Adjustment Scale (Weissman & Bothwell, 1976). Schneider (1990), assessing these dimensions from psychotherapy transcripts, found increases in complexity of representations and capacity for emotional investment over the course of brief psychoanalytic psychotherapy and at follow-up. Scores on three of the measures (complexity, emotional investment, and social causality) have been shown in research with both TAT and interview responses to increase developmentally through late adolescence, whereas affect tone scores do not follow any developmental pattern, as predicted by theory (Westen et al., 1991). Finally, a preliminary study using a sample of hospitalized adolescent girls (Westen, Ludolph, Block, Wixom, & Wiss, 1990) explored the relationship between the four scales and developmental history

variables. The data provide support for the theoretical contention that preoedipal experiences, including a stable attachment to the mother, are crucial to the formation of object relational structures and processes.

In the present study the following TAT cards were used: 1, 2, 4, 6GF, 7BM (for males), 7GF (for females), and 13MF; chosen for their tendency to elicit interpersonal themes.

Background Information

All subjects completed a data sheet consisting of 16 questions (Appendix E). These items were designed to assess pertinent data for describing subjects in the healthy control and psychosomatic groups, for screening purposes (to rule out those with significant mental or physical illness, or an inadequate educational level), and to obtain preliminary information on interpersonal and family relationships. H. Weiner (1977) has stressed the importance in psychosomatic research of controlling for factors such as age, sex, socio-economic status, ethnicity, and educational background, which might otherwise contaminate results. Data from this questionnaire were coded in the following manner for analysis.

Gender:
1 = Male
2 = Female

Age:
Age in years

Race:
1 = Caucasian
2 = Black
3 = Asian
4 = Hispanic
5 = Other

Religion:
1 = Protestant
2 = Catholic
3 = Jewish
4 = Other

Education:
1 = some high school
2 = high school graduate
3 = some college or post-high school education
4 = college degree
5 = graduate degree

Marital Status:
1 = married
2 = single
3 = other committed relationship
4 = divorced/separated
5 = widowed

Because loss of, or interruptions in key relationships have consistently been identified as possible factors precipitating the onset of ulcerative colitis, an open-ended question about the experience of loss was included in the background information questionnaire. Subjects were asked to describe their "most significant" loss and their age when this loss occurred. Subjects were also asked whether they had ever felt helpless or like giving-up in a preliminary attempt to evaluate Engel's (1975) "giving-up" complex which supposedly occurs when psychological defenses are overwhelmed, another factor felt to frequently precede the development of ulcerative colitis (H. Weiner, 1977).

The medical history questionnaire (Appendix F) was designed to obtain pertinent information from subjects with ulcerative colitis. In particular, information was obtained about onset, duration, and severity of the disease. Severity was rated as follows: 1 = mostly disease free with few symptoms; 2 = mild but frequent, or occasionally troublesome symptoms; 3 = frequent and troublesome symptoms; 4 = almost continuous, severe symptoms. H. Weiner (1977) notes that results of psychosomatic research in the past have been weakened by lack of precision in the selection of subject samples and by problems of differential diagnosis. The diagnosis of ulcerative colitis in the present sample was confirmed by a gastroenterologist as recommended by H. Weiner (1977). Ideally the two psychosomatic groups (ulcerative colitis and rheumatoid arthritis) should be matched with respect to duration of disease, age at onset, and severity, as well as those factors mentioned above (age, sex, etc.). With respect to the ulcerative colitis sample, H. Weiner (1977) also recommends that the presence or absence of associated symptoms (e.g. ankylosing spondylitis, iritis, skin lesions, etc.) should be reported. Questions regarding the impact of ulcerative colitis on the patient's life and the severity of symptoms have been loosely borrowed from Edwards and Truelove (1963).

Procedure

Subjects contacted the researcher by phone to schedule a data collection session. During this session the researcher and/or a trained research assistant discussed and obtained informed consent (see Appendix G) before proceeding. The confidential nature of the subject's participation was emphasized. One of the principal researchers was available throughout the data collection session to administer tests and/or answer questions. Tests and questionnaires were administered in the following sequence: Background Information, Medical History (for the psychosomatic subjects), Thematic Apperception Test (TAT), Bell Object Relations Inventory (for a separate study), Interpersonal Checklist (ICL), Toronto Alexithymia Scale (TAS), and MMPI (items 1-399, which includes all validity and clinical scales necessary for Leary scoring). On the ICL subjects were asked to rate their parents as they remembered them when they were growing up.

The TAT cards were administered in a standardized sequence, following specific instructions for administration, including order of presentation of cards and instructions for prompting. For each card subjects were asked to tell a story, including what was happening in the picture, what led up to it, and how the story would turn out. Subjects who did not spontaneously describe what the characters were thinking and feeling were asked to do

so. If a subject provided an incomplete response (omitting or minimally elaborating any elements of the story), testers inquired about missing elements. This was done to minimize biases of verbal productivity or motivation, and to elicit sufficient material for scoring (Westen et al., 1990).

After the data were collected subjects received extra-credit vouchers (evening school participants), or $15.00 as described earlier. All subjects received copies of the informed consent document which included the researchers' telephone numbers in case subsequent questions should arise.

All data were scored according to methods described in the Measures section. As most of the data are objective, this issue of researcher bias arose only on scoring the TAT using Westen's more subjective scales. To minimize this possibility, an independent, third party re-typed the stories, one to a page, and re-coded them using random, computer generated numbers. The two principal investigators, with extensive training in Westen's scoring system, coded the stories in a randomized fashion, independently of the subject's complete protocol and blind to the group of origin (UC, RA, or HC). Upon completion of the ratings, the third party converted the random codes to the original code number for inclusion of the stories back into their appropriate protocols. Inter-rater reliability

was determined using 20% of the data as recommended by I. Weiner (1991) for assessing the reliability of projective test data.

Design and Statistical Analysis

This is a descriptive study using psychological test data in an attempt to support certain widely held theoretical assumptions about patients with ulcerative colitis. Descriptive demographic data of the subject samples is reported. Groups were matched as closely as possible by age, race, and gender to minimize the potentially confounding influence of these variables. Inter-rater reliabilities for the TAT scales were determined using Pearson Product Moment correlation coefficients and percent agreement between raters on 20% of the data. The hypotheses were tested with the following statistics:

1. Hypothesis 1 predicted that the UC group would demonstrate lower levels of object relations than the HC group evidenced by lower scores on Westen's four TAT scales. Data from each of these scales were compared across groups using ANOVA.

2. Hypothesis 2 predicted that UC subjects would place primarily in octants 5 and 6 on level IIImm, indicating an underlying dependent, docile, and/or self-effacing character structure, whereas HC subjects would place in

random octants. A frequency distribution of level IIImm summary points was tabulated across the three groups. For purposes of analysis the octants were collapsed into quadrants (octants 1 & 2, 3 & 4, 5 & 6, 7 & 8) and subject to a 3 (group) x 4 (quadrant) chi-square analysis.

3. Hypothesis 3 predicted that UC subjects would place their mothers in Octants 1 and 2 on level IIm, being described as domineering and exploitative more frequently than the mothers of HC subjects, who would be placed in random octants. A frequency distribution of Level IIm summary points was tabulated across the three groups. Again, for analysis, the octants were collapsed into quadrants and subject to a 3 x 4 chi-square analysis as described above.

4. Hypothesis 4 predicted that UC subjects would be more closely identified with their significant or "key" other than the HC subjects, measured by Leary's "Conscious Identification" variability index. This index was compared across groups using ANOVA.

5. Hypothesis 5 predicted that UC subjects would evidence less maternal assimilation than HC subjects. Differences between groups on the Maternal Assimilation variability index was determined by ANOVA.

6. Hypothesis 6 predicted that UC subjects would tend to equate key others with their mothers. Differences

between groups on the "Mother-Significant Other Equation" variability index was determined by ANOVA.

7. Hypothesis 7 predicted that UC subjects would score higher on the Toronto Alexithymia Scale. Differences between groups on this measure were determined by ANOVA.

8. Hypothesis 8 predicted that maternal assimilation would be positively correlated with alexithymia across all subjects. This was evaluated using the Pearson Product Moment correlation coefficient.

In addition to these hypotheses, post-hoc, exploratory analyses were performed on Level I, IIs, IIso, and IIf data, and on the MMPI scales.

V. RESULTS

Subject Characteristics

The three groups in this study (HC, UC, RA) were identical with respect to gender (7 males, 13 females) and racial composition (1 Black, 19 Caucasians) as a result of matching. One-way analyses of variance performed on age and education indicate no significant differences between groups on these variables as shown in Table 1. Both of these variables met the assumption of homogeneity of variance between groups as determined by Bartlett-Box F probability values greater than .05. Likewise, chi-square analyses, summarized in Table 2, indicate that the groups were similar with respect to their religious composition (60% Protestant, 10% Catholic, 30% other) and their experiences of significant interpersonal loss (100% of the HC sample, 85% of both the RA and UC samples). The UC group was somewhat less likely to report ever having felt hopeless or like giving-up (45%) than either the HC (60%) or RA (70%) groups, but this difference was not significant (chi-square=2.61, p=.27). Subjects in the HC group were somewhat more likely to be married (85%) than subjects in the UC (60%) or RA (55%) groups. Finally, the two psychosomatic groups (UC and RA) were compared regarding the duration and perceived severity of their illness (see Table 3). T-tests, using separate variance estimates,

Table 1: Results of One-way ANOVA on the Demographic Variables Age and Education.

Variable	Group	Mean	s.d.	F(2,57)	p
Age	HC	34.55	7.98	.84	.44
	UC	38.55	11.47		
	RA	37.85	11.45		
Education	HC	3.15	.67	.13	.88
	UC	3.10	1.12		
	RA	3.00	.97		

Table 2: Results of Chi-square analyses on Categorical Demographic Variables by Groups.

Variable	Chi-square	DF	p
Religion	1.5	4	.83
Marital Status	11.5	6	.07
Loss	0.0	2	1.00
Hopelessness	2.6	2	.27

Table 3: Results of T-Tests on Severity and Duration of Illness.

Variable	Group	Mean	s.d.	t-value	p
Severity	UC	2.15	.81	-4.32	.00
	RA	3.10	.55		
Duration (years)	UC	5.75	4.96	-1.17	.25
	RA	8.20	7.97		

reveal that RA subjects are significantly more likely to report their symptoms as severe than subjects in the UC group.

Although 75% of the subjects in both groups rated their symptoms as mildly to moderately troublesome, 25% of the UC sample reported that they were "mostly disease free", whereas 25% of the RA sample reported "almost continuous and severe symptoms".

In accordance with H. Weiner's (1977) recommendations, specific characteristics of the UC sample are reported as follows. The average age of onset of UC was 32 years, s.d.= 10.99, (median= 28 years), with onset age ranging from 19 to 57 years. The duration of the disease ranged from 3 months to 17 years (mean= 5.58 years, s.d.= 5.06, median= 4 years). Nineteen of the subjects were under the current care of a gastroenterologist and 18 were on medication [asulfadine (n=7), prednisone (n=2), asacol (n=2), and/or zilutin (n=8)]. Fourteen of the subjects reported symptoms or disorders which are commonly associated with UC [frequent headaches (n=7), weight loss or poor appetite (n=4), ankylosing spondylitis or arthritis (n=6), allergies (n=3), and/or iritis (n=2)]. Eight of the subjects reported that they continued to live an entirely normal life since the onset of UC, 10 reported that they had made some adjustments of activities and/or occupation, and 2 reported that their lives had changed considerably

since disease onset. None of the subjects reported total disability due to their illness. Ideally, all subjects should represent a consecutive sample of patients with UC. This was not possible, however, given ethical constraints that subjects volunteer their participation. Nevertheless, 11 of the subjects who volunteered did represent a consecutive series of patients participating in a drug research study.

Westen's Scales

Inter-rater reliability for each of Westen's four scales was calculated using Pearson's r statistic and percent agreement between two raters for a randomly selected sample (20%) of TAT protocols. Results summarized in Table 4 indicate a high degree of agreement between raters.

Summary scores were determined by averaging the data for each scale across the six TAT cards. Mean scores between groups met the assumption of homogeneity of variance with Levene statistic probability values >.10 and were subject to one-way analyses of variance by group. Results are summarized in Table 5. Multiple comparison tests were performed using the Duncan and LSD procedures to pinpoint which group means differed significantly.

As predicted in hypothesis 1, the UC group scored significantly lower than the HC group ($p<.05$) on the

Table 4: Inter-rater Reliability for Westen's Scales.

Scale	Pearson's r	p	% Exact Agreement	% Agreement within 1 point
AT	.84	<.001	60%	100%
CR	.88	<.001	71%	100%
EI	.83	<.001	57%	100%
SC	.82	<.001	58%	97%

Table 5: Results of Analysis of Variance for Westen's Scales across Groups.

Scale	Group	Mean	s.d.	F(2,57)	p
AT	HC	3.05	.59	.25	.776
	UC	2.95	.45		
	RA	3.05	.49		
CR	**HC	2.75	.61	3.20	.048
	**UC*	2.42	.47		
	RA*	2.87	.65		
EI	*HC	2.62	.57	3.37	.041
	*UC	2.26	.42		
	*RA	2.61	.49		
SC	*HC	2.85	.63	2.79	.069
	*UC	2.37	.48		
	RA	2.70	.82		

* different at $p < .05$
** different at $p < .10$

Emotional Investment (EI) and Social Causality (SC) scales. The difference between these two groups (HC and UC) approached significance ($p=.07$) on the Complexity of Representations (CR) scale. Additionally, it was determined that the UC group scored significantly lower than the RA group on the CR and EI scales ($p<.05$). None of the groups differed significantly on the Affect Tone (AT) scale. There were no significant differences between the RA and HC subjects on any of Westen's four scales.

Non-parametric, chi-square analyses were also performed on these data, comparing the number of purely pathological (level 1) responses and the number of highest quality (level 5) responses between groups (HC vs UC and HC vs RA). Again, no differences were found between groups on the AT scale. UC subjects evidenced a significantly higher number of level 1 responses and fewer level 5 responses than HC subjects on the CR (chi-square=7.24, $p=.007$), and EI (chi-square=5.62, $p=.02$) scales and the differences between groups approached significance on the SC (chi-square=3.2, $p=.06$) scale. Once again, the HC and RA groups ressembled each other with no significant difference in the number of level 1 and 5 responses between groups. Appendix H presents a table of raw data for each of Westen's scales on the six TAT cards.

Results support hypothesis 1 for three of the four Westen scales indicating that UC subjects generally

evidence lower levels of object relations than HC subjects with respect to the SC, EI, and CR dimensions.

Leary Data

Level IIImm

Hypothesis 2 predicted that UC subjects would place primarily in octants 5 and 6 on level IIImm, indicating an underlying dependent, docile, and self-effacing character structure, whereas HC subjects would place in random octants with fewer scores in octants 5 and 6. Table 6 presents the frequency distribution for level IIImm. For the purpose of analysis and to address the hypothesis, the octants were collapsed into quadrants (octants 1 & 2, 3 & 4, 5 & 6, 7 & 8) and subject to 3 (group) by 4 (quadrant) chi-square analysis (chi-square=2.03, df=6, p=.92). The data were then analyzed by comparing the UC group separately with both the HC and RA control groups in 2 (group) by 4 (quadrant) crosstabulations. Results indicate no significant dependencies between the categorical variables group and quadrant and hence no significant between group differences (chi-square= 1.84, df=3, p=.61; chi-square=.48, df=3, p=.92 respectively). Table 6 shows that only 15% of the UC group placed in octants 5 and 6, compared with 30% of the HC group and 20% of the RA group. These differences are in opposition to the hypothesis that

Table 6: Octant Frequencies and Percentages for Level IIImm across Groups.

Octant	Group	Frequency	Percent
1	HC	4	20
	UC	6	30
	RA	3	15
2	HC	3	15
	UC	4	20
	RA	5	25
3	HC	1	5
	UC	3	15
	RA	2	10
4	HC	1	5
	UC	0	0
	RA	1	5
5	HC	4	20
	UC	2	10
	RA	2	10
6	HC	2	10
	UC	1	5
	RA	2	10
7	HC	1	5
	UC	1	5
	RA	4	20
8	HC	4	20
	UC	3	15
	RA	1	5

UC subjects are more likely to have a dependent, self-effacing underlying character structure than HC subjects.

To further examine this unexpected trend, exploratory analyses of this variable were conducted by collapsing the octants into hemisphere configurations representing Dominant-Submissive and Affiliative-Oppositional dimensions (octants 1,2,3,8 vs 4,5,6,7 and octants 1,6,7,8 vs 2,3,4,5 respectively). A series of 2 X 2 chi-square analyses were performed to explore between group differences on these broader dimensions. When data were examined with respect to the Dominant-Submissive dimension, a nonsignificant trend was noted for UC subjects to place more frequently in the Dominant hemisphere (80%) then either the HC [(60%), chi-square=1.9, p=.17] or RA [(55%), chi-square=2.85, p=.09] subjects. This finding, again, is in contradistinction to the hypothesis which predicted a more dependent or submissive character style for the UC subjects. There were no significant differences or trends between groups on the Affiliative-Oppositional dimension, with approximately 50% of all subjects placing in each hemisphere (chi-square=.13, p=.93).

Because the data show that most UC subjects place in the dominant octants, rather than the submissive-dependent octants on level IIImm, hypothesis 2 is rejected.

Level IIm

Hypothesis 3 predicted that UC subjects would place their mothers in octants 1 and 2 on level IIm, describing them as domineering and exploitative more frequently than would subjects from either of the control groups. Table 7 presents the frequency distribution for level IIm data. A 3 (group) by 4 (quadrant) chi-square analysis revealed no significant relationship between the categorical variables (chi-square=2.43, df=6, p=.88). Data were then analyzed by comparing the UC group with both the HC and RA controls in 2 (group) by 4 (quadrant) crosstabulations. No significant differences were found for either of these comparisons (chi-square=1.84, df=3, p=.61; chi-square=1.72, df=3, p=.63, respectively).

This variable was also examined by collapsing the octants into hemisphere configurations representing Dominant-Submissive and Affiliative-Oppositional dimensions (octants 1,2,3,8 vs 4,5,6,7 and octants 1,6,7,8 vs 2,3,4,5 respectively). A series of 2 (hemisphere) X 2 (group) chi-square analyses were performed to explore between group differences on these broader dimensions. Subjects in all three groups placed their mothers in the Dominant octants far more frequently (80%) than in the Submissive octants (20%) with no differences between the groups (chi-square=.5, df=2, p=.77). Subjects in the UC group, however, evidenced a moderate trend toward placing their

Table 7: Octant Frequencies and Percentages for Level IIm across Groups.

Octant	Group	Frequency*	Percent*
1	HC	5	25
	UC	8	40
	RA	3	15.8
2	HC	3	15
	UC	1	5
	RA	3	15.8
3	HC	2	10
	UC	3	15
	RA	3	15.8
4	HC	3	15
	UC	0	0
	RA	1	5.3
5	HC	1	5
	UC	0	0
	RA	0	0
6	HC	0	0
	UC	0	0
	RA	1	5.3
7	HC	1	5
	UC	4	20
	RA	1	5.3
8	HC	5	25
	UC	4	20
	RA	7	36.8

* based on n=19 for the RA group

mothers in the Affiliative octants compared to HC subjects (chi-square=2.85, df=1, p=.09). Subjects in the UC group tended to describe their mothers using more affiliative adjectives, such as helpful, friendly, considerate, and well thought of, whereas HC subjects tended to place their mothers in more diverse octants, as did subjects in the RA group.

Although the UC subjects did tend to place their mothers in the dominant octants, they were no more likely to do so than the HC subjects. Therefore, hypothesis 3 is rejected.

Post-hoc Analysis of Level Is Data

Although no a priori hypotheses were made regarding where subjects would place on the diagnostic grid with repect to level Is data, exploratory analyses were conducted using the chi-square statistic. Level I data is derived from MMPI scales and reflects how a person appears to others. This social behavior is considered reflexive and involuntary, and is less subject to conscious control than level II data. Table 8 presents the frequency distribution for Level Is. A preliminary 8 (octant) by 3 (group) chi-square statistic of 27.46, p=.006, indicated significant differences between the groups, although the validity of this test was compromised by a large number of cells with expected frequencies less than five. Subsequent

Table 8: Octant Frequencies and Percentages for Level Is across Groups.

Octant	Group	Frequency	Percent
1	HC	10	50
	UC	6	30
	RA	6	30
2	HC	5	25
	UC	0	0
	RA	1	5
3	HC	2	10
	UC	0	0
	RA	3	15
4	HC	1	5
	UC	0	0
	RA	0	0
5	HC	2	10
	UC	2	10
	RA	0	0
6	HC	0	0
	UC	1	5
	RA	2	10
7	HC	0	0
	UC	0	0
	RA	0	0
8	HC	0	0
	UC	11	55
	RA	8	40

analyses were conducted to pinpoint group differences by collapsing the octants into the following quadrants (8 & 1, 2 & 3, 4 & 5, 6 & 7) as recommended by Leary (1957). Octants were also collapsed into hemisphere configurations representing the Dominant-Submissive and Affiliative-Oppositional dimensions (octants 1,2,3,8 vs 4,5,6,7 and octants 1,6,7,8 vs 2,3,4,5, respectively). UC subjects placed predominantly in octants 8 & 1, representing a dominant-affiliative social stance vis à vis the world, whereas the HC and RA subjects placed in more varied quadrants. Chi-square analysis indicated that the difference between the HC and UC groups was significant (chi-square=10.01, p=.02). Next, data were analyzed in a series of 2 X 2 chi-squares comparing groups on the Dominance-Submissive and Affiliative-Oppositional dimensions. There was no difference between groups on the Dominance-Submissive dimension (chi-square=.29, p=.87), with the majority of all subjects (86.7%) placing in the Dominant hemisphere on level Is. The two psychosomatic groups, however, (UC and RA) were found to place in the Affiliative hemisphere significantly more often than the HC group (chi-square=8.86, p=.01) with no significant difference between the UC and RA groups (chi-square=.78, p=.38).

Post-hoc Analysis of Level II Data

Although no a priori hypotheses were made regarding how subjects would describe themselves (Level IIs), their significant others (Level IIso), and their fathers (Level IIf) on the ICL, these data were also subject to exploratory statistical analysis. Tables 9, 10, and 11 present the frequency distributions for Levels IIs, IIso, and IIf respectively.

Level IIs represents subjects' self-descriptions on the ICL. For analysis, the octants were collapsed into the following quadrants (8 & 1, 2 & 3, 4 & 5, 6 & 7), and subject to a series of 2 (group) by 4 (quadrant) chi-square analyses. No significant between group differences or trends emerged on the basis of these calculations. This variable was then examined by collapsing the octants into the Dominant-Submissive (octants 1,2,3,8 vs 4,5,6,7) and Affiliative-Oppositional (octants 1,6,7,8 vs 2,3,4,5) dimensions and performing a series of 2 (group) X 2 (hemisphere) chi-square analyses. Subjects in the UC group evidenced a tendency to place in the Dominant hemisphere (85%) compared with the HC subjects (65%, chi-square=2.13, df=1, p=.14). The three groups were identical in their placement on the Affiliative (65%) and Oppositional (35%) dimension (chi-square=.00, p=1.00).

Level IIso represents subjects' descriptions of their significant others (usually the spouse) on the ICL. This

Table 9: Octant Frequencies and Percentages for Level IIs across Groups.

Octant	Group	Frequency	Percent
1	HC	4	20
	UC	4	20
	RA	4	20
2	HC	5	25
	UC	6	30
	RA	4	20
3	HC	1	5
	UC	0	0
	RA	0	0
4	HC	0	0
	UC	0	0
	RA	2	10
5	HC	1	5
	UC	1	5
	RA	1	5
6	HC	2	10
	UC	0	0
	RA	1	5
7	HC	4	20
	UC	2	10
	RA	1	5
8	HC	3	15
	UC	7	35
	RA	7	35

Table 10: Octant Frequencies and Percentages for Level IIso across Groups.

Octant	Group	Frequency*	Percent*
1	HC	5	25
	UC	5	26.3
	RA	6	31.6
2	HC	7	35
	UC	8	42.1
	RA	8	42.1
3	HC	3	15
	UC	1	5.3
	RA	0	0
4	HC	0	0
	UC	0	0
	RA	1	5.3
5	HC	2	10
	UC	2	10.5
	RA	0	0
6	HC	1	5
	UC	0	0
	RA	0	0
7	HC	1	5
	UC	0	0
	RA	0	0
8	HC	1	5
	UC	3	15.8
	RA	4	21.1

* based on n=19 for UC and RA groups

Table 11: Octant Frequencies and Percentages for Level IIf across Groups.

Octant	Group	Frequency*	Percent*
1	HC	3	15.8
	UC	6	31.6
	RA	7	36.8
2	HC	10	52.6
	UC	8	42.1
	RA	8	42.1
3	HC	4	21.1
	UC	2	10.5
	RA	0	0
4	HC	0	0
	UC	0	0
	RA	1	5.3
5	HC	0	0
	UC	0	0
	RA	0	0
6	HC	0	0
	UC	0	0
	RA	0	0
7	HC	1	5.3
	UC	0	0
	RA	0	0
8	HC	1	5.3
	UC	3	15.8
	RA	3	15.8

* based on n=19 for all groups

variable was examined by collapsing the octants into quadrants and hemispheres as described above and using the chi-square statistic to assess between group differences. There were no significant between group differences or trends on this variable with most subjects placing their significant others in the Dominant octants [(87.9%), chi-square=2.1, p=.36] and approximately half of the subjects placing their significant others in the Affiliative octants [(45%), chi-square=.71, p=.70].

Level IIf represents subjects' descriptions of their fathers on the ICL. This variable was also examined as described above. There was an overwhelming tendency for all subjects to place their fathers in the Dominant octants (96.5%), with no differences between groups (chi-square=1.00, p=.60). The HC subjects, however, tended to place their fathers in the Oppositional octants more frequently (73.7%) than either the UC [(52.6%), chi-square=1.8, p=.18] or RA [(47.4%), chi-square=2.75, p=.10] subjects.

Variability Indices

Conscious Identification

Hypothesis 4 predicted that subjects with UC would be more closely identified with their "significant other" (in most cases a spouse), than HC subjects, indicated by lower

scores on Leary's Conscious Identification variability index. A one-way analysis of variance by group on this continuous variable revealed no significant differences between groups at the .05 level [$F(2,55)=2.07$, $p=.14$)]. Multiple comparison tests using the Duncan and LSD procedures, however, found that the RA group differed at the .10 level from the healthy controls in the direction of greater identification with the significant other. No a priori predictions, however, had been made regarding how the psychosomatic control group might differ on this measure. Table 12 summarizes results obtained for the variability indices.

This variable was also analyzed by dividing it into three categories; high (scores of 0 to 43), moderate (44 to 66), and low (67 to 114) as described by Leary (1957) and computing the chi-square statistic between groups. Lower scores on this variable indicate greater amount of identification with the other. This analysis revealed that the UC (74%) and RA (79%) subjects tended to exhibit high to moderate levels of conscious identification, whereas the HC subjects (65%) tended to exhibit moderate to low identification with their significant others. Differences in the distribution between the HC and UC (chi-square=2.3, $p=.30$) and HC and RA (chi-square=3.8, $p=.15$) groups on this variable, however, were not significant. The two psychosomatic groups showed a remarkably similar

Table 12: Results of Analysis of Variance for Leary's Variability Indices.

Variability Index	Group	Mean	s.d.	F	p
Conscious Identification	*HC (n=20)	63.95	39.05	2.07 (df=2,55)	.14
	UC (n=19)	48.47	27.37		
	*RA (n=19)	42.42	34.66		
Maternal Assimilation	HC (n=20)	60.65	31.45	.81 (df=2,56)	.45
	UC (n=20)	48.15	36.18		
	RA (n=19)	57.16	27.60		
Mother-Other Equation	**HC (n=20)	58.65	25.90	2.43 (df=2,54)	.10
	UC (n=19)	47.84	32.44		
	**RA (n=18)	37.17	31.66		

* different at p< .10
** different at p< .05

distribution on this variable (chi-square=.2, p=.90).

Findings suggest that the two psychosomatic samples do tend toward higher levels of conscious identification with their significant others when compared to the HC sample, but these results are not strong enough to generalize to the population. Hypothesis 4 therefore, must be rejected.

Maternal Assimilation

Hypothesis 5 predicted that UC subjects would evidence maternal assimilation to a lesser degree than HC subjects, indicated by higher scores on the Maternal Assimilation variability index. In fact, the UC group's mean score on this variable was lower than the two control groups, indicating a possible trend toward a higher degree of maternal assimilation (see Table 12). Analysis of variance by group, with multiple comparison tests using Duncan and LSD procedures, revealed, however, that differences between groups did not attain statistical significance [F(2,56)=.81, p=.45)]. This index was also analyzed categorically using the chi-square statistic as described for the Conscious Identification index above. Again, no significant differences or trends emerged between groups (chi-square=2.78, p=.60).

Because UC subjects evidenced higher levels of maternal assimilation than HC subjects, hypothesis 5 is rejected.

Mother-Significant Other Equation

Hypothesis 6 predicted that subjects with UC would tend to view their mothers and significant others as similar, indicated by scores on the Mother-Significant Other Equation index lower than those of the HC subjects. It can be seen in Table 12 that this was indeed the case, although the difference between the HC and UC groups did not attain statistical significance [F=1.57, p(one-tailed)=.17]. Multiple comparison tests using the Duncan and LSD procedures however, demonstrated a significant difference ($p<.05$) between the HC and RA groups. These findings suggests that UC and RA subjects tend to equate their perceptions of mothers and partners to a greater extent than the HC subjects. No a priori predictions were made regarding the RA group's score on this variable.

Because the two psychosomatic groups tended to evidence a higher degree of mother-significant other equation than the HC group, hypothesis 6 should be tentatively accepted, at least as a basis for further exploration.

Alexithymia

Toronto Alexithymia Scale

Hypothesis 7 predicted that the UC group would score higher on the Toronto Alexithymia Scale (TAS) than the HC

group. Analysis of variance by group, however, revealed no significant between-group differences on this measure [F(2,57)=1.13, p=.33]. Table 13 summarizes data from the TAS.

Because no significant differences emerged when alexithymia was analyzed as a continuous variable, due in part to the large variance of the UC sample, it was then analyzed as a categorical variable, using cut-off scores established by Taylor et al. (1988). Using data derived from a sample of normal adults, these authors determined that scores less than 62 suggest few alexithymic features (low scores), scores between 63 and 73 suggest some alexithymic features (moderate scores), and scores greater than 73 are positive for alexithymia (high scores). Based on these categories, a 3 X 3 chi-square analysis revealed no significant differences between the three groups (chi-square=5.18, p=.27). There was an interesting trend, however, showing that UC subjects were more likely to place in the moderate and high alexithymia cells (70%) than either the HC (35%) or RA (50%) subjects. A 2 X 3 chi-square contrasting the HC and UC groups approached significance (chi-square=5.00, p=.08). Thus, although hypothesis 7 must be rejected, evidence does suggest that alexithymic features characterize a large percentage of UC subjects.

Table 13: Results of Analysis of Variance on the Toronto Alexithymia Scale across Groups.

Variable	Group	Mean	s.d.	F(2,57)	p
Alexithymia	HC	61.45	10.32	1.13	.33
	UC	66.35	12.24		
	RA	62.50	9.81		

Maternal Assimilation and Alexithymia

Hypothesis 8 predicted that maternal assimilation would be positively correlated with alexithymia across all subjects. That is, it was expected that lower scores on maternal assimilation (indicating high assimilation) would be related to lower scores on the TAS (less alexithymia). The assumptions of normality and constant variance were checked by plotting residuals in a histogram, and against the predicted values and independent variable. None of the necessary assumptions for linear regression analysis appeared to be violated. A multiple r coefficient of .062, $F(1,57)=.22$, p(one-tailed)=.321, indicates that there is very little reason to believe that these two variables are related (see Figure 2) in the population, so hypothesis 8 is rejected.

Post-hoc Analysis of MMPI Scales

Although no a priori hypotheses were proposed regarding how subjects would score on the MMPI scales, these data, obtained initially for calculation of Leary's levels IImm and Is, were analyzed to explore between group differences in psychopathology. Table 14 presents T-scores and standard deviations from the MMPI scales and results of between group analysis of variance with multiple comparison tests. Both psychosomatic groups (UC and RA) scored higher than the HC group on the L (lie) scale which assesses

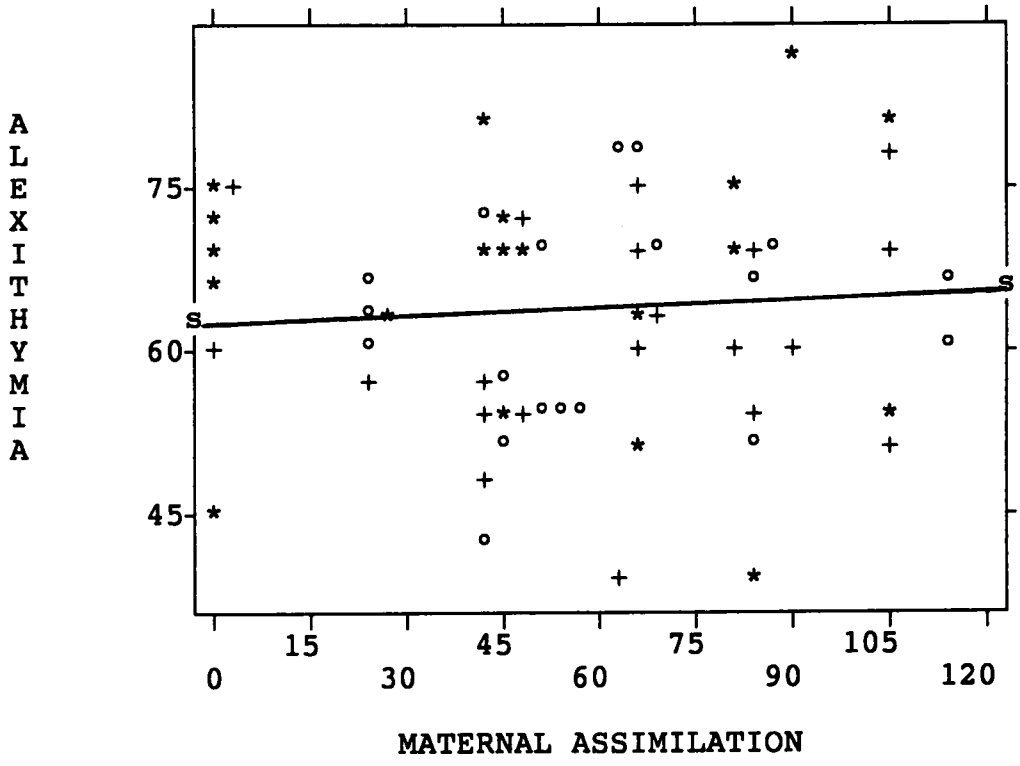

Figure 2: Plot of Alexithymia with Maternal Assimilation across All Subjects.

Table 14: Results of Analysis of Variance for MMPI Scales across Groups.

Scale	Mean/s.d. HC		UC		RA		F(2,57)	p
L	*!45.2	4.0	*49.8	6.1	!49.6	6.4	4.37	.02
F	57.6	6.8	54.0	6.2	57.2	10.3	.73	.49
K	*51.0	7.3	*55.3	6.1	54.3	10.6	1.53	.23
Hs	*!56.5	9.9	*65.1	13.3	!64.6	6.9	4.36	.02
D	61.2	12.4	65.4	12.6	60.5	13.2	.87	.43
Hy	*!57.6	10.6	*65.4	9.9	!63.8	8.5	3.54	.04
Pd	63.4	13.3	59.5	10.2	63.9	11.4	.86	.43
Mf	57.1	12.5	54.7	10.0	52.5	14.4	.70	.50
Pa	58.9	10.3	56.1	6.6	59.5	10.8	.74	.48
Pt	62.0	11.1	59.9	9.8	58.6	9.3	.59	.56
Sc	59.7	12.2	57.3	9.2	61.7	11.4	.80	.45
Ma	*59.6	9.3	*53.7	9.7	58.6	14.8	1.58	.21
Si	59.1	9.7	57.4	12.6	56.4	11.1	.30	.74

* pairwise comparisons between HC & UC groups different at $p \leq .05$

! pairwise comparisons between HC & RA groups different at $p \leq .05$

denial of socially undesirable characteristics. The mean T-scores of all three groups, however, are within the average range for this variable. The UC group scored higher than the HC group on the K scale which measures defensiveness. Both psychosomatic groups scored higher than the HC group on the Hs (hypochondriasis) and Hy (hysteria) scales. The Hs scale measures preoccupation with physical concerns and the Hy scale measures somatization tendencies and hysteroid defenses. The UC group also scored lower than the HC group on the Ma (hypomania) scale which measures energy and activity level.

The three groups of profiles were also examined by assessing the percentages of high points on each scale, with no outstanding differences between groups. The most common high point for the UC subjects was the Hs scale (25%), and 15% of both UC and RA subjects had a high point on the Hy scale. Twenty percent of the HC and UC subjects had a high point on the D (depression) scales, as did 25% of the RA subjects. Nevertheless, fully 75% of the UC sample scored in the moderate to marked range on the D scale, with T-scores above 59, compared to 35% of the RA and 50% of the HC groups. This finding may indicate that many UC patients suffer from an underlying depressive disorder, although alternative explanations are presented in the discussion.

VI. DISCUSSION

Ulcerative colitis is a debilitating, chronic disease of unknown origin. Although psychological factors have long been implicated in this disease, much controversy exists regarding the interpersonal and psychological components of ulcerative colitis. The primary purpose of this study was to objectively evaluate object relationships in patients with ulcerative colitis in an attempt to support previous clinical observations and theoretical speculation. Collateral aspects of this research were to (a) redress methodological problems of previous psychosomatic research, (b) empirically evaluate analytic ideas in an expanding psychosomatic framework, and (c) explore the construct of alexithymia in object relational terms. How well these goals were accomplished is the focus of this section. Discussion of the results will be followed by discussion of the limitations and implications of the study, as well as recommendations for additional research in this area.

Discussion of Results

Subject Characteristics

The three groups were of remarkably similar composition on several variables, in part due to matching (for age and gender), and self-selection (i.e. volunteering

to participate). Most of the subjects were of the Protestant faith with only a small number of Catholics (10% of the total). There were no Jewish participants which is somewhat surprising given the relatively high proportion of Jewish people afflicted with UC (from 9.4 to 42%) reported in various studies (H. Weiner, 1977). Perhaps given the geographical distribution of the sample (middle and east Tennessee), however, this is not so remarkable.

Regarding educational level, the majority of the total sample reported at least some post high-school education (either college or technical school). People with less than a ninth grade education were not included in the study. Subjects in the UC group were slightly more likely to possess either a college or graduate degree (30%) than subjects in either the HC (20%) or RA (20%) groups. Although not a statistically significant difference, this finding is consistent with the observations of other researchers that UC often affects people of higher educational backgrounds (Acheson and Nefzeger, 1963; Castelnuovo-Tedesco, Schwertfeger, and Hanowsky, 1970; Kirsner, 1970).

There was an interesting discrepancy between groups regarding marital status, with 90% of the HC group being married, versus 65% of the UC group, and 55% of the RA group. Thirty-five percent of both psychosomatic groups reported being single (no previous marriages and no

current, committed relationships). The UC literature has often remarked that many of these patients marry with reluctance, noting that when they do, their marital relationships and sexual lives are a continuation of their relationships to parents. Many patients rarely experience sexual pleasure and male patients are reportedly intermittently impotent (Engel, 1955, 1973; Karush et al., 1977; H. Weiner, 1977). Given the present findings, one might wonder if problems in initiating or sustaining significant relationships are a feature of psychosomatic patients in general.

Ninety-three percent of all subjects reported a significant interpersonal loss at sometime in their lives, either by death, divorce, or disruption of an important relationship. Additionally, one subject in each of the psychosomatic samples reported death of a pet as their most significant loss, and one subject in each of these groups reported symbolic losses (e.g. losses of freedom and independence). For the UC group, 30% of the reported interpersonal losses were related contiguously (within one year) to the onset of their disease, although subjects did not necessarily perceive a relationship between the two events. For the RA group curiously, there was a contiguous relationship between loss and the onset of RA for only one subject, a woman whose RA developed shortly after her most significant other (a daughter) moved to a distant city.

The apparent relationship between loss and the onset of UC in some UC subjects, although not rigorously explored in the present study, is consistent with previous research regarding onset phenomena in UC (Dûret-Cosyns, 1975; Engel, 1955, 1968; Prugh, 1951). McKegney et al. (1970) for example, report a significant object loss in 28% of a consecutive series of UC patients within 6 months prior to disease onset. Engel (1955) defines the common denominator of situations precipitating the onset of UC to be an interruption in a key relationship, leading to feelings of being overwhelmed and helpless. The significance of onset events is more likely to be underestimated than overestimated as patients with UC do not easily reveal their feelings or make connections between significant life events, their emotional sequelae, and the onset of symptoms (Almy, 1980).

The UC group was less likely to report having ever felt hopeless or like giving-up (45%) than either the HC (60%) or RA (70%) groups, although this difference was not statistically significant. Again, this may reflect the reluctance or inability to divulge inner feelings, especially upon superficial inquiry, a frequent observation made of UC patients (McDougall, 1989; Paully, 1950; Taylor et al., 1981).

One of the reasons for including a psychosomatic control group in this study was to control for the effects

of a chronic illness on the personality and interpersonal functioning of subjects. Comparing UC patients with an HC sample alone would not permit discrimination between nonspecific psychological effects of chronic illness and the psychological effects specifically related to ulcerative colitis. Results revealed no significant difference between the RA and UC groups on the duration of their respective illnesses. The majority of subjects in each group (75%) rated the severity of their symptoms as mildly to moderately troublesome, yet a full 25% of the UC group were reportedly "mostly disease free" compared to 25% of the RA sample who reported "almost continuous and severe symptoms". This difference may reflect the fact that, for many patients, UC is an intermittent disease, with average duration of remissions ranging from 14 to 18 months (Karush et al., 1977), whereas for the current RA sample, symptoms may be more relentless.

Westen's Scales

Hypothesis 1 predicted that the UC group would demonstrate lower levels of object relations than the HC group, evidenced by lower mean scores on Westen's four scales, Affect Tone (AT), Complexity of Representations (CR), Social Causality (SC), and Emotional Investment (EI). Results strongly support this hypothesis for two of these scales (EI and SC), and revealed a strong trend in the

predicted direction for the CR scale. In addition, it was found that UC subjects were more likely than HC subjects to give pathological (level 1) responses on the CR, SC, and EI scales, and less likely to give level 5 responses. The RA group did not differ significantly from the HC group on any of the analyses of Westen's scales. These findings strongly support the notion, derived from clinical observations, that UC patients often evidence pathology in the realm of object relations, and that these features are not likely to be accounted for by suffering from a chronic illness. M. Jackson (1977) for one, contends that, while UC patients often show no evidence of psychopathology during initial interviews, psychopathology is often gradually revealed in these patients' object relations over the course of time.

Subjects in the UC group generally demonstrated lower level capacity for emotional investment in people, relationships, and moral standards; less accurate, complex, and logical attributions of causality in understanding human interactions; and less of a sense of peoples' subjective states, motives, or enduring characteristics, apart from the subject's own self. On three scales, UC subjects demonstrated more grossly pathological responses (level 1), including profound egocentrism and/or more poorly differentiated representations of people in which points of view of different actors became confused;

noncausal or grossly illogical attributions in social causality; and little emotional investment in people or values, marked by a need-gratifying orientation, extreme entitlement, and/or schizoid unrelatedness. These descriptive statements seem to echo H. Weiner's clinical sentiments made about UC patients, "If the criteria of adult relationships is charitable and enlightened interest in, concern for, and largely unambivalent love for others, these patients fall far short of that ideal" (p. 527).

Interestingly, the three groups did not differ on the AT scale which assesses what one expects from the world of people in terms of a malevolence-benevolence dimension. Generally, all subjects expressed a range of emotionally charged object representations in which people are seen as capable of loving and being loved, of caring and being cared for. This finding is important as it distinguishes the object relational pathology in UC subjects from that typically found in borderline character pathology, which is marked by profoundly malevolent themes on the AT scale (Westen, 1991, Westen et al., 1989).

Object relations theorists locate the origin of character pathology in the rapprochment stage of separation-individuation, when the mother will not allow the child to develop autonomously, instead, withdrawing and rejecting the child's age-appropriate efforts at individuation (Mahler et al., 1975, McDougall, 1989). At

the same time however, it should be allowed that individual differences in adulthood reflect developmental differences both during childhood and later development (Westen, Ludolph, Silk, Kellam, Gold, and Lohr, 1990). While the genesis of object relations pathology then may be rooted in the same developmental stage, current results suggest that their eventual presentation varies considerably; that is, object relations pathology in UC patients is not equivalent to borderline character pathology. Results also support Westen's (1991) contention that the term "object relations" includes a number of different functions and structures that may have different developmental trajectories. This suggests that a theoretical change may be in order, from those more traditional theorists (e.g. Kernberg, Masterson) who tend to define a patient's overall level of object relational functioning as either oedipal or pre-oedipal to a more differentiated theory of object relations as a set of interdependent cognitive and affective structures and processes with distinct developmental trajectories (Westen et al., 1990).

Research by Westen et al. (1990) has found a systematic relationship between object relations and several developmental history variables such as disrupted attachments in childhood. Particularly predictive of pathology were maternal psychiatric illness and alcohol abuse, with paternal variables far less predictive than

maternal ones. A history of severe neglect and sexual abuse was associated with pathological scores on AT. These variables therefore appear to be more pertinent to the development of borderline than to psychosomatic pathology.

Despite the tendency for UC subjects to score lower than the control groups on three of Westen's scales, it is important to note that this was not uniformly the case. At times these subjects were able to come up with high level responses (levels 4 and 5) on each of Westen's scales. Likewise, on certain cards and on certain scales, subjects in the RA and HC groups scored at low or pathological levels. This finding points to the importance of focusing on the dynamic nature of object relations and on the conditions under which pathological processes may be evoked. Functioning on each of Westen's dimensions may vary across individuals as well as within an individual at any given time.

These results also indicate that projective test data can be reliably and validly used to yield insight into basic psychological processes as Westen's scales were able to document some relatively subtle predicted differences. The TAT assesses one's "working representations" of self and others that reflect both the current situational cues and the person's characteristic ways of processing social information, which is largely unconscious and inaccessible to self-report techniques. It is important to access and

understand these unconscious object representations which are most likely qualitatively different from data that are consciously accessible.

Leary Data

Hypothesis 2 predicted that UC subjects would have more frequent scores in octants 5 and 6 on level IIImm, indicating an underlying character structure marked by docility, dependence, submission, and self-effacement than would HC subjects. The data did not support this hypothesis. It was found, instead, that twice as many HC subjects placed in these octants than UC subjects. Because level IIImm is based on the Mf and Pd scales of the MMPI, scores are not influenced by self-report bias, and are felt to accurately assess underlying characterological features of the subject. It was found that although 60% of the HC subjects fell into the Dominant hemisphere (octants 1,2,3, & 8) on this variable, so too did 80% of the UC sample. This finding suggests that the underlying character structure of most UC patients is marked by motivation toward power, competence, self-confidence, self-righteousness, and conventionality or "hypernormality". Once again, both the HC and RA groups were similar to each other in their placement on this variable, and placed in more varied octants with approximately even distribution in the Affiliative-Oppositional and Dominant-Submissive

hemispheres. Although the data did not support the predicted hypothesis, this finding is not necessarily unsupported by the literature on personality features in UC. For example, Groen and Bastiaans (1954) report that the personality structure of UC patients harbors "healthy" features such as conscientousness, orderliness, and sociability, which often co-exist with emotional immaturity, dependency, and passivity. They also note that whereas UC patients often present with outward meekness, it was evident in their research that these patients were frequently full of resentment and aggression. Present results confirm Alexander et al.'s (1968) observations that UC patients tend to be highly achievement oriented individuals who may lose hope easily and regress when frustrated. Conversely, Wiesnagrotzki, Gathmann, and Kiss (1985) describe these patients as outwardly energetic and ambitious, but with an inner sense of insecurity and inferiority. It may be that the characteristic nature of personality structure in UC is based not so much on a single trait by itself, as on the combination of features in a certain proportion. What is apparent and what is hidden or "underlying" at any given time may be based on situational factors.

Hypothesis 3 predicted that UC subjects would place their mothers in octants 1 and 2, describing them as domineering and exploitative more often than HC subjects

who would place their mothers in random octants. Although data did not support this specific hypothesis, results nevertheless were congruent with the literature which describes mothers of UC patients as domineering (Groen & Bastiaans, 1954; Sackin, 1985), overly involved and intrusive (D. Jackson & Yalom, 1966; Taylor, 1987), and critical and self-sacrificing, provoking compliance from others (Engel, 1973; H. Weiner, 1977). Eighty percent of the UC subjects placed their mothers in octants 1, 8, and 7, which characterizes them in the following ways:

Subjects who placed their mothers in octant 1 (40% of the UC sample, 25% of the HC sample) generally described them as strong, competent, and self-confident, although at an extreme level these women can be compulsive and rigid. They provoke obedience and respect from others. This type of mother is most similar to that described by Engel (1954a&b, 1955) as ambitious and perfectionistic, giving love only on the condition that the child be compliant.

Subjects who placed their mothers in octant 8 (20% of the UC sample, 25% of the HC sample) described them again as self-confident, strong, and conventional, pulling for dependence and respect from others. These mothers are described as considerate and helpful, but at an extreme level they may be overprotective and smothering, provoking resentment and frustration from others.

Subjects who placed their mothers in octant 7 (20% of the UC sample, 5% of the HC sample) describe them as friendly and cooperative women, to whom external harmony is more important than internal values. At an extreme level these mothers possess a naive, hysterical style, and are unable to tolerate dissension or criticism. This style brings to mind families of UC patients studied by Finch and Hess (1962) who described them as "pseudo-mutual", or presenting a united, conflict-free front at all costs.

Fifteen percent of the UC subjects placed their mothers in octant 3 (compared to 10% of the HC subjects), describing them as strict and punitive. They may be subtly or overtly hostile and aggressive. This type of interpersonal style provokes guilt and resentful submission from others.

The largest percentage of all three groups placed their mothers in octants 1 and 8, describing them as above, with no significant differences between the groups. Certainly then, the description of mothers as strong, conventional, and self-confident is not unique to ulcerative colitis, or even psychosomatic patients in general. There was a slight trend, however, for the UC subjects to place their mothers in the Affiliative hemisphere (80%) more often than either the HC (55%) or RA (60%) subjects. One might suppose, from this finding, that the consciously available object representation of the

mother is generally positive for UC subjects, at least as suggested by data from this self-report checklist. This may suggest a positive reporting bias among these patients. This is somewhat in line with the findings of Paulley (1956) and Askevold (1964) who reported difficulty obtaining accurate information about family characteristics from UC patients using straightforward interview methods. These patients tended to avoid presenting the childhood home as anything other than harmonious. In patients who did admit to disharmony, via a technique of indirect questions and "counterquestions", the most prominent feature of their families was mother dominance, overprotection, and fussiness. The HC and RA subjects, on the other hand, tended to place their mothers in more random octants around the Leary circle. Descriptions of mothers in this study are limited by the retrospective nature of the self-report checklist which is subject to the effects of selective memory and social bias.

The following four variables were subject to exploratory analyses, but no a priori hypotheses were put forth: levels Is, IIs, IIso, and IIf.

Level Is is the level of public communication, which reflects how a person is seen by others. This level, derived from the MMPI is involuntary and spontaneous, not generally subject to conscious distortion. On this level, far more of the UC subjects placed in octants 8 (55%) and 1

(30%) than would be expected by chance, whereas the HC subjects placed primarily in octant 1 (50%) with no scores in octant 8. Octant 8 describes the responsible, hypernormal personality type. These people appear mature and considerate to others, and strive to fulfill an idealized role of conventionality. At an extreme level (35% of the UC sample), such behavior leads to a bland, uninsightful façade. These individuals can be so attached to hypernormal strivings that they deny and inhibit feelings of frustration and passivity (Leary, 1957). Leary's research at the Kaiser Foundation determined that 43% of all patients with psychosomatic symptoms fall into octant 8 at level Is. He notes that psychosomatic patients use hypernormal defenses or "operations" three to four times more than chance expectancy. This is in accord with current findings that 40% of the RA sample and 55% of the UC sample placed in this octant. McDougall (1989) discusses her clinical experiences with somatizing patients, refering to them as "normopaths", in that they seem to maintain a camouflage of "pseudo-normality" in order not to think or feel too deeply about inner pain and conflict that might otherwise be overwhelming or mentally disorganizing. She notes that such patients seldom make any connection between their somatic symptoms and disturbing events in their lives. Taylor (1987) notes that superficially, many psychosomatic patients seem well-

adapted and show a high degree of social conformity, but on closer inspection, these patients have little contact with their own psychic reality. The current finding suggests that this "hypernormal" social presentation may indeed be a feature of psychosomatic patients in general rather than UC patients specifically.

The UC subjects also frequently placed in octant 1 (30%), as did both the RA (30%) and HC (50%) subjects. Octant 1 shares some similarity with octant 8 in that they are both affiliative-dominant, but octant 1 describes a more controlling, power-oriented personality style. At an extreme level, this octant describes a complete avoidance of weakness, and compulsive attempts to appear competent, industrious, and authoritative. Again, Leary (1957) found that psychosomatic complaints are common among people who place in this octant. He notes, however, that the largest proportion (30%) of all subjects studied at the Kaiser Foundation fell into this octant as did the subjects in the present study (37%).

The finding that the UC and RA subjects placed more often in the affiliative hemisphere on level Is is accounted for primarily by their placement in octant 8.

Level IIs consists of subjects' conscious self-descriptions from the ICL. In general, the three groups were fairly similar with regarding the percentage of each group placing in a given octant. Most subjects placed in

the "healthy octants" [octants 1,2,7,8; (C.P. Cohen, personal communication, Sept. 13, 1988)], so called because people placing in these octants on levels I and II do not often seek psychotherapy (Leary, 1957). Once again, the majority (55%) of UC and RA subjects placed in octants 8 and 1 which are described above. A significant percentage of subjects also placed in octant 2 which communicates the message that one feels superior to others, and is independent, confident, and competitive. It is interesting to note that while 30% of the UC subjects placed themselves in this octant on level IIs, none of them placed in octant 2 on level Is, i.e. how they appear to others. Finally, there was a slight tendency for the RA (15%) and HC (15%) subjects to place themselves in the "unhealthy octants" (octants 3,4,5,6) more often than UC subjects (5%). This supports the notion that presenting oneself as self-reliant, competent, sociable, and "normal", is characteristic of the UC subject. Again, this is consistent with previous research findings that UC subjects tend to show limited overt psychopathology (Fava & Pavan, 1976/77b; Taylor, Doody, & Newman, 1981), and often appear to function well, presenting a "pseudo-normal" façade (M. Jackson, 1977; Reiser, 1966).

The analysis of level IIso explored subjects' conscious descriptions of their "significant others" on the ICL. Although for most of the subjects the significant

other represented a spouse or lover, for a significant percentage of the psychosomatic subjects this person consisted of a good friend, and in one case, a sister. Therefore, it is questionable how meaningful a between group comparison is on this variable as such. At any rate, no notable differences emerged among the groups. The main reason for obtaining these data was to determine how closely identified subjects were to their most significant or "key" other, and this is discussed in a later section.

Level IIf consists of subjects' descriptions of their fathers as they were remembered during childhood. These data were obtained due to the striking dearth of this information in the literature about UC patients. The majority of subjects in all three groups placed their fathers in octant 2, describing him in terms indicative of strength, arrogance, and competitiveness. Such a man would appear to others as independent and confident, but at an extreme level he may be cold and selfish, evoking envy and feelings of inferiority from others. A substantial percentage of the UC and RA subjects placed their fathers in octant 1, also a dominant octant, describing them as authoritarian, competent, and respected. Ten percent of the UC sample described their fathers as aggressive and punitive (octant 3), as did 20% of the HC sample.

Very few subjects, and none of the UC subjects placed their fathers in the Submissive hemisphere (octants

4,5,6,7). These findings are not consistent with some impressionistic observations of UC patients' fathers as "passive and ineffectual" (Engel, 1958), lacking in ambition and self-esteem (H. Weiner, 1977), and as serving an "unimportant function" (Groen & Bastiaans, 1954). This discrepancy between current findings and clinical impressions of these fathers reported in the literature may be due to differences in how these data were obtained, i.e. a self-report adjective checklist versus more impressionistic observational data and reports from UC patients in psychotherapy. As mentioned previously, the checklist used in this study is subject to selective recall and social bias, presenting descriptions of others as the subject wishes to describe them.

It has also been noted that there may be gender differences in how UC patients describe their fathers, with females ascribing to him gentle, passive, kind traits, and males presenting him as punitive, masculine, and intimidating (Engel, 1958; Groen & Bastiaans, 1954; H. Weiner, 1977). There was little evidence of a gender difference in the current sample as all UC subjects placed their fathers in the Dominant octants (1,2,3,8). An analysis of gender differences on level IIf was not attempted in the present study due to an insufficient number of subjects.

Generally, Engel (1958) reported that his UC patients seldom spoke about their fathers, providing only a "shadowy, stereotyped" picture of him, and that, only upon direct inquiry.

Hypothesis 4 predicted that UC subjects would be more closely identified with their significant other than HC subjects, based upon the clinical literature which observes that the key other serves an important function in psychobiological regulation for UC patients. Although data do not provide overwhelming support for this hypothesis, a trend was found in the expected direction. An interesting finding was that the two psychosomatic groups were very similar with respect to the amount of conscious identification exhibited when this variable was examined categorically, and both these groups demonstrated more identification with the significant other than did the HC group. This small finding, while it should be interpreted cautiously, is nevertheless important as it is consistent with the object relations theory of psychosomatic dysfunction, and because this was the first attempt to objectify and measure this clinical observation.

As outlined in the literature review, UC patients are felt to be stuck at the symbiotic stage of interpersonal development, resulting in their extreme reliance on and identification with a key figure. This figure is typically the mother in early life or a mother substitute (usually

the spouse, but not always) during adult life. For this reason, subjects were asked, open-endedly, to describe their "most significant other" at the present time. Because of failures during separation-individuation, the UC patient is felt to continue to use the key figure, in a recapitulation of the earlier mother-child relationship, as an extension of the self, a substitute for an internalized, self-regulating, maternal representation. These patients appear to depend, throughout their adult lives, on self-object, or "key other" relationships "in order to replace the functions of the mental apparatus which had not been established in childhood" (Kohut, 1971, p. 46). Ammon too, (1979) in describing psychic deficits in psychosomatic patients, referred to their "rigid dependency upon an external object... (that is) experienced as the representation of an internal object and function(s) as the external stabilizer of the ego" (p. 118). In healthy development, with optimal mothering, the intrapsychic representation of the mother "functionally replaces the illusory symbiosis of the earlier period" (Pine, 1979, p. 234), permitting individuation and psychobiological regulation in the absence of another person.

The similarity of the UC and RA subjects on the measure of conscious identification suggests that this developmental pattern may be characteristic of psychosomatic patients in general, in that they identify

more closely with a key other in an attempt to obtain external psychobiological regulation. Ascençao (1993) reviews literature pertaining to similar developmental patterns and object relational deficits in RA patients. Other researchers have documented similar "narcissistic modes of relating to key objects" among patients with dermatological disorders (Lefebvre, 1980), bulimia (McDougall, 1974), asthma, peptic ulcer disease, and headaches (Masterson, 1972). Psychosomatic patients are felt to be extremely vulnerable to real or imagined disruptions in these key relationships which could trigger a "giving-up/given-up" complex (Engel, 1968) with consequent tissue changes.

Hypothesis 5, which predicted that UC subjects would evidence less maternal assimilation than HC subjects, was not supported by the data. Results showed that 45% of the UC sample, in fact, evidenced a high degree of maternal assimilation, which is inconsistent with prevailing object relations theory. Recall that the Maternal Assimilation variability index (amount of discrepancy between levels IIm and IIImm) is thought to indicate the degree of assimilation of maternal functions into the self-structure. According to object relations theory, the development of an internalized mental representation of the mother is necessary for the development of a mature identity, separate from the mother, and a precursor to the

development of self-regulatory and self-soothing capacities. Perhaps it is not the degree of maternal assimilation per se that predisposes one to the development of a mature identity, but the type of mother assimilated which must be taken into account. In his study of maternal assimilation and the capacity to be alone, Horner (1991) found that subjects who assimilate a "good-enough" mother exhibited confidence, resourcefulness, and ego strength, whereas subjects who assimilated controlling, impinging, or needy mothers were deficient in the capacity to be alone and in ego resources.

Patients with UC in fact, often report having been highly attuned to their mothers' wishes, trying to anticipate their mothers' needs and minimize their anxiety, in order not to be rejected by them (Strang, 1989). Similarly, Engel (1958) reports that these patients often give up their sense of individuality to act "as proxy for the mother, enjoying only what she would enjoy and forever seeking assurance that no transgression had taken place" (p. 319). The extent to which such descriptions characterize subjects with a high degree of "assimilation" of their mothers poses an interesting question.

The disparity among UC subjects on this measure is notable, with 30% evidencing little assimilation of maternal qualities, 45% evidencing a high degree of assimilation, and 25% falling in the middle. It seems

likely that UC patients may vary with respect to their type and degree of object constancy. The present finding is similar to that of Karush et al. (1977) who determined that their UC patients could be divided into three groups; individuated, symbiotic, and transitional. The individuated patients are felt to have attained a mental representation of the mother as an object of constancy during the first two years of life. As a result, these patients think and behave with a fair degree of independence, but tend to be controlling and manipulative. The symbiotic patient, on the other hand, lacking an adequate maternal representation, is extremely dependent, compliant, and constantly on the lookout for objects of attachment. The transitional type of patient shows a mixture of symbiotic and individuated attitudes and may fluctuate between the two extremes. Certainly the present findings regarding this variable are very preliminary and speculative, underscoring the difficulties that exist in operationalizing and quantifying complex psychoanalytic constructs.

Hypothesis 6, which predicted that UC subjects would describe their mothers and significant others as more similar to each other than would HC subjects, was partially supported by the data. This hypothesis was based upon the often reported observation that UC patients rely extensively upon a "key other", whom according to object

relations theory, serves as a "mother-substitute", providing a maternal regulatory function in the patient's contemporary relationship. It was supposed that UC patients would tend to unconsciously select partners with whom they could repeat the presumably pathological object relationship of childhood. Others have observed a narcissistic mode of relating to others among psychosomatic patients, in which difference, separateness, and autonomy of the object are not easily tolerated (Lefebvre, 1980; McDougall, 1974). The phenomenon of "projective reduplication" refers to this inability of such individuals to perceive the other as a separate and distinct person (Lolas & von Rad, 1989). Rather, psychosomatic patients have been noted to view the other according to their own needs, desires, and conflicts in a rather ubiquitous and extreme form of "transference". Thus, the finding that UC patients tend to equate their mothers and significant others is consistent with theory. A similar finding has been reported by Zepf, Künsebeck, and Sittaro (1981) who present data based upon semantic differential ratings which suggest that UC patients view their partners as closer to their ideal mothers when compared with a group of controls. The RA group demonstrated an even stronger tendency in this regard when compared to the HC group. As was found on the Conscious Identification index, the UC and RA groups were similar to each other on the Mother-Significant Other

Equation index, suggesting again that this interpersonal pattern is a feature of psychosomatic patients in general. Current findings support the theoretical idea that psychosomatic patients rely on external objects to make up for their apparent lack of effective internal stablizing objects. McDougall (1974) opines that "We are witnesses to the attempt to make substitute objects in the external world do duty for ones which are absent or damaged in the inner psychic world" (p.449). This psychic deficit has also been linked to the frequent "alexithymic" presentation of psychosomatic patients, to which we now turn.

Alexithymia

Although hypothesis 7 which predicted that UC subjects would be more alexithymic than HC subjects was not supported by the data, there was a strong trend showing that alexithymic features characterize a large percentage of UC subjects. RA subjects, on the other hand, looked similar to the HC subjects with respect to alexithymia, both in terms of the groups' mean scores and percentage of subjects scoring "high" ($\geq$74) on the TAS (15% of HC and RA subjects vs 25% of UC subjects). This is an interesting finding because prevailing psychosomatic theory considers alexithymia to be regarded as one of several possible "general onset situations or risk factors that seems to increase the susceptibility to disease, which is specified

by other variables" (H. Weiner, 1982, p. 41). Current results suggest that alexithymia tends to be a feature of UC patients more often than either RA patients or HC subjects. Features of alexithymia are manifested in cognitive, affective, and interpersonal processes. Cognitively, UC patients are more likely to concentrate on details of everyday life, i.e. "pensée opératoire", and prefer action to reflection and fantasy. They are likely to have difficulty expressing feelings and articulating inner experiences. Interpersonally, they may appear "pseudo-normal", conforming, and well-adapted, but to a sensitive observer they may appear mechanical and robotic. These features are consistent with what was found on level Is in the UC sample. These subjects placed primarily in octant 8, which describes a "hypernormal", conventional appearance. Leary (1957) indicates that these individuals can be so attached to hypernormal strivings that they deny and inhibit feelings. At an extreme level, such behavior leads to a bland and uninsightful (alexithymic?) demeanor.

The present data are also consistent with those of a number of other researchers who report a higher degree of alexithymia in UC patients compared with various comparison groups, including patients with irritable bowel syndrome, appendicitis, peptic ulcer, pancreatitis, varicose veins, gallstones, and neurosis (Fava & Pavan, 1976/77; Keltikangas-Jarvinen, 1985, 1990; Nakagawa et al., 1979).

The validity of the notion that clinical groups with different psychosomatic diagnoses are uniformly alexithymic is challenged by these findings, as there appears to be considerable heterogeneity between psychosomatic groups.

In all of the cited studies, however, a certain proportion of UC subjects show little or no evidence of alexithymia. Fava and Pavan (1976/77), for example, report that 35% of their UC sample showed little evidence of alexithymia. Similarly, 30% of the present sample scored "low" ($\leq$62) on the TAS. Shipko (1982) reminds us that a specific correlation between alexithymia and psychosomatic disease has not been firmly established. His data suggest rather that alexithymia is more prevalent in somatizing patients than either healthy people or those with classical psychosomatic disorders in the absence of somatization. Clinical descriptions of alexithymia in patients with classical psychosomatic illnesses emphasize their tendency toward endless concern with physical functioning which is not necessarily related to the underlying illness. It is this excessive complaining about physical problems, which, distinct from an actual disease process, may be more strongly related to alexithymia (Apfel & Sifneos, 1979). This conceptualization may help explain the large variance in the current UC sample and warrants further exploration in a future study.

Another question about alexithymia is whether it is best explained as a pre-existing personality characteristic, or as a secondary reaction protecting one from the emotional significance of having been diagnosed with a chronic, impairing disease. Although the issue of alexithymia actually predisposing people to somatic disease can only be tested by longitudinal research, the present findings would seem to suggest that alexithymia is not primarily a reaction to the disease process. Otherwise, one would expect the RA subjects, who rated their disease as both more severe and of longer duration than the UC subjects, to actually be more alexithymic than either the HC or UC groups.

Of the several competing theories regarding the etiology of alexithymia, hypothesis 8 addresses the psychodynamic theory that alexithymia is negatively correlated with degree of maternal assimilation. Data did not support this hypothesis. Recall that, according to object relations theory, alexithymia is thought to develop when the infant's sense of symbiotic union with the mother is prematurely disrupted, preventing the child from developing an internalized, soothing maternal imago. As this early mental image of "mother" is held to be a prototype of fantasy, the failure to develop it damages later ability to symbolically express affect and needs. This highly theoretical model, the validity of which

derives from decades of clinical work with "alexithymic" individuals, is incredibly difficult to test empirically. Failure to support this theory may have more to do with problems in operationalizing such abstract concepts rather than to lack of clinical validity and one must pause before throwing out the baby with the bath. Ahrens and Deffner (1986) wisely recommend that, prior to discarding clinically useful theory, it is essential to use a number of different empirical approaches and a number of different operationalizations of complex constructs. Certainly, the failure of this preliminary attempt at validating theory does not warrant alarm. Once again, a partial explanation for the lack of correlation between maternal assimilation and alexithymia may be found by considering the type of mother assimilated. Perhaps it is only those fortunate enough to assimilate a "good-enough" mother who exhibit little alexithymia, whereas assimilation of a controlling, non-nurturing mother may result in alexithymia in the same way that absent maternal representation is thought to do.

Nevertheless, other theories of alexithymia should also continue to be explored. The developmental model, which contends that there is a failure in learning to make connections between words and emotions, might also account for alexithymia in UC patients. This model is consistent with, and suggested by studies of families with children who have UC, which have remarked upon the limited range of

interactions in these "restricted" families (D. Jackson & Yalom, 1966). The concept of alexithymia, comprising as it does several facets, may therefore have a number of different, interrelating causes, including life experience, trauma, relationship to the interviewer, neurophysiology, etc.

MMPI Scales

No a priori hypotheses were proposed regarding how subjects would score on the MMPI, as this measure was administered primarily to derive levels Is and IIImm for the Leary system. It was felt to be important, however, to compare the three groups on the MMPI scales given the variability of previous MMPI findings in the UC literature. Data pertaining to the present UC sample indicated that, as a group, they scored higher than the HC sample on the L, K, Hs (hypochondriasis), and Hy (hysteria) scales and lower on the Ma (hypomania) scale. The UC and RA groups emerged as remarkably similar, with no significant differences between their mean scores on any of the MMPI scales. On the descriptions below, it should be kept in mind that MMPI interpretation is most useful when looking at the relationship of scales to each other in a given case, which is not possible with aggregate data. No attempt was made either, to examine subscale differences between groups.

Therefore, findings are preliminary and speculative, at best forming a basis for further hypothesis testing.

That both psychosomatic groups scored higher than the HC group on the L scale was interesting. This scale contains items that identify persons who are trying to avoid answering the MMPI frankly and honestly. Content areas within this scale include denial of minor, personal dishonesties, aggression, bad thoughts, and weakness of character (Greene, 1980). It seem probable that the two psychosomatic groups may have felt somewhat more defensive than the HC group, given that the research project was presented to subjects as specificially assessing relationships, emotions, and personality features in patients with certain diseases. The probability of a mild defensive bias is also supported by somewhat higher K scale scores in the psychosomatic groups compared with the HC group, which attained significance in the case of the UC group. Moderate elevations (T-score=56 to 65) of this scale describe those individuals who are being defensive and unwilling to acknowledge psychological distress, while normal scores (T-score=46 to 55) describe those who have a proper balance between self-disclosure and self-protection.

It is likely that elevations on the Hs and Hy scales reflect, in part, the actual poor physical health of the psychosomatic groups, and the fact that there is a large overlap of items between these two scales (Greene, 1980).

Moderate elevations on the Hs scale (T-score=60 to 69) are typical of physically handicapped persons and of those with actual physical illness. These people have some concerns about their bodily functions and may be seen as stubborn, immature, and lacking drive (Greene, 1980).

Moderate elevations (T-score=60 to 69) on the Hy scale describe persons who are likely to be exhibitionistic, extroverted, and superficial. They tend to deny problems and avoid unpleasant issues. They may complain about feeling below par physically, effortfully keeping up a good front, but needing reassurance and attention (Greene, 1980).

Elevations on the L scale, accompanied by elevations on the Hs and Hy scales, suggest an individual with prominent personality dynamics of denial and lack of psychological-mindedness, reminiscent of the alexithymia construct.

A high proportion (75%) of UC subjects scored at moderate (T-score=60 to 69) and marked (T-score$\geq$70) levels on the D (depression) scale, although group means did not differ significantly. Judging from this, there are grounds for assuming the presence of some type of depressive disorder in most of these patients, substantiating the observations of numerous investigators (Arapakis et al., 1986; Daniels, 1942; Engel, 1968; Fullerton et al., 1962; Magni et al., 1991). People with moderate scores on the D

scale are dissatisfied with something or with themselves, but may not recognize this state as depression or they may have learned to adjust to a chronically depressed existence. High scorers on this scales typically exhibit sadness, pessimism, and depressed mood. They tend to be withdrawn, guilty, and self-deprecating (Greene, 1980). A possible explanation for the high D scores among the UC sample is that several items comprising this scale assess physical malaise; psychomotor retardation, decreased appetite, gasto-intestinal symptoms, etc., some of which are secondary to ulcerative colitis. Several of these symptoms however, can also be secondary to RA, and only 35% of this group scored higher than average. This curious finding is quite at odds with how UC subjects tend to describe themselves on level IIs, and how they are perceived by others (level Is). It may be conjectured that high D reflects a sense of inner emptiness and discontent which is either poorly articulated or unrecognized by these patients, and which is rigidly defended against by a "pseudo-normal" adaptation to life. This discrepancy is not easily reconciled and warrants further exploration.

Ulcerative colitis subjects also tended to score lower than HC subjects on the Ma scale. Although most subjects in all groups fell into the normal to moderate range (T-score=45 to 69) on this scale, 25% of the UC sample scored low enough (T-score$\leq$44) to suggest a diminished energy and

activity level that may reflect poor health, fatigue, or again, actual depression.

In spite of differences in sample characteristics, the current results are somewhat similar to those of Fullerton et al. (1962) who compared predominantly male, Veteran's Administration inpatients with UC to a diverse control group "hysterics, hypochondriacs, homosexuals and so forth" (p. 468). They also found that UC subjects were more likely to be depressed with low activity, concluding that, although these patients suffer considerably from painful affect, they seem to be overwhelmed and unable to constructively adjust to, or change their circumstances. Leidtke et al. (1976) also determined that UC patients were more depressed than non-psychosomatic controls. Additionally, UC patients were found to be more hypochondriacal, paranoid, and socially introverted, findings which are only partially in accord with those of the present study. Comparing adult patients with inflammatory bowel disease (IBD) with their healthy siblings, McMahon et al. (1973) found the patients scored higher on the Hs, D, and Hy scales, similar to present findings. The authors point out that while these patients scored higher on the "neurotic triad", they tended to deny or minimize depression or neurotic symptomatology of any kind during interviews, instead giving responses of the most conventional sort. One study, at variance with most,

reported no evident psychopathology on the MMPI in a group of UC patients (West, 1970). This research, however, compared the UC sample to a diverse group of hospitalized psychosomatic controls and failed to include a healthy comparison group.

Summary of Findings

Overall, the present study was felt to be successful in meeting the stated objectives; (a) assessing object relations and personality features of UC patients, (b) using sound methodology, (c) objectively evaluating some analytic ideas in psychosomatic medicine, and (d) exploring the alexithymia construct in object relational terms. In attempting to delineate the character structure, ego deficits, and object relations of UC patients, this study went beyond previous attempts to describe these patients using superficial surveys and questionnaires.

One of the more robust findings was that the UC group evidenced lower levels of object relations than the control groups on three of Westen's scales. That this significant finding was based on projective test data which taps "deeper" aspects of the personality, confirms the importance and validity of using psychoanalytic constructs as research tools in psychosomatic medicine. In the past, studies concluding that UC patients are no different than controls have relied heavily on superficial questionnaires

and self-report techniques. In the present study, projective data are rather at odds with data from the Leary system (levels IIImm, Is, & IIs) which indicate a three-level personality structure marked by hypernormal conventionality. While paradoxical, this discrepancy between projective and objective data is consistent with the oft-cited observation that UC patients tend to show limited overt psychopathology, which nevertheless, conceals developmental deficits in certain ego functions.

Extreme dependency in these patients was not found in the present study, with respect to their self-presentation or character structure. Nevertheless, their supposed reliance on external objects seems to be indirectly supported by their high degree of conscious identification with significant others, and by their tendency to equate significant others with maternal representations. Perhaps "dependency" in these patients is more psychobiological than behavioral.

The finding that most UC subjects scored above average on the MMPI depression scale was unexpected, suggesting that, at some level, these people feel dissatisfied and malcontent, if not downright depressed. Further research might profitably address the relationship between depression, Engel's notion of the "giving-up" complex, and onset or exacerbations of ulcerative colitis. Depressive feelings also are not inconsistent with chronic, underlying

character pathology and suggest that UC patients presenting for medical treatment may need to be screened for depression.

Present results are equivocal with respect to the notion of a general "psychosomatic personality". On some variables the UC and RA groups were similar, while on others, the RA group looked more like the healthy controls. There is some indication that both psychosomatic groups may have been swayed by a slight defensive bias, perhaps having felt singled out for study, whereas it is less likely that the HC subjects felt "examined". Likewise, the UC and RA groups both evidenced more conscious identification with significant others, and less differentiation between mothers and significant others than the HC group. This may indicate that these groups rely more heavily upon external objects, and/or are less psychologically differentiated than their healthy peers. This similarity between the psychosomatic groups, however, did not extend to object relations as measured by Westen's scales, or to theoretically consistent scores on the Maternal Assimilation index or alexithymia scale. Such theoretical inconsistencies need to be clarified; possibly by different measures of such constructs, possibly by alterations in theory.

Although many of the exploratory hypotheses were not strongly supported as presented, results were generally

consistent with the literature regarding relationships and personality features in UC patients. That UC patients were not always significantly different from controls extends from large intra-group variation on most measures. What is probably most unique about UC patients as a group, is their biological predisposition to this disease. Rather than possessing a uniform UC personality, the current sample appeared to present a range of psychological features varying in degree from minimal to extreme. The full value of psychological assessment is felt to rest in the insights it provided into the personality structure of the individual patient.

Limitations of the Present Study

A number of limitations of the present study need to be addressed in evaluating the validity of research results. A major limitation was the relatively small sample size and restricted demographics of the sample groups. Because several of the Leary variables consisted of eight categorical octants, the number of subjects was too small to permit completely valid chi-square analyses. Instead, octants had to be collapsed into various configurations with resulting loss of information. The number of subjects was also insufficient to evaluate the extremity dimension on the Leary circumplex. Given the decreased power of the non-parametric chi-square statistic,

in combination with a low N, many theoretically consistent results did not attain statistical significance. This necessitated the examination and consideration of trends in the data, results which must be generalized with extreme caution, if at all. Because this was a descriptive, exploratory, and non-experimental research design, causal inferences cannot be made from the data.

Although an attempt was made to acquire consecutive series of subjects, this was not completely successful, given that ultimately, all subjects volunteered their participation. Several UC and RA subjects "recruited" by their physicians refused to participate, or failed to complete the questionnaires. Given the limited, self-selected sample of UC patients in this study, once again, conclusions and generalizations remain tentative.

Bias in subjects' reporting has already been mentioned as a possibly confounding feature of the results. The measurement of subjects' perceptions of their parents, for example, was based on the subjective recall of events which occurred decades ago in many cases. Such findings may also represent selective recall of events.

Although bias in scoring the projective test data was minimized by coding stories typed one to a page, independent of the subject's protocol, and by high inter-rater reliability, this source of potential bias cannot be ignored. Ideally, all stories should have been double-

coded by persons completely independent from the collection of data.

Implications for Research and Practice

While the results of this study offer partial empirical support for clinical observations of object relations and personality features of UC patients, and for the validity of object relations theory in psychosomatic medicine, probably more questions are raised than answered. The present study cast a wide net as it were, in attempting to address a number of observations made about patients with ulcerative colitis. An important next step would be to narrow down specific areas of inquiry to examine empirically. The task of psychosomatic research is to eventually break down the enormous complexity of interactions between social, psychological, and physiological variables, and formulate hypotheses about causal links and correlations among clearly defined and quantifiable variables (Lipowski, 1977). Present results suggest several directions for future research in this area. One very important direction would be to examine intra-group variations in patients with ulcerative colitis, as this groups appears to be heterogeneous with respect to a number of variables. Is there, for instance, any relationship between depression and exacerbation of the disease process? Do alexithymic and non-alexithymic UC

patients differ on other variables such as somatization or reliance on key others, for example? What effect does the presence of depression and/or alexithymia have on the medical management or hospitalization rates for these patients? The extent to which UC patients rely on external objects for psychobiological regulation also needs to be clarified, particularly given impending changes in the nation's health care system which may seriously disrupt doctor-patient relationships. In terms of treatment, it is felt that evidence is not yet sufficiently substantial to support generalizations about psychological aspects of ulcerative colitis for all patients. Rather, the course of psychological therapy should be based upon detailed assessment of the individual patient. Medical practioners, however, might well be apprised of these patients' propensity for depression and for the possibility of character deficits underlying a pseudo-normal presentation.

The object relations model of disease, upon which this study was largely based, is still very much in its formative stages (Taylor, 1987). Further development of the theory that certain diseases can be conceptualized as disorders of psychobiological regulation requires the integration of knowledge from many fields, including psychoanalysis. The challenge to psychoanalysis is enormous, requiring the development of better and more refined measures of abstract constructs and the

establishment, both theoretically and empirically, of their utility for the understanding of patients with various diseases.

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APPENDICES

Appendix A: Recruitment Notices

***** RESEARCH PARTICIPANTS NEEDED *****

A study is being conducted, in affiliation with the Department of Psychology at the University of Tennessee, on the connection between interpersonal relationships, personality, emotions, and health.

We are looking for people who are generally in good health, with no diagnosed physical or emotional problems to take part in this research project. Participants must be between the ages of **18** and **60**. Each participant will fill out several questionnaires and checklists, assessing personality features, emotions, styles of relating with others, and health background. Total participation time will be about two and a half hours. People who complete the study will receive **$15.00**.

There are no known risks to this study. Your identity will be kept completely confidential, as all test data are identified by a code number. Your participation is voluntary and you may withdraw at any time during the testing. No information regarding your participation will be reported to your medical doctor without your written permission.

If you have any questions about this project, or if you would like to participate, please contact:

Kim W. Keinath, M.Sc.
Department of Psychology
Veteran's Administration
Medical Center

phone: **322-9304** (eve.)

327-5326
or
327-4751
ext. **5139** (days)

***** RESEARCH PARTICIPANTS NEEDED *****

A study is being conducted, in affiliation with the Department of Psychology at the University of Tennessee, on the connection between interpersonal relationships, personality, emotions, and the course of certain diseases, such as ulcerative colitis.

We are looking for people who have been diagnosed with **ulcerative colitis** to take part in this research project. Participants must be between the ages of **18** and **60**. Each participant will fill out several questionnaires and checklists, assessing personality features, emotions, styles of relating with others, and health background. Total participation time will be about two and a half hours. People who complete the study will receive **$15.00**.

There are no known risks to this study. Your identity will be kept completely confidential, as all test data are identified by a code number. Your participation is voluntary and you may withdraw at any time during the testing. No information regarding your participation will be reported to your medical doctor without your written permission.

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327-4751
ext. **5139** (days)

***** RESEARCH PARTICIPANTS NEEDED *****

A study is being conducted, in affiliation with the Department of Psychology at the University of Tennessee, on the connection between interpersonal relationships, personality, emotions, and the course of certain diseases, such as rheumatoid arthritis.

We are looking for people who have been diagnosed with **rheumatoid arthritis** to take part in this research project. Participants must be between the ages of **18** and **60**. Each participant will fill out several questionnaires and checklists, assessing personality features, emotions, styles of relating with others, and health background. Total participation time will be about two and a half hours. People who complete the study will receive **$15.00**.

There are no known risks to this study. Your identity will be kept completely confidential, as all test data are identified by a code number. Your participation is voluntary and you may withdraw at any time during the testing. No information regarding your participation will be reported to your medical doctor without your written permission.

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Appendix B: Toronto Alexithymia Scale

TORONTO ALEXITHYMIA SCALE (TAS)

INSTRUCTIONS: Using the scale provided as a guide, indicate how much you agree or disagree with each of the following statements by placing an X in the appropriate place. Give only one answer for each statement: (1) Strongly Disagree, (2) Moderately Disagree, (3) Neither Disagree nor Agree, (4) Moderately Agree, (5) Strongly Agree.

		Strongly disagree 1	Moderately disagree 2	Neither disagree nor agree 3	Moderately agree 4	Strongly agree 5
1.	When I cry I always know why.					
2.	Daydreaming is a waste of time.					
3.	I wish I were not so shy.					
4.	I am often confused about what emotion I am feeling.					
5.	I often daydream about the future.					
6.	I seem to make friends as easily as others do.					
7.	Knowing the answers to problems is more important than knowing the reasons for the answers.					
8.	It is difficult for me to find the right feelings.					
9.	I like to let people know where I stand on things.					
10.	I have physical sensations that even doctors don't understand.					
11.	It's not enough for me that something gets the job done: I need to know why and how it works.					
12.	I'm able to describe my feelings easily.					
13.	I prefer to analyze problems rather than just describe them.					
14.	When I am upset, I don't know if I am sad, frightened, or angry.					
15.	I use my imagination a great deal.					
16.	I spend much time daydreaming whenever I have nothing else to do.					
17.	I am often puzzled by sensations in my body.					
18.	I daydream rarely.					
19.	I prefer to just let things happen rather than to understand why they turned out that way.					
20.	I have feelings that I can't quite identify.					
21.	Being in touch with emotions is essential.					
22.	I find it hard to describe how I feel about people.					
23.	People tell me to describe my feelings more.					
24.	One should look for deeper explanations.					
25.	I don't know what's going on inside me.					
26.	I often don't know why I am angry.					

Appendix C: Interpersonal Adjective Checklist

THE INTERPERSONAL CHECKLIST

DIRECTIONS: This booklet contains a list of descriptive words and phrases which you will use in describing yourself and members of your family or members of your group. The test administrator will indicate which persons you are to describe. Write their names in the spaces prepared at the top of the inside pages. In front of each item are columns of answer spaces. The first column is for yourself, and there is another column for each of the persons you will describe.

Read the items quickly and fill in the first circle in front of each item you consider to be generally descriptive of yourself at the present time. Leave the answer space blank when an item does not describe you. In the example below, the subject (column 1) has indicated that item A is true and item B is false as applied to him.

	1	2	3	4	
A	o	o	o	o	well-behaved
B	o	o	o	o	suspicious

After you have gone through the list marking those items which apply to you, return to the beginning and consider the next person you have been asked to describe, marking the second column of answer spaces for every item you consider to be descriptive of him (or her). Proceed in the same way to describe the other persons indicated by the test administrator. Always complete your description of one person before starting the next.

Your first impression is generally the best so work quickly and don't be concerned about duplications, contradictions, or being exact. If you feel much doubt whether an item applies, leave it blank.

This booklet has been prepared by Timothy Leary, Ph.D., and published by the Psychological Consultation Service, 1230 Queens Road, Berkeley 8, California. The Interpersonal Checklist was developed by Rolfe LaForge, Ph.D., and Robert Suczek, Ph.D., and other staff members of the Kaiser Foundation Research Project in Psychology.

Column 1 **Self** Column 3 **Father**

Column 2 **Mother** Column 4 **Significant Other**

Column

1 2 3 4

o o o o well thought of
o o o o makes a good impression
o o o o able to give orders
o o o o forceful
o o o o self-respecting
o o o o independent
o o o o able to take care of self
o o o o can be indifferent to others
o o o o can be strict if necessary
o o o o firm but just
o o o o can be frank and honest
o o o o critical of others
o o o o can complain if necessary
o o o o often gloomy
o o o o able to doubt others
o o o o frequently disappointed
o o o o able to criticize self
o o o o apologetic
o o o o can be obedient
o o o o usually gives in
o o o o grateful
o o o o admires and imitates others
o o o o appreciative
o o o o very anxious to be approved of
o o o o cooperative
o o o o eager to get along with others
o o o o friendly
o o o o affectionate and understanding
o o o o considerate
o o o o encourages others
o o o o helpful
o o o o big-hearted and unselfish

Column 1 **Self** Column 3 **Father**

Column 2 **Mother** Column 4 **Significant Other**

Column

1 2 3 4

o o o o often admired
o o o o respected by others
o o o o good leader
o o o o likes responsibility
o o o o self-confident
o o o o self-reliant and assertive
o o o o businesslike
o o o o likes to compete with others
o o o o hard-boiled when necessary
o o o o stern but fair
o o o o irritable
o o o o straightforward and direct
o o o o resents being bossed
o o o o skeptical
o o o o hard to impress
o o o o touchy and easily hurt
o o o o easily embarrassed
o o o o lacks self-confidence
o o o o easily led
o o o o modest
o o o o often helped by others
o o o o very respectful to authority
o o o o accepts advice readily
o o o o trusting and eager to please
o o o o always pleasant and agreeable
o o o o wants everyone to like him
o o o o sociable and neighborly
o o o o warm
o o o o kind and reassuring
o o o o tender and soft-hearted
o o o o enjoys taking care of others
o o o o gives freely of self

Column 1 **Self** Column 3 **Father**

Column 2 **Mother** Column 4 **Significant Other**

Column

1 2 3 4

o o o o always giving advice
o o o o acts important
o o o o bossy
o o o o dominating
o o o o boastful
o o o o proud and self-satisfied
o o o o thinks only of himself
o o o o shrewd and calculating
o o o o impatient with others' mistakes
o o o o self-seeking
o o o o outspoken
o o o o often unfriendly
o o o o bitter
o o o o complaining
o o o o jealous
o o o o slow to forgive a wrong
o o o o self-punishing
o o o o shy
o o o o passive and unaggressive
o o o o meek
o o o o dependent
o o o o wants to be led
o o o o lets others make decisions
o o o o easily fooled
o o o o too easily influenced by friends
o o o o will confide in anyone
o o o o fond of everyone
o o o o likes everybody
o o o o forgives anything
o o o o oversympathetic
o o o o generous to a fault
o o o o overprotective of others

Column 1 **Self** Column 3 **Father**

Column 2 **Mother** Column 4 **Significant Other**

Column

1 2 3 4

o o o o tries to be too successful
o o o o expects everyone to admire him
o o o o manages others
o o o o dictatorial
o o o o somewhat snobbish
o o o o egotistical and conceited
o o o o selfish
o o o o cold and unfeeling
o o o o sarcastic
o o o o cruel and unkind
o o o o frequently angry
o o o o hard-hearted
o o o o resentful
o o o o rebels against everything
o o o o stubborn
o o o o distrusts everybody
o o o o timid
o o o o always ashamed of self
o o o o obeys too willingly
o o o o spineless
o o o o hardly ever talks back
o o o o clinging vine
o o o o likes to be taken care of
o o o o will believe anyone
o o o o wants everyone's love
o o o o agrees with everybody
o o o o friendly all the time
o o o o loves everyone
o o o o too lenient with others
o o o o tries to comfort everyone
o o o o too willing to give to others
o o o o spoils people with kindness

Appendix D: Manual for Coding TAT Data

OBJECT RELATIONS AND SOCIAL COGNITION SCALES (ORSCS); MANUAL FOR CODING TAT DATA

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July, 1985

Revised, April, 1987; October, 1988; May 1989; April 1990

Complexity of Representations of People

Principle: scale measures the extent to which the subject clearly differentiates the perspectives of self and others; sees the self and others as having stable, enduring, multidimensional dispositions; and sees the self and others as psychological beings with complex motives and subjective experience.

Level 1: at Level 1 the person does not see others as clearly differentiated or bounded, and/or does not differentiate his own thoughts and feelings from those of others.

Level 2: at Level 2 the person sees people as clearly bounded, separate from self and from each other, but lacks an elaborate sense or people's subjective states, motives, or enduring characteristics. The focus is largely on behaviors and momentary actions. People are seen as primarily unidimensional, existing in situations rather than across situations. Where people are understood as having enduring qualities, these are generally global, evaluative traits like "nice" or "mean."

Level 3: at Level 3 the person makes inferences about subjective states in addition to focusing on behavior. Understanding of other people's psychological processes and subjective experience does not, however, delve far beneath the surface. The person has ideas or "theories" about others' enduring characteristics, but these intuitive theories are either unidimensional, overly general, or lacking in subtlety. There is little sense that people could do things "out of character" or experience psychological conflicts.

Level 4: At Level 4 the person has an appreciation for the complexity or the subjective states of others and has a multifaceted view of personality dispositions. Component parts of personality are not yet understood as aspects of an interacting system, in which enduring dispositions can come into conflict or be brought to bear in different ways in different situations. While the person recognizes the potential for disparities among actions, self-presentations, and internal states, he or she has minimal awareness of disparities between conscious and unconscious mental events.

Level 5: at Level 5 the person sees people in complex ways, making elaborate inferences about their mental states, motivations, points of view, and unconscious processes. People are seen as having conflicting feelings and dispositions, and as expressing different aspects of their personalities in different situations.

Affect-tone of Relationship Paradigms

Principle: scale measures affective quality of representations of people and relationships. It attempts to assess the extent to which the person expects from the world, and particularly from the world of people, profound malevolence or overwhelming pain, or views social interaction as basically benign and enriching.

Level 1: at Level 1 the person views the social world as tremendously threatening and/or experiences life as overwhelmingly capricious and painful. People are seen as abandoning, abusing, or destroying others and oneself with no reason, other than perhaps maliciousness or unconcern. People are often classified as victims and victimizers.

Level 2: at Level 2 the person views the world, and particularly the world of people, as hostile, capricious, empty, or distant, but not overwhelming. The person may feel tremendously alone. People may be experienced as unpleasant or uncaring, but not primarily as threats to one's existence.

Level 3: at Level 3 the person has a range of affectively charged object representations/person schemas and interpersonal expectancies, though these are not primarily positive. People are seen as capable of loving and being loved, of caring and being cared for, but on balance social interaction is evaluated as mildly negative.

Level 4: at Level 4 the person has a range of affectively charged object representations/person schemas and interpersonal expectancies. People are seen as capable of loving and being loved, or caring and being cared for, but on balance social relations are evaluated as neutral or mixed.

Level 5: at Level 5 the person has a range of affectively charged object representations/person schemas and interpersonal expectancies, but on balance relations with others are seen as positive. The person generally expects to like or enjoy other people, to be liked by them, and to be able to count on them with some consistency.

Capacity for Emotional Investment in Relationships and Moral Standards

Principle: scale measures the extent to which others are treated as ends rather than means, events are regarded in terms other than need-gratification, moral standards experienced as meaningful and committed.

Level 1: at Level 1 the person is primarily concerned with, and views good and evil in terms or, his of his or her own gratification (and expects that others do the same). People are seen as existing only in relation to oneself: they are treated as tools for the achievement of one's desires; as mirrors or audience for one's displays; or as impediments to one's gratification. People may be seen as useful or comforting at the moment but are not invested in emotionally for their unique characteristics. Rules and authorities are seen as obstacles unless momentarily useful.

Level 2: at Level 2 the person has a clear sense of potential conflicts between the needs or desires of self and others, though the primary aim remains the satisfaction of one's own wishes. There is a rudimentary sense of right and wrong, characterized by an equation of prudence and morality (i.e., bad actions are bad because they lead to punishment), and the person experiences some remorse following impulsive action. Moral injunctions that exist may be primitive and harsh. Although the person may clearly have attachments, investment in other people (i.e., concern for, and pursuit of the good of significant others) remains clearly secondary to self-interest. Friends are valued but in many respects remain interchangeable; the basis for friendship tends to be shared actively.

Level 3: at Level 3 the person considers the needs and wishes of significant others in making decisions. Pleasing other people, being liked, and behaving in accord with the standards of respected authorities are salient aims which often override self-interest. The person is concerned with being good and experiences guilt when his or her thoughts, feelings, or actions conflict with internalized standards. Rules are respected because they are rules; manners and conventions are seen as important and even natural. Moral rules are relatively rigid and concrete, and there may be a pronounced sense of duty, particularly to certain people. Relationships are valued but may not be very deep.

Level 4: at Level 4 the person is capable of forming deep, committed relationships in which the other is valued for his/her unique qualities. Commitment to others often overrides personal desires, but actions on behalf of another are undertaken without a rigid sense of duty or a predominant desire to be liked for one's good deeds. Moral Judgments, values, and modes of conflict-resolution remain relatively conventional. The person is concerned with doing the right thing, as defined by society or respected authorities, which is frequently expressed in more abstract terms and is often self-abnegatory. Relationships are seen as lasting over time and involving considerable commitment and intimacy.

Level 5: at Level 5 the person treats self and others as ends rather than means. The person is interested in the development and happiness of both self and others, and attempts to achieve autonomous selfhood within the context of real involvement with, and investment in others. Conflicts between people with conflicting legitimate interest are understood as requiring compromise. Authorities and rules are not taken to be absolute: the person has a sense of the conventional nature of social rules and believes that at times these must be overridden or changed because they conflict with self-generated or carefully considered standards, or when they do significant harm to people in concrete circumstances.

Understanding of Social Causality

Principle: scale measures the extent to which attributions of the causes of people's actions, thoughts, and feelings are logical, accurate, complex, and psychologically- minded.

Level 1: at Level 1 the person does not understand the concept of causality in the social realm. There is either no sense of necessity to understand why behaviors, feelings, or situations emerge, or explanations that are advanced are grossly illogical.

Level 2: at Level 2 the person has a rudimentary understanding of social causality. Actions are explained as responses to environmental stimuli or as resulting from simple feelings or intentions. Explanations of behaviors, feelings, or interactions frequently have mild logic errors or inconsistencies.

Level 3: at Level 3 the person can logically and accurately explain social phenomena. Although the person recognizes the psychological processes influence action, causality is seen as largely external to the person.

Level 4: at Level 4 the person has a basic understanding of the role of psychological events in motivating action. There is considerable recognition of the importance of people's thoughts and perceptions in mediating between stimulus and response, though understanding of psychological causality is incomplete or applied only irregularly.

Level 5: at Level 5 the person understands feelings and behaviors as caused by psychological processes, which may or may not be elicited by environmental stimuli. Complex thoughts, feelings, and conflicts are seen as mediating action. The person makes complex inferences about the psychological processes of others and attempts to influence others' perceptions.

Appendix E: Background Information

BACKGROUND INFORMATION

Date: _____ **Identification #:** _____

1. **Sex:** M F

2. **Age:** _____

3. **Race:** White Black Asian Hispanic Other

4. **Religion:** Catholic Jewish Protestant None Other

5. **Education:**
   ___ less than 9th grade
   ___ some high school
   ___ high school graduate or GED
   ___ some college
   ___ college graduate
   ___ some graduate or professional school
   ___ graduate degree (specify) _____

6. **Occupation:** _____

7. **Marital Status:**
   ___ single
   ___ engaged
   ___ married
   ___ living together
   ___ divorced
   ___ separated
   ___ widowed

8. If you have children, please list their names and ages:

9. What was the marital status of your parents when you were a child (up to age 10)?
   ___ married
   ___ divorced
   ___ widowed
   ___ other

10. Who were you closest to while growing up?

___ mother
___ father
___ sibling
___ other (specify) _____

11. Who are you closest to now?

___ mother
___ father
___ spouse
___ friend
___ lover
___ other (specify) _____

12. What has been the most significant loss in your life? Please describe this loss and your age when it occurred.

13. Do you recall ever feeling hopeless, depressed, or like giving up? ___ Yes ___ No If so, please describe when and why.

14. Do you have any health problems? ___ Yes ___ No
If so, please describe:

15. If you answered No to the above question, do you consider yourself to be in good health?
___ Yes ___ No

16. Have you ever been treated for mental illness or emotional problems? ___ Yes ___ No
If so, please describe:

Appendix F: Medical History

MEDICAL HISTORY

1. At what age did you develop ulcerative colitis? _____

2. How long have you had this disease? _____

3. Did it develop: ___ slowly or ___ suddenly?

4. Have you had an ileostomy or colostomy? ___ yes ___no

5. Are you currently under the care of a gastroenterologist? ___ yes ___ no

6. If so, approximately how often do you have contact with this doctor? _____

7. Who is your doctor? _____

8. Are you currently taking medication for the ulcerative colitis? ___ yes ___no

9. If so, please list your medications and the amounts.

10. Since the diagnosis of ulcerative colitis, which of the following best describes your symptoms?

    ___ mostly disease free with few if any symptoms

    ___ mild but frequent symptoms

    ___ frequent and troublesome symptoms

    ___ almost continuous, severe symptoms requiring medication, hospitalization, and/or surgery

11. Do you suffer from any of the following?

___ arthritis or ankylosing spondylitis

___ skin lesions

___ eye infections

___ allergies

___ headaches

___ significant weight loss and/or poor appetite

___ other (please describe below)

12. Since the diagnosis of ulcerative colitis, approximately how many episodes of active disease have you had? _____

13. Which of the following best describes your life now?

___ Living entirely normal life

___ Living fairly normal life after some adjustment of occupation, and/or social activities

___ Life has changed considerably, including complete change of career and/or social activities

___ Totally disabled

Appendix G: Informed Consent Documents

Informed Consent Document

The purpose of this research project is to study the connection between personality, relationships, emotions, and health. Your participation requires that you fill out five questionnaires or checklists, and make up some short stories in response to pictures. Total participation time will be about two hours and can be done in more than one session at your convenience.

There are no known risks to this study. A researcher or assistant will be available at all times to answer questions and provide any help necessary.

You may stop your participation at any time without penalty. However, you will receive $15.00 for full participation. All subjects will receive a summary of our findings upon completion of this project.

Your identity will be kept confidential as all test forms will be identified by a code number. Data cards containing your name and phone number will be kept in a locked filing cabinet and will be destroyed when all data has be gathered. Again, your participation in this study is voluntary and you may withdraw at any time.

If you have any questions about this research project or about your rights as a research subject now or later, please contact:

Kim W. Keinath, The Psychology Clinic, 227 Austin Peay Bldg., Knoxville, TN 37996-0900, or call 974-2161 (work) or 581-4841 (home)

* * * * * * * * * * *

I have read and understood the explanation of this study and agree to participate.

_____ _____

(Name) (Date)

_____

(Signature)

Informed Consent Document

The purpose of this research project is to study the connection between personality, relationships, emotions, and illness in ulcerative colitis patients. Your participation requires that you fill out five questionnaires or checklists, and make up some short stories in response to pictures. Total participation time will be about two hours and can be done in more than one session at your convenience.

There are no known risks to this study. A researcher or assistant will be available at all times to answer questions and provide any help necessary.

You may stop your participation at any time without penalty. However, you will receive $15.00 for full participation. All subjects will receive a summary of our findings upon completion of this project.

Your identity will be kept confidential as all test forms will be identified by a code number. Data cards containing your name and phone number will be kept in a locked filing cabinet and will be destroyed when all data has be gathered. Again, your participation in this study is voluntary and you may withdraw at any time.

If you have any questions about this research project or about your rights as a research subject now or later, please contact:

Kim W. Keinath, The Psychology Clinic, 227 Austin Peay Bldg., Knoxville, TN 37996-0900, or call 974-2161 (work) or 581-4841 (home)

* * * * * * * * * * *

I have read and understood the explanation of this study and agree to participate. I authorize my physician to release medical information pertaining to my diagnosis.

_____ _____

(Name) (Date)

_____

(Signature)

Informed Consent Document

The purpose of this research project is to study the connection between personality, relationships, emotions, and illness in rheumatoid arthritis patients. Your participation requires that you fill out five questionnaires or checklists, and make up some short stories in response to pictures. Total participation time will be about two hours and can be done in more than one session at your convenience.

There are no known risks to this study. A researcher or assistant will be available at all times to answer questions and provide any help necessary.

You may stop your participation at any time without penalty. However, you will receive $15.00 for full participation. All subjects will receive a summary of our findings upon completion of this project.

Your identity will be kept confidential as all test forms will be identified by a code number. Data cards containing your name and phone number will be kept in a locked filing cabinet and will be destroyed when all data has be gathered. Again, your participation in this study is voluntary and you may withdraw at any time.

If you have any questions about this research project or about your rights as a research subject now or later, please contact:

Kim W. Keinath, The Psychology Clinic, 227 Austin Peay Bldg., Knoxville, TN 37996-0900, or call 974-2161 (work) or 581-4841 (home)

* * * * * * * * * * *

I have read and understood the explanation of this study and agree to participate. I authorize my physician to release medical information pertaining to my diagnosis.

_____ _____

(Name) (Date)

_____

(Signature)

Appendix H: Raw Data Tables

GROUP	HC	HC	HC	HC	HC	HC
SUBJECT	1	2	3	4	5	6
SEX	F	F	F	F	F	M
AGE	37	29	35	43	24	38
SEVERITY	-	-	-	-	-	-
ALEXITHYMIA	73	59	51	75	62	55
WESTEN'S SCALES CARD #						
AT 1	2	3	5	2	5	3
AT 2	4	4	3	3	2	3
AT 3	3	3	5	2	2	2
AT 4	2	5	1	4	4	2
AT 5	3	5	2	4	3	5
AT 6	2	5	3	3	2	1
CR 1	3	2	5	2	3	3
CR 2	4	2	5	3	3	1
CR 3	2	2	5	2	2	2
CR 4	2	2	2	3	2	4
CR 5	2	2	2	2	3	5
CR 6	2	2	3	4	2	2
SC 1	3	2	4	4	2	2
SC 2	3	2	1	3	3	2
SC 3	2	3	4	2	2	2
SC 4	1	2	1	2	2	2
SC 5	3	3	1	5	4	5
SC 6	4	3	4	3	2	2
EI 1	2	2	5	1	3	2
EI 2	4	2	2	2	3	2
EI 3	1	3	4	2	3	1
EI 4	2	3	2	2	2	1
EI 5	1	4	3	4	3	4
EI 6	2	4	3	2	3	2

GROUP		HC	HC	HC	HC	HC	HC
SUBJECT		7	8	9	10	11	12
SEX		F	F	F	F	F	M
AGE		23	49	27	30	30	42
SEVERITY		-	-	-	-	-	-
ALEXITHYMIA		79	60	54	61	70	39
WESTEN'S SCALES CARD #							
AT	1	3	2	3	2	2	3
AT	2	4	4	5	5	3	3
AT	3	2	2	2	2	3	2
AT	4	2	5	3	3	2	2
AT	5	2	5	3	2	2	5
AT	6	2	2	1	3	2	3
CR	1	2	5	2	5	2	2
CR	2	3	5	3	2	3	3
CR	3	2	3	3	4	2	2
CR	4	3	5	3	5	3	3
CR	5	2	5	3	3	3	3
CR	6	2	5	2	2	2	2
SC	1	3	2	4	4	2	2
SC	2	3	2	1	3	3	2
SC	3	2	3	4	2	2	2
SC	4	1	2	1	2	2	2
SC	5	3	3	1	5	4	5
SC	6	4	3	4	3	2	2
EI	1	2	3	2	3	2	2
EI	2	3	5	4	5	3	3
EI	3	1	2	2	2	1	3
EI	4	2	4	1	3	2	1
EI	5	3	5	2	1	2	3
EI	6	3	1	3	3	2	3

GROUP		HC	HC	HC	HC	HC	HC
SUBJECT		13	14	15	16	17	18
SEX		M	M	M	M	F	F
AGE		29	29	31	47	44	43
SEVERITY		-	-	-	-	-	-
ALEXITHYMIA		70	56	60	57	76	57
WESTEN'S SCALES CARD #							
AT	1	2	4	3	2	2	5
AT	2	4	3	5	2	3	4
AT	3	2	4	2	2	3	4
AT	4	5	4	5	1	3	4
AT	5	5	5	3	2	4	5
AT	6	3	2	2	2	2	4
CR	1	2	4	2	2	2	2
CR	2	3	3	3	3	3	4
CR	3	3	2	3	1	2	3
CR	4	3	3	2	3	2	2
CR	5	3	4	1	2	3	2
CR	6	2	3	2	2	2	2
SC	1	3	2	1	2	1	4
SC	2	4	3	2	3	2	3
SC	3	4	1	2	1	3	5
SC	4	3	4	3	2	1	3
SC	5	4	5	3	3	3	3
SC	6	4	3	1	3	1	2
EI	1	2	4	3	2	2	5
EI	2	4	4	4	2	3	5
EI	3	1	3	2	2	3	2
EI	4	3	3	4	1	2	3
EI	5	4	4	5	2	4	3
EI	6	4	3	3	1	2	2

GROUP		HC	HC	UC	UC	UC	UC
SUBJECT		19	20	1	2	3	4
SEX		M	F	F	M	F	M
AGE		36	25	52	30	19	25
SEVERITY		-	-	1	1	2	2
ALEXITHYMIA		47	68	64	70	71	81
WESTEN'S SCALES							
CARD #							
AT	1	3	2	2	3	3	3
AT	2	2	3	3	2	2	3
AT	3	2	3	3	3	5	3
AT	4	5	2	3	3	2	3
AT	5	5	3	3	3	3	2
AT	6	2	3	1	2	1	3
CR	1	3	5	3	3	3	1
CR	2	3	2	2	1	4	4
CR	3	2	3	2	3	2	1
CR	4	3	4	2	2	2	1
CR	5	3	1	2	2	2	1
CR	6	2	3	3	2	2	2
SC	1	3	2	1	2	3	2
SC	2	1	2	2	1	2	3
SC	3	1	2	2	2	4	1
SC	4	4	4	2	2	2	1
SC	5	5	1	2	3	5	3
SC	6	2	3	2	3	3	3
EI	1	2	2	3	3	3	2
EI	2	1	3	3	2	2	3
EI	3	1	2	3	2	4	2
EI	4	4	2	2	1	1	1
EI	5	3	1	1	3	3	2
EI	6	1	3	2	2	2	3

GROUP	UC	UC	UC	UC	UC	UC
SUBJECT	5	6	7	8	9	10
SEX	F	M	M	F	F	F
AGE	54	35	60	32	32	28
SEVERITY	1	3	3	1	3	3
ALEXITHYMIA	70	50	60	60	46	50
WESTEN'S SCALES CARD #						
AT 1	5	3	3	3	4	4
AT 2	2	2	3	3	5	2
AT 3	4	3	2	4	1	2
AT 4	5	4	4	3	5	2
AT 5	4	3	5	3	5	4
AT 6	3	4	2	3	2	4
CR 1	3	2	3	2	3	5
CR 2	3	3	3	3	4	4
CR 3	2	2	2	2	2	2
CR 4	2	2	2	4	5	1
CR 5	4	2	1	2	3	4
CR 6	2	2	1	2	3	2
SC 1	4	3	1	2	1	5
SC 2	1	2	2	2	4	1
SC 3	3	3	2	1	4	2
SC 4	2	2	2	5	3	3
SC 5	4	4	4	2	3	4
SC 6	2	1	1	1	3	1
EI 1	3	2	1	2	3	5
EI 2	2	3	2	3	4	2
EI 3	4	4	2	3	2	1
EI 4	2	2	2	2	3	1
EI 5	3	3	3	2	3	4
EI 6	3	3	1	2	2	3

GROUP		UC	UC	UC	UC	UC	UC
SUBJECT		11	12	13	14	15	16
SEX		M	F	F	F	F	F
AGE		41	41	35	34	51	25
SEVERITY		2	3	2	1	3	2
ALEXITHYMIA		53	46	71	68	55	66
WESTEN'S SCALES CARD #							
AT	1	2	3	4	3	3	2
AT	2	2	2	3	4	3	3
AT	3	2	2	2	2	2	2
AT	4	4	4	2	5	2	5
AT	5	3	2	5	4	3	3
AT	6	3	2	2	3	4	2
CR	1	4	3	5	2	2	2
CR	2	4	3	3	4	3	2
CR	3	1	2	2	2	2	2
CR	4	2	2	2	2	2	3
CR	5	3	4	3	2	2	2
CR	6	4	4	3	3	5	2
SC	1	3	3	4	2	2	2
SC	2	4	3	2	3	4	2
SC	3	2	2	2	2	3	2
SC	4	2	2	2	3	2	3
SC	5	3	2	5	2	3	4
SC	6	4	2	3	3	3	1
EI	1	2	3	2	1	2	1
EI	2	3	2	2	3	2	2
EI	3	2	2	1	1	1	3
EI	4	3	3	2	3	1	3
EI	5	3	2	4	3	1	1
EI	6	3	2	2	4	4	2

GROUP		UC	UC	UC	UC	RA	RA
SUBJECT		17	18	19	20	1	2
SEX		M	F	M	F	F	M
AGE		58	39	42	38	41	37
SEVERITY		2	3	2	3	4	3
ALEXITHYMIA		72	71	52	81	77	66
WESTEN'S SCALES							
CARD #							
AT	1	3	3	2	3	3	3
AT	2	2	4	3	3	4	3
AT	3	2	2	3	4	2	3
AT	4	1	2	1	5	3	3
AT	5	3	4	3	4	3	4
AT	6	2	3	2	3	3	3
CR	1	2	3	2	2	3	5
CR	2	2	2	2	2	3	3
CR	3	2	2	2	2	2	3
CR	4	2	2	2	2	3	3
CR	5	2	2	1	2	2	3
CR	6	2	1	2	2	2	2
SC	1	2	2	2	3	2	3
SC	2	2	2	2	1	3	2
SC	3	1	1	1	2	3	2
SC	4	1	2	1	2	2	2
SC	5	2	2	2	2	1	4
SC	6	2	2	1	2	1	3
EI	1	1	2	1	2	2	2
EI	2	1	3	2	2	4	3
EI	3	1	1	2	2	2	2
EI	4	1	2	1	2	2	3
EI	5	1	3	3	3	3	3
EI	6	2	1	2	2	2	2

GROUP		RA	RA	RA	RA	RA	RA
SUBJECT		3	4	5	6	7	8
SEX		M	F	F	F	F	M
AGE		45	44	29	29	58	56
SEVERITY		3	3	2	3	3	2
ALEXITHYMIA		68	77	58	60	67	69
WESTEN'S SCALES CARD #							
AT	1	2	4	4	4	2	3
AT	2	3	5	4	3	3	3
AT	3	2	5	2	2	2	2
AT	4	3	3	2	2	2	2
AT	5	5	3	2	4	5	5
AT	6	2	2	5	3	3	2
CR	1	3	5	5	3	2	5
CR	2	3	5	5	4	3	1
CR	3	3	3	4	4	4	3
CR	4	3	3	5	4	3	4
CR	5	3	5	5	2	4	1
CR	6	2	1	2	2	2	2
SC	1	3	5	3	4	2	4
SC	2	2	4	5	3	2	2
SC	3	2	2	5	2	4	1
SC	4	4	4	4	5	1	1
SC	5	3	5	5	4	4	2
SC	6	3	1	5	3	3	2
EI	1	2	5	3	3	2	3
EI	2	2	4	4	3	2	3
EI	3	3	4	2	1	2	2
EI	4	3	3	2	1	2	2
EI	5	3	4	2	3	4	3
EI	6	2	2	3	4	3	1

GROUP	RA	RA	RA	RA	RA	RA
SUBJECT	9	10	11	12	13	14
SEX	F	F	M	F	M	F
AGE	38	19	34	37	19	58
SEVERITY	4	3	3	3	4	3
ALEXITHYMIA	62	52	65	71	43	54
WESTEN'S SCALES CARD #						
AT 1	2	2	4	2	2	3
AT 2	4	2	3	5	3	3
AT 3	4	2	5	5	3	2
AT 4	4	2	3	2	2	3
AT 5	3	3	5	5	5	3
AT 6	2	1	4	2	3	2
CR 1	2	4	4	5	5	2
CR 2	3	4	2	4	3	2
CR 3	4	2	2	2	2	2
CR 4	3	1	2	2	2	2
CR 5	2	1	3	4	3	1
CR 6	2	2	2	5	1	2
SC 1	2	1	3	5	4	2
SC 2	3	4	3	5	2	3
SC 3	2	2	2	4	1	1
SC 4	3	1	3	1	1	2
SC 5	3	1	4	5	3	1
SC 6	2	1	2	5	1	2
EI 1	2	1	3	3	3	3
EI 2	2	2	2	5	1	2
EI 3	4	1	4	3	1	1
EI 4	3	1	3	2	1	2
EI 5	2	3	4	4	4	1
EI 6	3	2	1	3	2	3

GROUP	RA	RA	RA	RA	RA	RA
SUBJECT	15	16	17	18	19	20
SEX	M	F	M	F	F	F
AGE	36	37	40	36	44	20
SEVERITY	3	3	4	3	3	3
ALEXITHYMIA	51	51	70	59	77	53
WESTEN'S SCALES CARD #						
AT 1	2	4	3	2	3	4
AT 2	4	2	3	5	4	4
AT 3	5	2	2	2	4	3
AT 4	2	4	4	4	2	3
AT 5	4	1	3	2	5	5
AT 6	4	1	2	2	3	2
CR 1	4	4	2	2	4	3
CR 2	2	3	2	2	3	5
CR 3	1	2	2	2	2	3
CR 4	2	1	3	2	4	4
CR 5	3	4	2	3	2	4
CR 6	2	3	2	2	3	5
SC 1	1	4	1	1	2	3
SC 2	3	2	3	3	3	5
SC 3	2	1	1	2	1	5
SC 4	2	2	4	2	3	2
SC 5	3	3	2	1	4	5
SC 6	4	2	1	3	2	4
EI 1	3	4	2	1	2	3
EI 2	3	4	4	4	3	4
EI 3	4	3	2	2	3	4
EI 4	2	3	4	2	1	1
EI 5	3	3	2	2	1	4
EI 6	3	2	2	3	3	3

VITA

Kim Withers Keinath was born in Erie, PA on November 25, 1957. She attended high school at McDowell in Millcreek, graduating in 1975, and received her Bachelor of Arts degree in Psychology and French from Grove City College in 1979. After working several years in the mental health field, Ms. Keinath began graduate studies in behavioral psychology at Memorial University in St. John's, Newfoundland, obtaining a Master of Science degree in 1986. She returned to the United States and worked as supervisor of an emergency shelter at Bethesda School for Children in Meadville, PA and with teenagers at high risk for substance abuse at Cherokee Mental Health Center in Morristown, TN. In 1987 Ms. Keinath entered the Ph.D. program in clinical psychology at the University of Tennessee, Knoxville. She completed her clinical internship at Vanderbilt Psychology Consortium in Nashville, TN with a primary placement at the Veteran's Administration Medical Center. Ms. Keinath will receive her Ph.D. degree in the spring of 1994.