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Psychosocial Variables Affecting
Health-care Seeking Behaviour Among Women With
Irritable Bowel Syndrome (IBS)

by

Deborah Mary Dean (B.A.Hon.)

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of

Master of Arts

Department of Psychology

Carleton University
Ottawa, Ontario
February 15, 1996
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Psychosocial Variables Affecting
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Irritable Bowel Syndrome (IBS)

submitted by **Deborah Mary Dean, (B.A.Hon.)**

in partial fulfilment of the requirements for
the degree of Master of Arts

Chair

Department

Thesis Supervisor

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CARLETON UNIVERSITY

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Abstract

A survey technique was used to measure psychosocial variables (trait anxiety, the reporting of nongastrointestinal symptoms, coping styles, and social support) thought to influence health-care seeking behaviour among women who have the Irritable Bowel Syndrome (IBS). Three groups of women between the ages of 20 and 70 were used: patients (n=33, those women who had sought medical help for their IBS symptoms), nonpatients (n=18, those who had not sought medical help for their IBS symptoms) and a group of controls (n=30). The results showed that both patients and nonpatients reported more nongastrointestinal symptoms than the controls without IBS. The results also showed that while patients and nonpatients differed on the number of IBS symptoms and their severity, they did not differ on any psychosocial variables. Possible reasons for the discrepancies from other research are discussed.

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This work is dedicated to survival.

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Psychosocial Factors Affecting Health-Care Seeking Behaviour Among Women With Irritable Bowel Syndrome (IBS)

Irritable bowel syndrome (IBS) is a common and poorly understood chronic condition with no known etiology. IBS is characterized by pain and/or tenderness which is either relieved by defecation or associated with altered bowel habit (diarrhea, constipation, or alternating diarrhea and constipation) (MacIntosh, Thompson, Patel, Barr, & Guindi, 1992). The IBS patient suffers from such daily living impairment as work absenteeism (Sammons & Karoly, 1987), sleep disruption, sexual dysfunction, and reduced social life. Because the primary focus of IBS research has been physiologically oriented, various medical treatments including diet and drug regimens have been tried, but without enduring success (Klein, 1988). Research shows that IBS is found in almost every country.

Incidence and prevalence appear to vary across culture and environment. Estimates of prevalence in the population range from 8-19% (Thompson, Creed, Drossman, Heaton, & Mazzacca, 1992) to 17-22% (Jones, 1989). However, only a small percentage of the population with IBS actually seeks medical help (i.e., patients). The typical delay for this group between onset and reporting is four years (Thompson, 1989). Women with IBS outnumber men with IBS three to one (Jones, 1989) in the typical North American population. However, there are social and cultural differences in

clinical practice. Western physicians see approximately five times more female than male patients. In India, where women are discouraged from seeking medical attention (Thompson, 1984), female patients represent only 20-30% of IBS patients.

Frequently medical research has focused on issues such as the health care costs arising from the prevalence of IBS in gastroenterology clinics and hospitalization, unnecessary tests and surgery (Guthrie, Creed, Whorwell, & Tomenson, 1992), frustration at being unable to cure the syndrome (Thompson, 1984; Sandler, Drossman, Nathan & McKee, 1984), and cost to society in the number of work days lost (Guthrie et al., 1992).

Most people with IBS do not seek medical attention. Many who do seek help respond to an explanation of the syndrome, symptomatic therapies (e.g., change in diet), and reassurance once cancer and organic inflammatory bowel disease have been ruled out. But there is a small subgroup who chronically seek help (Thompson, 1993). For this group symptomatic treatment of the underlying bowel disturbance is not sufficient to ameliorate the chronic suffering, physical disability, financial hardship, the high frequency of physician visits, and psychological distress (Drossman et al., 1988).

In her review of the medical literature Jones (1989) reported that IBS has been resistant to traditional medical

therapies (e.g., altering intestinal motility, high fibre diets and/or anticholinergic medication) (Greenbaum, 1987). During the past few years, studies have shown that combining medical treatments with psychological intervention (e.g., cognitive-behavioral techniques) can be successful in both ameliorating physical symptoms and in helping patients to cope on a day-to-day basis with this syndrome (Neff & Blanchard, 1987).

Some research indicates that IBS patients (i.e., those who seek medical care for their symptoms) are more psychologically and psychiatrically disturbed than groups of patients with organic inflammatory bowel disease (Barsky, 1987; Creed, Craig, & Farmer, 1988). In addition, IBS patients are found to have more psychological distress (especially anxiety and depression), and a higher prevalence of psychiatric disorders than people who have IBS but do not seek medical help (i.e., nonpatients) (Drossman et al., 1988). Few studies have looked specifically at some of the psychological and psychosocial factors which might differentiate the patient group from the nonpatient group with respect to their health-care seeking behaviour.

The purpose of the present research is to examine those psychosocial factors that are thought to influence health-care seeking among women with respect to IBS. In so doing, this paper will discuss IBS in general (i.e., its nature, possible etiology), previous research findings, issues

specific to IBS, and psychosocial factors which might influence health-care seeking among women with IBS. The factors are negative affect, the reporting of nongastrointestinal symptoms, coping styles, social support, and the perception of symptom severity. With respect to IBS patients, it is hoped that ultimately our understanding of the variables that lead to health-care seeking will contribute to distinguishing the patients who are likely to become chronic attenders and ultimately to their treatment.

Irritable Bowel Syndrome

The irritable bowel syndrome (IBS) is the most common functional gastrointestinal disorder and is diagnosed in 10.4% of patients seen by gastroenterologists (Thompson et al., 1992). IBS is difficult to study for several reasons: (a) The clinical diagnosis is made when an individual exceeds some arbitrarily established cutoff or meets a predetermined number of diagnostic criteria. (b) The boundary between IBS and other related gastrointestinal disorders is indistinct. (c) There is no criterion standard; the diagnosis is based on patient reporting which is subjective, variable, and often inaccurate (Barsky, 1987). (d) There is no consensus of physiological abnormality (e.g., colonic motility patterns) (Bailey, Stewart, & McCallum, 1991).

Definition

Until 1984 there had been no precise definition of IBS and it had been diagnosed by ruling out organic illness. Thompson defined IBS as functional abdominal pain for at least 3 months which is relieved by defecation, combined with either constipation or diarrhea, or alternating bouts of constipation and diarrhea. Recently an international working team defined the irritable bowel syndrome as distinct from other functional bowel disorders (Thompson, 1993). The criteria which came from this symposium are called the Rome criteria and are used for the purpose of

this research (See Appendix A).

Etiology

The most commonly held traditional physiological explanation of IBS, that of colonic motility, has not been supported by the vast array of sound medical studies which have been completed (Jones, 1989). However, recent motility studies have shown that there are differences between the diarrhea-predominant IBS patients and the constipation-predominant IBS patients (Greenbaum et al., 1987). This distinction is useful from a medical perspective (e.g., drug therapy) but not for the purpose of the present research. Gender differences in the motility research are not apparent.

However IBS is overrepresented in women as are most digestive diseases (e.g., indigestion, frequent constipation), migraines, thyroid problems, and anemias. Taylor (1991) documents possible reasons for this discrepancy: genetic and hormonal differences, psychosocial aspects of symptoms, perception of symptoms, and health reporting behaviours.

The theory that IBS is related to sexual abuse of women (Drossman et al., 1990) is gaining more acceptance although it has not been widely researched. Drossman et al. (1990) found that in a study of 206 women presenting to a gastrointestinal clinic, many had a hidden history of sexual and physical abuse. As yet no one has investigated the

association between childhood trauma and bowel symptoms in the nonpatient group (Whitehead, 1992). Caution is important when evaluating this line of research. It is becoming evident that the sexual and physical abuse of women is very widespread. It is important to note that many of these abused women report somatic complaints of many types (e.g., migraines, backache). It is unlikely that women with IBS are more frequently abused than any other population of women with somatic complaints (Herman, Russell, & Trocki, 1986; Kendall-Tackett, Williams, & Finkelhor, 1993).

IBS as a Functional Disorder

The explanation for functional bowel symptoms has confounded clinicians and scientists for more than a century (Thompson, 1991). Over the past ten years, medical studies have tried without success to find an organic cause for IBS. In fact, physicians generally find IBS patients to be otherwise physically healthy (Whitehead, Winget, Fedoravicius, Wooley, & Blackwell, 1982). Patients seldom exhibit any signs of chronic disease (Thompson, 1984). The term "functional" means that there is no organic cause for the unexplained and chronic symptoms. Complaints of pain or other symptoms are thought to be related to abnormal functioning of an otherwise healthy organ (Shabsin & Whitehead, 1991).

There has been a tendency to deprecate functional complaints (Thompson, 1989). Wingate (1991) warns of the

danger of misusing the term "functional" to mean "imaginary disorder". Wingate (1991) explains that "functional disorder" means no more than a disorder of (physiologic) function in which the underlying pathology is unidentified. Thompson (1989) states simply that functional means what is left when no organic explanation can be found. Wingate (1991) says that patients with functional disorders are often viewed as hypochondriacs, psychoneurotics, and malingerers. IBS has a long history of being portrayed as a psychosomatic disorder (Blanchard, Scharff, Schwarz, Suls, & Barlow, 1990).

The term "psychosomatic" applied to medicine means that the mind and body function together in the presence of illness; historically mind and body were considered to be separate (Alexander, 1960). Alexander (1960) defines psychosomatic phenomena as subjective perceptions (e.g., emotions) followed by changes in body functions which can be observed and measured. There has been a strong psychoanalytic component to the development of psychosomatic medicine (i.e., psychosomatic was thought to mean that a biological condition was brought on by psychological conflict) (Taylor, 1990). The present approach is that disease onset involves the interaction of physiological (e.g., active disease), psychological (e.g., depression, coping styles), and social factors (e.g., support from family or friends) (Taylor, 1986).

Comparison to Other Illness - Response Specificity

IBS shares some characteristics with other functional illnesses or syndromes such as myofascial pain dysfunction syndrome (MPD) and hypertension (Taylor, 1990). MPD, previously known as temporomandibular joint syndrome, was considered to be a mechanical problem of the jaw until placebos such as sham dental procedures began to result in positive outcomes. This finding suggests that individuals react to stimuli in unique ways. One person may respond to a stressor with jaw tension, while another may respond with an increased heartbeat or elevated blood pressure. This effect is called response specificity. The response specificity theory implies that patients with MPD give stronger reactions to stressful situations in facial and especially jaw muscles than do people without the problem. This kind of work led to the development of a psychological view of this syndrome. Substantial evidence relates increases in blood pressure to stressful events (Taylor, 1990). In studies where laboratory stressors are used in order to measure blood pressure responses, the results show that hypertensives demonstrate large blood pressure responses to all stressors. In a similar manner, the gut is another responsive site. Common folklore has always been that acute emotion affects gut function (Thompson, 1993).

Thompson (1989) discusses what he calls the "mind-gut axis". He says that the gut provides an outlet for the

emotions, or appears to react to events in the sufferer's environment, hence the term "gut feelings", (Thompson, 1989). Richter, Obrecht, Bradley, Young, and Anderson (1986) found that IBS patients react to psychological stress with an increase of gastroenterological susceptibility, particularly noting an increase in pain reporting. Jones (1989) states that IBS patients' characteristic mode of emotional expression is a literal gut reaction (e.g., physiological changes in colon).

These three groups of patients: those with IBS, those with MPD, and those with hypertension react favourably to the kind of psychological intervention used in stress reduction; namely, a variety of behavioral and cognitive-behavioral methods. The recognition that medical treatments were largely unsuccessful by themselves precipitated a changing view of IBS.

In 1980 Thompson, one of Canada's leading gastroenterologists, began to suggest that IBS was a significant health problem from a physician's perspective. Thompson (1984) expressed the concern that satisfactory management of illness was becoming more complex, and that the physician's duty was to help patients understand and cope with their symptoms, to achieve a sense of mastery and control over their illness, and to avoid any therapy which might be harmful.

Sandler et al. (1984) suggested possible psychosocial

reasons to explain why people might seek medical help if their symptoms were chronic, recurrent, and severe enough to produce impairment in daily living but not life-threatening: the underlying concerns of the patient, intense life stress, and social support from the medical community. There are possible advantages from the "sick" role (Parsons, 1975). Sandler et al. (1984) found that pain was a significant contributor to physician visits. The unknown at that time was whether pain was more severe in the patients or whether the reports of pain related to increased stress, somatization behaviour (i.e., manifestation of physical symptoms when there is no organic cause), depression, or other behavioral influences. In the next section, these influences will be examined and discussed in relation to IBS.

Health Psychology

Research in behavioral medicine and correspondingly in health psychology has taken the position that biological, psychological, and social factors are implicated in all stages of health and illness; this position is termed the biopsychosocial model (Taylor, 1990). The biopsychosocial model is in contrast to the biomedical model, which has been the dominant paradigm of medical science in the twentieth century (Sheridan & Radmacher, 1992). This model posits that the physical and mental aspects of our health are separate and subject to only limited interaction. The changing patterns of illness over the past 100 years (e.g., decline of contagious diseases, increase of lifestyle related illnesses) plus the increasing cost of health care have contributed to the development of health psychology and the biopsychosocial model.

As a field, health psychology has made substantial contributions to the understanding of health and illness such as the role of psychological states in relation to illness. For example a negative emotional state may lead people to practice faulty health behaviours, or it may produce chronic illness behaviour (i.e., frequent visits to physicians, multiple somatic complaints, and disability disproportionate to physical findings). One of the core issues of health psychology is trying to understand the psychological factors in health and illness (e.g., why

people become ill, how they respond when they do get ill) (Taylor, 1986). The present research focuses on one type of illness response, specifically what leads to and contributes to health-care seeking behaviour. Health psychology has also been helpful in understanding the role of stress in illness and illness behaviour (i.e., number of symptoms reported, number of visits to physicians), the ways in which people cope and adjust to illness, and the role of social support. These issues are relevant to IBS patients and will be discussed below.

Stress and Life Events

The theme that stressful life events precipitates IBS is found throughout the literature although different studies have found apparently contradictory results. Creed et al. (1988) examined whether stressful life events had occurred before the onset of IBS, appendicitis, and suicide attempt by self-poisoning. Their results indicated that severely threatening events, particularly in the long term, were experienced more commonly and at the same rate by those with functional abdominal illness (IBS) and self-poisoning than those with organic gastrointestinal illness (appendicitis). The most frequent type of severe event, in the case of functional abdominal pain, involved a major disruption of close relationships (Creed et al., 1988). Similarly, Hislop (1979) found that IBS patients were likely to have experienced similar disruptions (e.g., loss of a

parent through either death or marital separation). On the other hand, Drossman et al. (1988) found in their study that patients tended to minimize the impact of negative events on their lives.

Anecdotally, daily hassle stress is a major factor in the IBS syndrome. However, the literature reveals contradictory results. In some studies, patients have reported that stress (e.g., daily hassles) affected their bowel patterns and led to abdominal pain (Sandler et al., 1984) while in other studies stress has not been a factor (Smith et al., 1990; Suls, Wan, & Blanchard, 1994). Shabsin and Whitehead (1991) posit that stress alone is not enough to lead to IBS but that a stressful environmental (e.g., money or work problems) or emotional event (e.g., family problems) may interact with certain psychological characteristics to precipitate psychophysiological gastrointestinal disorders.

It is important to remember that the onset of IBS typically occurs 4 years before seeking medical intervention (Thompson, 1989). An interesting phenomenon, called "effort after meaning" can occur when ill people tend to seek a reason for their illness; it is possible for physicians to collude with patients to "discover" an increase in life events before the onset of a physical illness (Bass, 1986). Confirmation bias may also play a role, whereby patients remember times when life stressors preceded or co-occurred

with IBS symptoms but fail to remember the time when either stress or symptoms occurred separately (Suls et al., 1994). In view of the new literature available on stress in relation to IBS, this paper will not discuss it further.

Illness Behaviour

An interest for psychologists has been that only a small group of the IBS population actually seeks medical intervention. One possible explanation for this phenomenon is differences in illness behaviour. It is commonly believed that IBS sufferers are more prone to chronic illness behaviour which appears to have been learned in childhood. Learning is one of the factors which determines how an individual reacts to an illness experience. This learning may result from observing how others react to their illnesses and also from others' responses to their own somatic complaints (Whitehead et al., 1982). Whitehead et al. (1982) suggest that people who recalled being rewarded for illness behaviour as children by being given special foods, toys, or gifts when they had a cold or flu were more likely to exhibit chronic illness behaviour and also more likely to have IBS.

Differences in illness behaviour between patients and nonpatients are found among persistent IBS hospital clinic attenders. In particular, two aspects of abnormal illness behaviour are found among the IBS patients: the reporting of many symptoms when asked, and frequent attendance at a

clinic for treatment. Guthrie et al. (1992) found significant differences between IBS chronic clinic attenders and newly referred IBS patients. Chronic attenders were more likely to experience constant, unremitting abdominal pain and report continuous symptoms with no periods of good health than first time attenders. Caution is required in interpreting and trying to generalize results of studies involving selected patients to the IBS patient population (Creed & Guthrie, 1987).

The most significant statistical difference between the chronic attenders and the newly referred IBS patients (Guthrie et al., 1992) was symptom severity. The chronic IBS attenders had much more severe symptoms than the newly referred patients. Guthrie et al. (1992) offered no explanation for this difference. As noted earlier, the instruments used to measure symptom severity and illness behaviour are self-report scales and thus subject to possible bias. Creed and Guthrie (1987) cite examples where classifications for IBS patients were based on clinical judgment and were idiosyncratic. For instance in one study, any subject who did not have an organic cause for their pain was regarded as having psychiatric illness (Creed & Guthrie, 1987). Another difficulty is the interactive nature of the illness: attenders at a clinic might have more severe symptoms, illness behaviour, or an interaction of these two elements. Clearly, there is no one answer but the theme of

negative affect in the presence of somatization is consistent within the literature and will be discussed below.

Psychological Distress/Negative Affect

In a landmark study on psychosocial factors in the IBS, Drossman et al. (1988) measured IBS patients, IBS non-patients, and controls on nine major scales: demographics, medical assessment, self-reported daily symptoms, pain, personality, mood, stressful life events, illness behaviour, and social support. Significant differences were found among the groups. Patients reported higher levels of pain and symptom severity than nonpatients. After covarying for pain, patients had higher scores on hypochondriasis, depression, psychasthenia (disorder characterized by anxiety, obsessions, and fixed ideas), hysteria, and lower scores in ego strength. Drossman et al. (1988) concluded that these psychosocial factors characterize the group with IBS who seek health care. This evidence, called the "self-selection" hypothesis, refers to the belief that psychologically distressed (i.e., anxious and depressed) patients select themselves for inclusion by going to physicians for treatment of bowel symptoms that other people ignore.

The subsequent findings of Whitehead, Bosmajian, Zonderman, Costa, & Shuster (1988) also suggest that symptoms of psychological distress are unrelated to

occurrence of the bowel symptoms used to define IBS but influence those patients who consult a doctor. In their study of clinic attenders vs. nonattenders, Whitehead et al. (1988) found that the clinic attenders had more psychological symptoms such as somatization, anxiety/depression, hostility, and phobia as well as more physical symptoms.

Some research suggests that for patients, the bowel symptoms represent a physiologic expression of an affective disorder (Guthrie, Creed, Dawson, & Tomenson, 1991) and that those people seek medical help. Drossman et al. (1988) suggest that patients with abnormal psychological scores may amplify symptom reports and illness behaviours. Yet within the groups of patients, there is variability; 50% of the patients exhibit psychological distress and 50% do not (Creed & Guthrie, 1987). Some people could be distressed from the outset, some could become increasingly distressed with years of disturbed bowel function, and some have never been distressed (Creed & Guthrie, 1987). Gick (1995) found that among a university student population, IBS patients were not more distressed than the IBS nonpatients. Perhaps higher levels of distress are found among clinic attenders (e.g., they have had the syndrome for a longer time period, or distress is associated with the number of visits).

Negative Affect and the Reporting of Nongastrointestinal Symptoms

It has been suggested that a negative affective style, marked by depression, anxiety, and hostility may be related to the reporting of symptoms such as chest pain and headache (Watson & Pennebaker, 1989). IBS is also characterized by a negative affective style (e.g., depression and anxiety). Costa and McCrae (1988) found that persons who frequently experience negative emotions amplify their bodily sensations, interpret these sensations as signs of illness, and consequently are likely to report being bothered by physical complaints. Jorgensen and Richards (1989) replicated this finding in college students and report that persons with an elevated profile of negative affect (i.e., trait anxiety, defined as a more permanent negative emotional state) reported being bothered by physical symptoms more often than those with positive affect. The present research will examine the reporting of nongastrointestinal symptoms and its relationship to negative affect. In addition the research will look at the severity of IBS symptoms between the patients and the nonpatients.

Coping

Coping is the process of managing external or internal demands that are perceived as taxing or exceeding a person's resources. Increasingly researchers are focusing on the

potentially protective role of coping styles in the development and management of illness. Much of the stress and coping research has focused on the relationship between the strain of chronic illness and coping, and the ability of coping to explain psychological adjustment. Felton, Revenson, and Hinrichsen (1984) examined these two issues by studying four patient groups (cancer, rheumatoid arthritis (RA), diabetes, and hypertension) and reached a critical conclusion: that coping varied across individuals, not across illnesses.

Coping responses can be dichotomized: approach or problem-focused (behavioral or cognitive efforts to manage a stressful event directly) and avoidance or emotion-focused (attempt to avoid dealing with the problem through escapist behaviours). Using an approach-avoid dichotomy, researchers have described various ways of coping. Miller (1983), who has done extensive work in the area of health-seeking behaviour and information-processing styles, uses the terms monitoring (e.g., information seeking) and blunting (e.g., distracting types of behaviour) in order to distinguish the strategies that people use to handle threat-relevant information. Blunters would use avoidance, passive, or distractive strategies such as listening to music. Monitors would engage in more active coping strategies such as information seeking about the nature and onset of the threatening event. The kinds of coping behaviours used are

determined by personal characteristics, aspects of the social environment, and the nature of the stressor.

Health related stress, especially around those illnesses which require acceptance, is more likely to prompt emotion-focused or avoidance coping mechanisms in order to reduce emotional stress (Miller, 1988). IBS is a syndrome which requires acceptance and self-management; thus it is important to examine coping styles of patients and nonpatients as a psychosocial variable which may lead to health care seeking.

Social Support

Coping research has also focused on the role of social support. Those with social support adjust better psychologically to stressful events, recover more quickly from already-diagnosed illness, and reduce their risk of mortality from specific diseases. How social support actually works is unknown. There are two theories: 1. The direct effects hypothesis posits that social support is generally beneficial during nonstressful times as well as during highly stressful times. 2. The buffering hypothesis posits that the health and mental health benefits of social support are mainly evident during periods of high stress (i.e., social support acts as a reserve that enables the individual to cope when stress is high) (Taylor, 1991). The general presumption about how social support protects health emphasizes both the resources and the encouragement it

provides the person (Kobasa, Maddi, Puccetti, & Zola (1985). One of the questions to come out of this research is whether there are individual differences in the way people make use of their social support network. Although Drossman et al. (1988) found no differences in perception of social support among patients, nonpatients, and controls in his study of psychosocial variables and IBS, few IBS researchers have examined the role of this variable. The present research will attempt to replicate Drossman's et al. (1988) results of social support in relation to IBS.

Purpose and Rationale

To summarize, it appears that psychosocial variables influence health-care seeking among women with IBS. In the present study, we examined 4 psychosocial variables directly: the role of negative affect (trait anxiety), the reporting of nongastrointestinal symptoms, coping styles, and social support that might differentiate three groups of female subjects. Females only were chosen as subjects because they are overrepresented in gastroenterological practice. There were several hypotheses.

It was hypothesized that patients would report higher anxiety and depression than nonpatients, in line with previous research. For this research, trait anxiety which is highly correlated with depression and has been used as a measure of negative affect (Watson & Pennebaker, 1989) will be used as a dependent measure.

It was hypothesized that patients would report more nongastrointestinal symptoms such as coughs and headaches than nonpatients and controls. Previous research indicates that patients report more negative affect and that people with negative affect report more somatic complaints.

It was hypothesized that patients would exhibit more monitoring type coping strategies (e.g., information seeking) with their illness than non-patients. Intuitively, it makes sense that information seekers would seek medical help while blunders would use other coping strategies (e.g.,

distraction) to deal with their symptoms.

Social support has been found to mediate symptom severity and anxiety in other illnesses such as rheumatoid arthritis (RA) (Manne & Zautra, 1989) and stroke (Birket-Smith et al., 1989). It was hypothesized that within the patient group, negative affect might vary (Creed & Guthrie, 1987) inversely with social support.

Between the patient and nonpatients groups, we hypothesized that patients would report a higher number of symptoms and view them, particularly pain (Guthrie et al., 1992), to be more severe and disruptive than nonpatients.

Method

Subjects

Three groups of women between the ages of 20 and 70 were used for this study: IBS patients, IBS nonpatients, and controls. The IBS subjects (patients) were recruited from Dr. Thompson's Gastroenterology Clinic at the Ottawa Civic Hospital. Initially it was hoped that the subjects would come from a group who were seeing a gastroenterologist for the first time, based on a referral from their family doctor.

Pilot work indicated two problems in recruitment at the clinic: 1. Too few patients fit this criterion of first-time visits, so it was decided to include patients who were attending the clinic on a follow-up basis as well. 2. It was difficult to schedule a time when it might be convenient for the subject to complete the questionnaires. Many women were unprepared to do the questionnaire at the time of the clinic consult, perhaps having only taken enough time from work for the appointment itself. It was also considered unwise to schedule the questionnaire appointment at the same time as a medical procedure because these procedures are invasive, often anxiety producing and usually sedatives are given before the procedures. Sixty percent of the women interviewed at the clinic participated.

With Dr. Thompson's permission, a letter (see Appendix B) which both explained the study and asked for

participation, was mailed to each woman who had seen him for IBS within the past three years. Fifty-three explanatory letters were mailed. Twenty-five (47%) women indicated that they would participate in the study; questionnaires were mailed to them. Seventeen (32% of initial mailing) questionnaires were returned to us.

Control subjects for this study were obtained by advertising (e.g., local newspaper, university newspaper) and by word of mouth for women between the ages of 20 and 60 who were willing to participate in a study run by the Department of Psychology at Carleton University. The advertisement did not mention that the study was of a medical nature in order to prevent a biased sample of women who are generally more interested in health care than others. A \$10.00 expense reimbursement was mentioned.

Eighty-two female subjects ranging in age from 20 - 70 completed the questionnaires. One subject was eliminated because she had a parasitic infection which resembled IBS symptoms. There remained 33 patients, 18 nonpatients, and 30 controls. Twenty-two percent were single, 41% married, and 16% separated or widowed. Forty-six percent had a college education, 41% some university education, and 4.8% high school or less. Forty-three percent were employed (either full or part-time), 27% were unemployed, and 26% were either full-time homemakers or retired.

Design

An ex post facto quasi-experimental design was used for this research. A questionnaire package was administered to all subjects (see Appendix C). There were 4 orders of the questionnaire package and subjects in each group were given equal numbers of the 4 orders. For the purpose of this research, the dependent measures were negative affect (i.e., trait anxiety), the reporting of nongastrointestinal symptoms, coping styles, and social support. In addition, IBS symptom reporting and severity were examined between the patients and nonpatients as dependent measures.

Materials

IBS Symptoms. The Questionnaire on Bowel Patterns I (QBI), (Thompson, Personal Communication) is a bowel symptom questionnaire that can be used to classify subjects into three groups: patient, nonpatient, or control. The questionnaire items reflect specific bowel symptoms, such as "Do you feel full or distended?" Based on the QBI, the subjects are assigned to one of the three groups according to the Rome Criteria (Appendix A). The patients recruited from Dr. Thompson's clinic had already been diagnosed to have IBS. This questionnaire has been used extensively by Dr. Thompson in clinical practice. In a study of IBS among a university population, Gick (1995) found that 91% of students fit the same category on 2 separate testings, 6 weeks apart after using the QBI criteria.

The Questionnaire on Bowel Symptoms II (QBII) is the same as the QBI with the addition of intensity ratings for symptoms. All subjects were also asked to rate the intensity of the symptom when it occurs on a scale from 1 (not a problem) to 5 (extremely bothersome).

Negative affect. Trait anxiety, as measured by the State-Trait Anxiety Inventory (STAI), was used as a measure of negative affect because it is correlated with other measures of anxiety and depression in normal populations and has been used as a general measure of negative affect that is associated with high symptom reporting (Costa & McCrae, 1987). Subjects completed the 20-item trait scale of the STAI as a measure of trait anxiety. All subjects were asked to rate their agreement with statements such as "I feel nervous and restless" on a 4-point scale, ranging from "almost never" to "almost always". The scores were summed for the 20 items.

Symptom reporting. The Pennebaker Inventory of Limbic Languidness (PILL: Pennebaker, 1982) was used as a measure of the tendency to report physical symptoms ("coughing", and "out of breath"). Subjects reported the frequency of occurrence of each of the 54 symptoms on a 5-point scale. Items checked "never or almost never" or "less than 3-4 times per year" are scored as 0, and all others ("every month or so", "every week or so", and "more than once every week") are scored as 1. The PILL's validity is supported by

data showing that high PILL scorers make more physician and health-center visits, use more aspirin, and have more health-related work absences than low PILL responders. Test-retest reliability (.79) of the PILL was found in adults over a 2-month period, (Pennebaker, 1982). The three gastrointestinal items (diarrhea, constipation, & abdominal pain) were removed from the scale to prevent possible inflation of the results due to IBS symptoms.

Coping. The Miller Behaviour Scale (MBSS), (Miller, 1987) is a measure of information seeking (monitoring) vs. blunting (distraction) in the face of a threat. This scale has been used with gynecological patients who have undergone an invasive medical procedure. Those results showed that monitoring is associated with greater subjective and behavioral stress before, during, and immediately after the procedure. Test-retest analyses with a sample of 110 subjects showed the MBSS monitoring subscale to be highly stable over a 4-month period, $r(98) = .72$, $p < .01$, (Miller & Mischel, 1986).

Social Support. The Social Support Questionnaire I was used. This measure was extrapolated from an interview technique used by Pearlin, Lieberman, Menaghan, and Mullan (1981). The subjects were asked whether they had a friend or relative to whom they could tell almost anything; married subjects were also asked if they agree with the statement regarding their spouse "I can really talk to him about

things that are important to me." When this technique was used in a 4-year longitudinal study, Pearlin et al. (1981) felt that their measures were stable over time although they did not report reliability statistics.

The Social Support Questionnaire II is the same brief measure of perceived social support but is for the reporting of IBS symptoms.

Demographics. A demographics questionnaire that asked subjects to report information such as age, marital status, educational level, and whether they had ever been diagnosed with IBS, was administered to all subjects.

Procedure

The procedure for testing patients at the clinic was the following: At the end of an IBS patient's clinic visit, Dr. Thompson mentioned the study to her, and asked if she would be willing to participate. He then introduced her to the experimenter who explained the purpose of the study. It was explained that the questionnaire would take approximately one hour to complete and that it was voluntary and anonymous. Once the woman agreed to participate, she was given the option of completing the questionnaire at that time, or returning at a time convenient to both subject and experimenter.

The procedure for testing patients by mail was as follows: A simple permission form and a self-addressed stamped envelope was sent; the form required the woman to

indicate whether or not she was interested in participating in the study. Upon return of the permission form to us, the questionnaires and informed consent forms were sent out. When the questionnaires and consent form were returned, the subject was mailed a check in the amount of \$10.00.

The procedure for testing the subjects obtained by advertisement was as follows: When women answered the advertisement by phone, the sensitive nature of the study was explained so that the woman could make an informed decision about her participation. At this point, it was expected that some of the women would admit their discomfort at answering questions of this type. The rate of nonparticipation was recorded for all groups. None of the women who responded to the advertisements refused to participate. When the woman agreed to participate, an appointment was made at the psychology department at Carleton University.

When each woman arrived, she was given the Questionnaire on Bowel Patterns I (see Appendix C) in order to ascertain whether she fit the criteria for control, nonpatient, or patient. It was expected that because IBS is prevalent in the community, some of the respondents would actually be patients. Only one respondent had seen a physician for IBS symptoms; her data were included with the patient group as they fit within the range of the other patients' data.

The inclusion criterion for patients was having sought medical help for the symptoms that represent IBS (See Appendix A). The inclusion criterion for nonpatients was that they have not sought medical help for the symptoms that represent IBS. The inclusion criteria for controls were less than 3 months' continuous or recurrent symptoms of # 1 (Appendix A) and fewer than two of the symptoms listed as # 2 (Appendix A). Depending upon the results of this questionnaire, they were asked to sign one of three consent forms: for patients, nonpatients, and controls. (See Appendix D).

The consent forms were similar for the three groups. The differences included descriptive information about IBS for the nonpatients and controls. The patients' consent form stated that they are IBS patients. The nonpatients' consent form stated that they have some IBS symptoms but have not seen a physician for them. The controls' consent form explained that they were a comparison group for a study on the reasons that some people with IBS seek medical help for their symptoms while others do not. It was decided to inform the nonpatients that they had symptoms particular to IBS in order to keep information constant across the groups. It was expected that some of the nonpatients would ask questions about whether they should seek medical help. Even though the consent form contained the information that IBS is common in the general population, the subjects were told

that the decision to seek medical help was theirs and that they might feel more comfortable getting further details from their physician.

After the consent forms were signed, the questionnaire battery was given to the subjects for completion. They were told to complete all parts of the questionnaire package and to ask for help if they were having difficulty with any of the questions. When the battery was completed, each subject was reimbursed \$10.00 for their time and transportation expenses.

Results

The presentation of results focuses on two areas: 1. the differences between IBS patients, nonpatients, and controls on 4 psychosocial variables: trait anxiety, the reporting of nongastrointestinal symptoms, coping styles, and social support; and 2. the differences between patients and nonpatients on IBS symptoms and symptom severity.

Analysis

Chi-square analyses, one-way analyses of variance, and multivariate analyses were used in order to test the main hypotheses about the relationship of psychosocial variables to IBS, and the differences between patients and nonpatients. In multivariate analyses of variance, Pillais' criterion was used throughout to control for unequal sample size (Tabachnick & Fidell, 1989). Multivariate outliers were tested among the DVs (trait anxiety, the reporting of nongastrointestinal symptoms, coping styles, and social support) on the 3 conditions using SPSS regression, which prints the Mahalanobis distance. None were found, $\chi^2(4, N=33) = 11.52, p < .24$ for patients, $\chi^2(4, N=18) = 9.85, p < .42$ for nonpatients, and $\chi^2(4, N=30) = 16.13, p < .72$ for controls.

Demographic data

Preliminary analyses were performed on the data to ensure that there were no differences among the groups on 4 demographic variables (marital status, education,

employment, and age). Three demographic variables (i.e., marital status, education, and employment) had 6 or more categories so some were combined to form 3 categories per variable for simplification: 1. Marital status became single, married or common-law, and absence of husband (i.e., widowed or divorced). 2. Education became grade school/high school, trade school/college, and university. 3. Employment became full/part-time, unemployed, and other (e.g., homemaker, volunteering). Chi-squares were found to be non-significant for education, $\chi^2(4, N=81) = 6.25, p<.18$ and for marital status $\chi^2(4, N=79) = 8.15 p<.08$. The chi-square for employment was found to be significant, $\chi^2(4, N=78) = 16.68, p<.05$. However, a factorial multivariate analysis of variance on three dependent variables (trait anxiety, the reporting of nongastrointestinal symptoms, and coping styles) with group and employment as factors was non-significant, $F(3,73) = 1.85, p<.14$.

A one-way analysis of variance showed that differences in age among the three groups were significant, $F(2,78) = 4.29, p<.05$. Nonpatients were lower in age than both patients and controls. (See Table 1). However, a multivariate analysis of covariance with the dependent variables showed that age as a covariate was non-significant, $F(3,73) = .14, p<.9$. Thus age was not used as a covariate in the following analyses which used patients, nonpatients, and controls as the groups.

Table 1

Age of Subjects by Condition

	<u>M</u>	<u>SD</u>	<u>n</u>
Patients	41.6	12.58	33
Nonpatients	32.11	11.44	18
Controls	39.00	11.94	30

Psychosocial variables

Planned comparisons were performed to test the hypothesis that IBS patients would show higher negative affect, more nongastrointestinal symptom reporting, and more monitoring behaviour than nonpatients and controls. (See Table 2 for MANOVA).

Table 2

Results of Multivariate analysis of variance

	F	P
Multivariate	2.13	.05
Univariate values:		
Trait anxiety	1.67	.19
PILL (reporting of nongastrointestinal symptoms)	4.58	.01
Coping	1.28	.28

Differences were found between patients and nonpatients vs. controls on the reporting of nongastrointestinal symptoms, $t(76) = -3.00$, $p < .004$, with the controls reporting fewer symptoms than patients and nonpatients. (See Table 3 for means and standard deviations). No differences were found between patients and nonpatients, $t(76) = .19$, $p < .84$ on this variable. There were no differences between the patients and nonpatients on trait anxiety, $t(76) = .47$, $p < .63$. The difference in trait anxiety between the patients and nonpatients vs. the controls just missed conventional levels of significance, $t(76) = -1.82$, $p < .07$, with controls exhibiting less trait anxiety than patients and nonpatients. There were no differences in coping between patients and nonpatients, $t(76) = 1.58$, $p < .11$ nor between patients and

nonpatients vs. controls, $t(76) = -.08, p < .93$.

Table 3

Mean Scores of Dependent Variables by Condition

	<u>Patients</u>		<u>Nonpatients</u>		<u>Controls</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Trait anxiety	40.87	11.88	42.44	10.7	36.71	11.09
PILL	16.07	9.85	16.61	11.09	9.60	7.35
Coping (Monitoring)	8.72	2.83	10.11	3.02	9.26	3.09
Social support	2.15	.95	1.88	.69	1.86	.68
Number of IBS						
symptoms	2.58	.66	1.83	.77	-	-
IBS symptom						
severity	4.75	.56	4.16	1.24	-	-

Differences in trait anxiety were expected between the patients and nonpatients but none were found. Possibly this unexpected finding resulted from the selection process used to recruit nonpatient subjects and controls in that there was a higher number of young students in the nonpatient group than was desired. Assuming that lower age would indicate the student segment of the sample, age was dichotomized at age 25. A one-way ANOVA on the under-25 age group revealed no differences in trait anxiety among the 3 groups (i.e., patients, nonpatients, and controls). However, contrasts revealed that in the over-25 age group,

patients and nonpatients combined showed higher trait anxiety than the controls (42.69 vs.35.32), $t(64) = 2.58$, $p < .01$.

Social Support in Patients. A median split was performed on trait anxiety (high and low) in order to examine the hypothesis of an inverse relationship between anxiety and social support. A one-way ANOVA revealed no differences on general social support between patients with high trait anxiety (2.19) and those with low trait anxiety (2.13), $F(1,31) = .17$, $p < .68$.

IBS Symptoms

A MANOVA between the patients and nonpatients was performed using the IBS criteria (i.e., IBS symptom severity and number of IBS symptoms reported) as dependent measures. Patients reported a significantly higher number of IBS symptoms (4.75 vs. 4.16) of higher severity (2.5 vs. 1.83) than nonpatients, multivariate $F(2,48) = 7.94$, $p < .05$. Duration of the syndrome (i.e., length of time in months that subjects had had IBS symptoms) was not included in the analysis due to nonpatients' missing data.

Discussion

Summary of Findings

The purpose of this research was to differentiate among IBS patients, nonpatients, and controls on those psychosocial variables (trait anxiety, the reporting of nongastrointestinal symptoms, coping, and social support) that might influence health-care seeking behaviour. Contrary to expectation, no differences were found between the patients and nonpatients on the psychosocial variables but there were some differences between the patients and nonpatients vs. the controls. As hypothesized, patients had a significantly higher number of IBS symptoms and these symptoms were of greater severity than those of nonpatients. The findings for each dependent measure will be discussed separately.

Trait Anxiety

It was expected that patients would have higher trait anxiety than either nonpatients or controls (Drossman et al., 1988). However this study found no differences in trait anxiety between the patients and nonpatients and only marginal differences between the patients and nonpatients vs. the controls. The explanation for these results might be found by examining the subjects' recruitment protocol.

With regard to patients, on occasion Dr. Thompson did not mention the study to women whom he felt were very depressed. In addition, the response from the mailing was

only 32%. There is no way to know whether the more depressed women chose not to complete and mail in the questionnaire. In addition, subjects who volunteer have been found to be better educated, more intelligent, more adjusted, and in greater need of social approval than nonvolunteers (Elmes, Kantowitz, & Roediger, III, 1989). It appears as if our patient sample is lower in trait anxiety (and consequently depression with which it is highly correlated) (Watson & Pennebaker, 1989) than would normally be expected from a clinic population (Drossman et al., 1988). When patients are compared on trait anxiety ($M = 40.87$, $SD = 11.88$) to the normed sample of working women in their age range ($M = 36.03$, $SD = 11.07$) (Spielberger, 1983), they are within 1 SD deviation of the mean. Thus a possible selection bias could explain why no differences were found between patients and nonpatients on this variable.

There might be an age bias within the nonpatient group. The nonpatients were an average of 10 years younger than either the patients or controls (see Table 1). Thirty-eight percent of nonpatients were under the age of 25, whereas only 13% of the patients and 6% of the controls were under 25. When age was dichotomized into two groups (under 25 and over 25), and when the patients and nonpatients were grouped together, trait anxiety was higher than the controls in the older subjects. One possible explanation is that the older patients and nonpatients have had the symptoms longer than

the younger patients and nonpatients and therefore may be more anxious or concerned.

The Reporting of Nongastrointestinal Symptoms

This research found that patients did not differ from nonpatients on the reporting of nongastrointestinal symptoms. However as expected both groups reported a higher number of nongastrointestinal symptoms than controls. This finding is consistent with some literature on young students (Gick, 1995). Gick (1995) found that patients and nonpatients in a student population reported similar levels of trait anxiety and the reporting of nongastrointestinal symptoms. Higher negative affect has been associated with more health complaints (Jorgensen & Richards, 1989; Watson & Pennebaker, 1989). Watson and Pennebaker (1989) report that people with negative affect (trait anxiety) report more physical symptoms than those with positive affect (i.e., low trait anxiety). The selection bias discussed earlier with negative affect may also account for the lack of significant differences between patients and nonpatients on the reporting of nongastrointestinal symptoms because the patient sample may not represent a typical clinic population.

Coping

No differences were found among any of the groups on monitoring. This study used the MBSS (Miller, 1987) to discover differences in coping styles. The purpose of this

scale is to assess styles of information seeking under threat (Miller, 1987). It has been used extensively in both laboratory and real life settings (e.g., hospitals), and with women. However, Miller has used the scale in situations where there is an anticipatory threat (e.g., threat of electric shock, invasive screening tests for cancer). It is important to remember that the IBS patients in this study have continued to attend Dr. Thompson's clinic after serious illness was ruled out. It is possible that the MBSS would discriminate between coping styles between nonpatients vs. first-time attenders when there could be an anticipated concern.

Social Support

There has been a lot of research on social support and either life-threatening or profoundly debilitating illness in the past decade but very little on IBS which is chronic and uncomfortable but not as serious as cancer or diabetes. While the results of this study replicated Drossman et al. (1988) who found no differences in social support between patients, nonpatients, and controls, Drossman et al. (1988) offered no probable explanation. Martin, Davis, Baron, Suls, and Blanchard (1994) found that IBS patients benefitted from all types of social support to the same degree: emotional (e.g., reassuring behaviours), informational (e.g., useful verbal or written information on illness facts), and tangible support (e.g., effective

practical assistance). It is likely that the nonpatients in the present research benefit from and have access to one or more of the same types of social support as the IBS patients. Thus it is possible that with various beneficial types of social support available, this variable does not affect health-care seeking women with IBS, especially when the social support scale does not discriminate among different types of social support.

IBS Symptoms and Symptom Severity

Patients had not had IBS symptoms for a significantly longer time than the nonpatients. However, patients reported a significantly higher number of intense IBS symptoms than nonpatients. In addition, all the patients in this study were experiencing IBS symptoms when they completed the questionnaire while only 5 (27%) of nonpatients were experiencing symptoms when they completed the questionnaire. These findings suggest that a higher number of severe symptoms may lead to health care seeking. Our results replicated earlier work that patients reported more symptoms (particularly pain) that were more severe than nonpatients (Drossman et al., 1988; Guthrie et al., 1992). Sandler et al. (1984) found that patients reported a threefold prevalence of pain than nonpatients in their study. Drossman et al. (1988) controlled for symptom severity and still found psychosocial differences between patients and nonpatients. However no differences were found

on psychosocial variables in the present study possibly due to selection bias. Therefore the role of symptom severity is unclear. In addition, although we found statistical significance on number and severity of symptoms, it is unclear whether the differences are clinically significant.

Limitations of Study

There was difficulty in obtaining nonpatients and controls. Advertisements which mentioned a \$10.00 reimbursement were placed in newspapers and on posters. This inducement motivated several respondents (controls and nonpatients) who mentioned the money when they arrived for testing. When advertising failed to provide enough subjects, word of mouth was used for recruitment. In spite of efforts to recruit subjects, the number of nonpatients was low ($n=18$). Had the number of nonpatients been higher, the difference between patients and nonpatients vs. controls on trait anxiety might have been significant.

Initially it was considered that the controls and nonpatients might have had a higher level of trait anxiety due to financial worry than might be found in another population (e.g., no payment). Although it appears that nonpatients ($M = 42.44$, $SD = 10.7$) are higher on trait anxiety than a normed sample of working women ($M = 36.17$, $SD = 10.96$) in their age range (Spielberger, 1983), the differences do not appear significant as nonpatients are within 1 standard deviation of the mean of the norms.

Similarly, controls ($M = 36.71$, $SD = 11.09$) also are no different from their respective normed sample of women ($M = 36.03$, $SD = 11.07$) (Spielberger, 1983) on trait anxiety. Consequently it seems that the nonpatients and controls do not have a higher level of trait anxiety due to financial worry than would be expected had we not offered the expense reimbursement.

In addition, females only were used as subjects. Although most IBS patients are female, there is no way of knowing whether the present results generalize to males with IBS.

Future Research

The kind of person who has the disease is as essential to know as what kind of disease the person has (Sir W. Osler, cited in Thompson, 1989). Drossman et al. (1988) identified certain adaptive psychological factors in IBS nonpatients, such as coping skills and their perception of illness. Compared with patients, the nonpatients reported less somatic concern and fewer health worries, and experienced their symptoms as less disruptive to their lives. IBS nonpatients also showed greater coping capabilities and psychological stability under stress. These adaptive psychological strategies are called "wellness behaviours" and may contribute to the coping ability of people with chronic symptoms who do not seek medical help.

Future research might examine certain personality

characteristics of nonpatients with a view to working with IBS patients (e.g., teaching coping strategies). Kobasa et al. (1985) have introduced the concept of hardiness to illness research. Hardiness is defined as a personality dimension characterized by commitment (vs alienation), control (vs powerlessness), and challenge (vs threat). Hardiness appears to act as a stress buffer against the development of illness (Kobasa et al., (1985) and/or the report of illness (Banks & Gannon, 1988). Although there is no evidence to date that the personality aspects of commitment or challenge can be altered, there is evidence that control (e.g., self-efficacy) with respect to illness and management can be taught (Oermann, Doyle, Clark, Rivers, & Rose, 1986; Mahowald, Steveken, Young, & Ytterberg, 1988).

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Appendix A

At least 3 months' continuous or recurrent symptoms of

1. Abdominal pain or discomfort which is
 - a) relieved with defecation
 - b) and/or associated with a change in frequency of stool
 - c) and/or associated with a change in consistency of stool, and

2. two or more of the following, at least a quarter of occasions or days
 - a) altered stool frequency*
 - b) altered stool form (lumpy/hard or loose/watery stool)
 - c) altered stool passage (straining, urgency, or feeling of incomplete evacuation)
 - d) passage of mucus
 - e) bloating or feeling of abdominal distension

*For research purposes "altered" may be defined as >3 bowel movements/day or <3 bowel movements/week.

Appendix B

April 10, 1994

Name:
address:

Dear Ms.....

The symptoms of the irritable bowel syndrome (IBS) are common in the population. While IBS is not an organic illness, the symptoms cause its sufferers untold discomfort. In addition, IBS is a major cause of work absenteeism.

I am currently working on a joint research project with a psychology professor from Carleton University, Dr. Mary Gick. We are studying the differences in patients who seek medical help from those who do not. Specifically we are trying to discover how people cope with their symptoms and with day to day circumstance in general, what their general beliefs about illness are, and their emotional reaction to this syndrome.

I am writing to ask you to participate in our study which is voluntary and anonymous. If you agree, a questionnaire package, a consent form, and a stamped return envelope will be mailed to you. The questionnaires take approximately one hour to complete. We find that many people prefer to fill out the questionnaires in the privacy and comfort of their own homes. However if you would prefer to complete the questionnaires at the time of a scheduled visit, we would be happy make that arrangement. Once the questionnaires are received back, you will be sent \$10.00 for participating in our study.

Should you wish any further information on this project please contact Professor Gick's associate, Deborah Dean. Deborah can be reached at 788-2600, ext. 3781 (Carleton University). The information obtained will improve the understanding of how people cope with IBS.

Please return the attached form at your convenience.

Yours truly,

Dr. Grant W. Thompson

cont'd...

p. /2

I understand the purpose of this research project and that it is voluntary. My responses will be anonymous.

Agree to participate: _____

(Signature)

Do not wish to participate: _____

—

(Signature)

Please mail questionnaires: _____

OR

Please call to arrange convenient time: _____

Date:

July 26, 1994

Thank you for participating in our study. Enclosed is the questionnaire package which should take approximately one hour to complete. Please try to answer every question even though it might seem repetitious.

Please sign both of the consent forms and return **one** to me with the questionnaires.

If you have any difficulty or questions, please call.
788-2600, ext 3781.

Deborah M. Dean

January 3, 1995

Thank you for participating in our study. Enclosed is an expense payment. If you have any questions or concerns regarding this research, please contact me at 788-2600, ext. 3781.

Yours truly,

Deborah M. Dean

Appendix C

Questionnaire on Bowel Patterns I

Instructions

We are doing a study on practices and attitudes towards health care among people as a function of their bowel patterns. In order to complete our study, we need your help in filling out this bowel patterns questionnaire. We realize that many of the questions are personal and of a sensitive nature. We need your name and phone number in case we want to include you in our study, and we emphasize that, as with all the other questionnaires you are filling out today, information will be kept confidential and used for research purposes only. Please take the questions seriously - we do! Thank you for your cooperation. If you decide at any time that you do not want to answer the questions, you may stop without penalty.

Name _____ Phone number _____

1. Record Number _ _ _
2. Gender M F (Circle one)
3. Age _____

These questions deal with symptoms you may have suffered over the past 12 months. Symptoms during obvious infections or travel overseas should be excluded. For each of the following questions, please circle only one number, corresponding to the most appropriate answer. Please answer all of the questions.

4. How many bowel movements do you usually have in a week?
Please record number: _____

5. Do you use laxatives or opening medicines?

- a) Never
- b) Less than 1/month
- c) 1/month - 1/week
- d) 2 - 6 times/week
- e) Daily

26. Do you ever see mucus or slime with the motions on the toilet paper?

- a) Never
- b) Occasional bowel movements
- c) About half the bowel movements
- d) Most bowel movements
- e) All bowel movements

7. Do you ever see blood mixed with or streaking the motions, or on the toilet paper?

- a) Never
- b) Occasional bowel movements
- c) About half the bowel movements
- d) Most bowel movements
- e) All bowel movements

8. Do you ever leave the toilet feeling that you have not emptied your bowel completely?

- a) Never
- b) Occasional bowel movements
- c) About half the bowel movements
- d) Most bowel movements
- e) All bowel movements

9. Do you ever have to open your bowels urgently?

- a) Never
- b) Occasional bowel movements
- c) About half the bowel movements
- d) Most bowel movements
- e) All bowel movements

10. Are your motions ever stony hard ("rabbit" stools, or irregular, dry, hard lumps)?

- a) Never
- b) Occasional motions
- c) About half the motions
- d) Most motions
- e) All motions

11. Are your motions ever watery (unformed, runny)?

- a) Never
- b) Occasional motions
- c) About half the motions
- d) Most motions
- e) All motions

12. Do you ever strain before you are able to have a bowel movement?

- a) Never
- b) Occasional motions
- c) About half the motions
- d) Most motions
- e) All motions

13. Have you had abdominal pain or discomfort on more than 6 separate days in the last year?

- a) Yes
- b) No

14. Where is the pain or discomfort usually located?

- a) Near the navel
- b) Midline above the navel
- c) Midline below the navel
- d) Under the right rib cage
- e) Under the left rib cage
- f) Above right groin
- g) Above left groin
- h) In the rectum
- i) In the back
- j) Do not know

15. Is the pain improved or relieved after opening your bowels?

- a) Never
- b) Occasionally
- c) About half the pains
- d) Most pains
- e) All pains
- f) No to Q13

16. Is this pain or discomfort relieved by passing wind from the back passage?

- a) Never
- b) Occasionally
- c) About half the pains
- d) Most pains
- e) All pains
- f) No to Q13

17. When you begin having these pains, do the stools

- a) Remain the same?
- b) Become more frequent?
- c) Become less frequent?
- d) Alternate between more and less frequent?
- e) Don't remember
- f) No to Q13

18. When you begin having pains, do the stools

- a) Remain the same?
- b) Become more soft and loose?
- c) Become more firm or hard?
- d) Alternate between loose and hard?
- e) Don't remember
- f) No to Q13

19. Does this pain occur after meals or within 1 1/2 hours?

- a) Never
- b) Occasionally
- c) About half the pains
- d) Most pains
- e) All pains
- f) No to Q13

20. Is the pain promptly relieved by food or antacid?

- a) Never
- b) Occasionally
- c) About half the pains
- d) Most pains
- e) All pains
- f) No to Q13

21. Does this pain ever wake you at night (over past 2 weeks)?

- a) Never
- b) Occasionally
- c) About half the nights
- d) Most nights
- e) Every night
- f) No to Q13

22. Do you feel full or distended?

- a) Never
- b) Occasional days
- c) About 1/2 of days
- d) Most days
- e) All days

23. Have you ever been to a doctor for any of the symptoms listed in this questionnaire? YES ____ NO ____

24. If your answer to question 20 was yes, please indicate when you saw the doctor, and the outcome of the visit.

Approximate date: _____ Diagnosis: _____

Questionnaire on Bowel Patterns II

Instructions

This questionnaire is similar to the one that you first filled out on bowel symptoms. We are repeating some of it because we want to know the severity of some of the symptoms that you have.

These questions deal with symptoms you may have suffered over the past 12 months. Symptoms during obvious infections or travel overseas should be excluded. For each of the following questions, please circle only one number, corresponding to the most appropriate answer. PLEASE ANSWER ALL OF THE QUESTIONS.

1. Record Number _ _ _ (subjects - ignore this)
2. Gender M F (Circle one)
3. Age _ _ _ _
4. How many bowel movements do you usually have in a week?
Please record number: _ _ _ _
5. Do you use laxatives or opening medicines?
 - a) Never
 - b) Less than 1/month
 - c) 1/month - 1/week
 - d) 2 - 6 times/week
 - e) Daily
6. Do you ever see mucus or slime with the motions on the toilet paper?
 - a) Never
 - b) Occasional bowel movements
 - c) About half the bowel movements
 - d) Most bowel movements
 - e) All bowel movements

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

7. Do you ever see blood mixed with or streaking the motions, or on the toilet paper?

- a) Never
- b) Occasional bowel movements
- c) About half the bowel movements
- d) Most bowel movements
- e) All bowel movements

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

8. Do you ever leave the toilet feeling that you have not emptied your bowel completely?

- a) Never
- b) Occasional bowel movements
- c) About half the bowel movements
- d) Most bowel movements
- e) All bowel movements

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

9. Do you ever have to open your bowels urgently?

- a) Never
- b) Occasional bowel movements
- c) About half the bowel movements
- d) Most bowel movements
- e) All bowel movements

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

10. Are your motions ever stony hard ("rabbit" stools, or irregular, dry, hard lumps)?

- a) Never
- b) Occasional motions
- c) About half the motions
- d) Most motions
- e) All motions

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

11. Are your motions ever watery (unformed, runny)?

- a) Never
- b) Occasional motions
- c) About half the motions
- d) Most motions
- e) All motions

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

12. Do you ever strain before you are able to have a bowel movement?

- a) Never
- b) Occasional motions
- c) About half the motions
- d) Most motions
- e) All motions

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

13. Have you had abdominal pain or discomfort on more than 6 separate days in the last year?

- a) Yes
- b) No

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

14. Where is the pain or discomfort usually located?

- a) Near the navel
- b) Midline above the navel
- c) Midline below the navel
- d) Under the right rib cage
- e) Under the left rib cage
- f) Above right groin
- g) Above left groin
- h) In the rectum
- i) In the back
- j) Do not know
- k) No to Q 13

15. Is the pain improved or relieved after opening your bowels?

- a) Never
- b) Occasionally
- c) About half the pains
- d) Most pains
- e) All pains
- f) No to Q13

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

16. Is this pain or discomfort relieved by passing wind from the back passage?

- a) Never
- b) Occasionally
- c) About half the pains
- d) Most pains
- e) All pains
- f) No to Q13

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

17. When you begin having these pains, do the stools

- a) Remain the same?
- b) Become more frequent?
- c) Become less frequent?
- d) Alternate between more and less frequent?
- e) Don't remember
- f) No to Q13

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

18. When you begin having pains, do the stools

- a) Remain the same?
- b) Become more soft and loose?
- c) Become more firm or hard?
- d) Alternate between loose and hard?
- e) Don't remember
- f) No to Q13

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

19. Does this pain occur after meals or within 1 1/2 hours?

- a) Never
- b) Occasionally
- c) About half the pains
- d) Most pains
- e) All pains
- f) No to Q13

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

20. Is the pain promptly relieved by food or antacid?

- a) Never
- b) Occasionally
- c) About half the pains
- d) Most pains
- e) All pains
- f) No to Q13

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

21. Does this pain ever wake you at night (over past 2 weeks)?

- a) Never
- b) Occasionally
- c) About half the nights
- d) Most nights
- e) Every night
- f) No to Q13

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

21. Do you feel full or distended?

- a) Never
- b) Occasional days
- c) About 1/2 of days
- d) Most days
- e) All days

Please indicate, using the following scale, the intensity of this symptom when it occurs:

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

23. Have you ever been to a doctor for any of the symptoms listed in this questionnaire? YES ____ NO ____

If your answer to question 23 was yes, please answer all of the remaining questions. If your answer to question 23 was no, please skip questions 24 and 25, and COMPLETE ALL OF THE OTHER QUESTIONS.

24. Please indicate how many doctors you have seen for your bowel symptoms.

General Practitioner # ____
 Specialist # ____
 Other # ____ Please specify: ____
 Alternative Medicine # ____
 - Please specify: ____

25. a) How many sigmoidoscopies have you had? # _____
 b) How many barium enemas have you had # _____

26. When you get bowel symptoms like the ones on this questionnaire (e.g., pain, diarrhea or constipation, etc.), check off all of the following activities that you might engage in:

talk to family and friends ____
 go to a doctor ____
 get more exercise ____
 relax more ____
 change diet ____
 other - please specify: _____

27. Overall, how long have you had bowel symptoms like the ones on this questionnaire? Please specify how long. # months _____

28. Rate the intensity of your bowel symptoms during the last week.

1	2	3	4	5
Not a problem		Somewhat bothersome		Extremely bothersome when it occurs

29. Please answer the following question.

a) If you have never been to the doctor for your bowel symptoms, briefly describe why not. _____

b) If you have been to the doctor for your bowel symptoms, briefly describe why you went. _____

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SELF-EVALUATION QUESTIONNAIRE

Developed by Charles D. Spielberger
in collaboration with
R. L. Gorsuch, R. Lusher, P. R. Vagg, and G. A. Jacobs

STAI Form Y-1

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

PILL Scale: A Trait Measure

On the following pages several common symptoms or bodily sensations are listed. Most people have experienced most of them at one time or another. All information will be kept confidential.

Please respond by checking the appropriate letter for each question.

Have never or almost never experienced the symptom	Less than 3 or 4 times per year	Every month or so	Every week or so	More than once every week
---	--	-------------------------	---------------------	---------------------------------

(A)	(B)	(C)	(D)	(E)
-----	-----	-----	-----	-----

For example, if your ears tend to ring once every week or so, you would check the brackets for "D" next to item #3.

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
1. Eyes water	()	()	()	()	()
2. Itching or painful eyes	()	()	()	()	()
3. Ringing in ears	()	()	()	()	()
4. Temporary deafness or hard of hearing	()	()	()	()	()
5. Lump in throat	()	()	()	()	()
6. Choking sensations	()	()	()	()	()
7. Sneezing spells	()	()	()	()	()
8. Running nose	()	()	()	()	()
9. Congested nose	()	()	()	()	()
10. Bleeding nose	()	()	()	()	()
11. Asthma or wheezing	()	()	()	()	()
12. Coughing	()	()	()	()	()
13. Out of breath	()	()	()	()	()

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
14. Swollen ankles	()	()	()	()	()
15. Chest pains	()	()	()	()	()
16. Racing heart	()	()	()	()	()
17. Cold hands or feet even in hot weather	()	()	()	()	()
18. Leg cramps	()	()	()	()	()
19. Insomnia	()	()	()	()	()
20. Toothaches	()	()	()	()	()
21. Upset stomach	()	()	()	()	()
22. Indigestion	()	()	()	()	()
23. Heartburn	()	()	()	()	()
24. Severe pains or cramps in stomach	()	()	()	()	()
25. Diarrhea	()	()	()	()	()
26. Constipation	()	()	()	()	()
27. Hemorrhoids	()	()	()	()	()
28. Swollen joints	()	()	()	()	()
29. Stiff muscles	()	()	()	()	()
30. Back pains	()	()	()	()	()
31. Sensitive or tender skin	()	()	()	()	()
32. Face flushes	()	()	()	()	()
33. Severe itching	()	()	()	()	()
34. Skin breaks out in rash	()	()	()	()	()
35. Acne or pimples on face	()	()	()	()	()
36. Acne or pimples other than face	()	()	()	()	()
37. Boils	()	()	()	()	()
38. Sweat even in cold weather	()	()	()	()	()

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
39. Strong reactions to insect bites	()	()	()	()	()
40. Headaches	()	()	()	()	()
41. Sensation of pressure in head	()	()	()	()	()
42. Hot flashes	()	()	()	()	()
43. Chills	()	()	()	()	()
44. Dizziness	()	()	()	()	()
45. Feel faint	()	()	()	()	()
46. Numbness or tingling in any part of body	()	()	()	()	()
47. Twitching of eyelid	()	()	()	()	()
48. Twitching other than eyelid	()	()	()	()	()
49. Hands tremble or shake	()	()	()	()	()
50. Stiff joints	()	()	()	()	()
51. Sore muscles	()	()	()	()	()
52. Sore throat	()	()	()	()	()
53. Sunburn	()	()	()	()	()
54. Nausea	()	()	()	()	()

Social Support Questionnaire I

1. Among your friends and relatives, excluding a partner if you have one (i.e., husband or wife, or live-in partner), is there someone you feel you can tell just about anything to, someone you can count on for understanding and advice? Check off the most appropriate answer.

No one ____ One person ____ Two or more people ____

If you are married, or have a live-in partner, please answer the following question.

2. Using the following scale, indicate your agreement or disagreement with the following statement:

My spouse (or partner) is someone I can really talk with about things that are important to me.

1	2	3	4	5
Strongly Agree		Somewhat Disagree		Strongly Agree

Social Support Questionnaire II

1. Among your friends and relatives, excluding a partner if you have one (i.e., husband or wife, or live-in partner), is there someone you feel you can talk to about your bowel symptoms and/or abdominal pain, someone that you can count on for understanding and advice? Check off the most appropriate answer.

No one ____ One person ____ Two or more people ____

2. Using the following scale, indicate your agreement or disagreement with the following statement:

My doctor is someone I can really talk with about my bowel symptoms and/or abdominal pain.

1	2	3	4	5
Strongly Agree		Somewhat Agree		Strongly Disagree

If you are married, or have a live-in partner, please answer the following question.

3. Using the following scale, indicate your agreement or disagreement with the following statement:

My spouse (or partner) is someone I can really talk with about my bowel symptoms and/or abdominal pain.

1	2	3	4	5
Strongly Agree		Somewhat Agree		Strongly Disagree

Personal Information Sheet

All the information you provide us with is confidential and will be used for research purposes only. PLEASE FILL OUT THIS FORM AS COMPLETELY AS POSSIBLE

Name: _____ Date: _____

1. My age is _____ years.

2. I am male _____ female _____

3. My present marital status is: (check one)

- ☐ a) Single (never married)
- ☐ b) Married and living with spouse
- ☐ c) Common-law
- ☐ d) Separated
- ☐ e) Divorced
- ☐ f) Widowed

4. The highest level of education I have completed is (check one)

- ☐ a) Grade School
- ☐ b) High School
- ☐ c) Trade School
- ☐ d) College
- ☐ e) University (undergraduate)
- ☐ f) University (graduate)

5. Please list any medication (prescription and non-prescription, diet supplements, laxatives) which you are currently taking as well as the length of time you have been using the medication, the dose, the number of times taken daily.

Medication Use:

Name Medication	Time on	Dose	Times/day
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. Do you smoke? Yes_____ No_____
Number of cigarettes per day _____
7. Do you drink alcohol? Yes_____ No_____
Number of alcoholic beverages per month _____
8. How many physicians and/or specialists have you seen
over the past year? #_____
9. Have you ever been diagnosed with Irritable Bowel
Syndrome?
Yes _____ No _____
10. Have you ever been diagnosed with Crohn's Disease or
ulcerative colitis? Yes_____ No_____

MILLER BEHAVIORAL STYLE SCALE

1. Vividly imagine that you are afraid of the dentist and have to get some dental work done. Which of the following would you do? Check all of the statements that might apply to you.

- _____ I would ask the dentist exactly what he was going to do.
- _____ I would take a tranquillizer or have a drink before going.
- _____ I would try to think about pleasant memories.
- _____ I would want the dentist to tell me when I would feel pain.
- _____ I would try to sleep.
- _____ I would watch all the dentist's movements and listen for the sound of his drill.
- _____ I would watch the flow of water from my mouth to see if contained blood.
- _____ I would do mental puzzles in my mind.

2. Vividly imagine that you are being held hostage by a group of armed terrorists in a public building. Which of the following would you do? Check all of the statements that might apply to you.

- _____ I would sit by myself and have as many daydreams and fantasies as I could.
- _____ I would stay alert and try to keep myself from falling asleep.
- _____ I would exchange life stories with the other hostages.
- _____ If there was a radio present, I would stay near it and listen to the bullet: s about what the police were doing.
- _____ I would watch every movement of my captors and keep an eye on their weapons.
- _____ I would try to sleep as much as possible.
- _____ I would think about how nice it's going to be when I get home.
- _____ I would make sure I knew where every possible exit was.

3. Vividly imagine that, due to a large drop in sales, it is rumoured that several people in your department at work will be laid off. Your supervisor has turned in an evaluation of your work for the past year. The decision about lay-offs has been made and will be announced in several days. Check all of the statements that might apply to you.

- _____ I would talk to my fellow workers to see if they knew anything about what the supervisor's evaluation of me said.
- _____ I would review the list of duties for my present job and try to figure out if I had fulfilled them all.
- _____ I would go to the movies to take my mind off things.
- _____ I would try to remember any arguments or disagreements I might have had with the supervisor that would have lowered his opinion of me.
- _____ I would push all thoughts of being laid off out of my mind.
- _____ I would tell my spouse that I'd rather not discuss my chances of being laid off.
- _____ I would try to think which employees in my department the supervisor might have thought had done the worst job.
- _____ I would continue doing my work as if nothing special was happening.

4. Vividly imagine that you are on an airplane, thirty minutes from your destination, when the plane unexpectedly goes into a deep dive and then suddenly levels off. After a short time, the pilot announces that nothing is wrong, although the rest of the ride may be rough. You, however, are not convinced that all is well. Check all of the statements that might apply to you.

- _____ I would carefully read the information provided about safety features in the plane and make sure I knew where the emergency exits were.
- _____ I would make small talk with the passenger beside me.
- _____ I would watch the end of the movie, even if I had seen it before.
- _____ I would call the stewardess and ask her exactly what the problem was.
- _____ I would order a drink or tranquillizer from the stewardess.
- _____ I would listen carefully to the engines for unusual noises and would watch the crew to see if their behaviour was out of the ordinary.
- _____ I would talk to the passenger beside me about might be wrong.
- _____ I would settle down and read a book or magazine or write a letter.

Appendix D

Informed Consent (IBS patients)

Psychological Factors and Irritable Bowel Syndrome

The topic of our research is psychological factors and the "Irritable Bowel Syndrome (IBS)". Some people go to the doctor for IBS, while others don't. The purpose of the research project is to understand why some people go to the doctor for IBS, and why others don't seek medical care for IBS. As an IBS patient, you have been selected for our study.

In the packet of questionnaires that follows this form, we will be asking you questions concerning your bowel symptoms and how severe they are, the ways in which you cope with them, and what you think the causes and consequences of your bowel symptoms might be. In addition, we will ask you questions about how often you experience other common symptoms such as coughing and headaches, your beliefs about the common flu, your emotional state, the ways in which you cope with stress, your level of social support, and finally, some personal information, such as education level.

The questionnaires will take approximately one hour to complete. We will be paying you \$10.00 to help reimburse you for parking or transportation expenses for your participation in this study. Please note that your participation in this research project is voluntary - you are under no obligation to participate. In addition, your participation is independent of any treatment that you are obtaining from the Civic Hospital. If for any reason after beginning the questionnaires, you decide you no longer wish to continue, you may withdraw from the study without jeopardizing any current or future treatment at the Hospital. There is no evidence that completing the questionnaires will result in either physical or psychological risk. Please note that the data gathered today from these questionnaires is confidential and will be used for research purposes only in the following way. Your data will be assigned a number - your name will not be used in connection with your data - so that all information is anonymous and disguised so that no identification can be made in any published article on this research. There are no direct benefits to you for participating in this study. However, you would be contributing to scientific research and an understanding of the psychological needs of people with IBS.

You will receive a copy of this consent form. Are there any questions now? We will have the opportunity to discuss the study further later. Also, if at any time after completion of the study, you have questions, please do not hesitate to call me at the number given below.

"I, _____, know that if I participate in this research project, I will be filling out questionnaires on my bowel patterns and beliefs about them and other common symptoms and illnesses, my emotional state, my ways of coping with stress, my level of social support, and some personal information. I further realize that the data are confidential, my participation is voluntary, and I can withdraw from the study at any time without penalty."

Date: _____

Signature of Subject: _____

Signature of Witness: _____

Principal Investigator: Dr. W. Grant Thompson
Dept. of Medicine
Division of Gastroenterology
A1, Ottawa Civic Hospital
Phone: 761-4147

Co-Investigator: Mary Gick, Ph.D.
Assistant Professor of Psychology
Carleton University
Phone: 788-2600; Extension 2664; 2644.

October 1, 1991

Informed Consent (IBS non-patients)

Psychological Factors and Irritable Bowel Syndrome

The topic of our research is psychological factors and the "Irritable Bowel Syndrome (IBS)". IBS is a pattern of some abdominal pain, combined with other symptoms such as alternating diarrhea and constipation. IBS is fairly common (it affects about 20% of adults). Some people go to the doctor for IBS, while others don't. The purpose of the research project is to understand why some people go to the doctor for IBS, and why others don't seek medical care for IBS. As someone who has bowel symptoms of IBS and who has not been to the doctor for it, you have been selected for our study.

In the packet of questionnaires that follows this form, we will be asking you questions concerning your bowel symptoms and how severe they are, the ways in which you cope with them, and what you think the causes and consequences of your bowel symptoms might be. In addition, we will ask you questions about how often you experience other common symptoms such as coughing and headaches, your beliefs about the common flu, your emotional state, the ways in which you cope with stress, your level of social support, and personal information (e.g., education level).

The questionnaires will take approximately one hour to complete. We will be paying you \$10.00 to help reimburse you for parking or transportation expenses for your participation in this study. Please note that your participation in this research project is voluntary - you are under no obligation to participate. In addition, your participation is independent of any treatment that you are obtaining from the Civic Hospital. If for any reason after beginning the questionnaires, you decide you no longer wish to continue, you may withdraw from the study without jeopardizing any current or future treatment at the hospital. There is no evidence that completing the questionnaires will result in either physical or psychological

October 1, 1991

risk. Please note that the data gathered today from these questionnaires is confidential and will be used for research purposes only in the following way. Your data will be assigned a number - your name will not be used in connection with your data - so that all information is anonymous and disguised so that no identification can be made in any published article on this research. There are no direct benefits to you for participating in this study. However, you would be contributing to scientific research and an understanding of the psychological needs of people with IBS.

You will receive a copy of this consent form. Are there any questions now? We will have the opportunity to discuss the study further later. Also, if at any time after completion of the study, you have questions, please do not hesitate to call me at the number given below.

"I, _____, know that if I participate in this research project, I will be filling out questionnaires on my bowel patterns and beliefs about them and other common symptoms and illnesses, my emotional state, my ways of coping with stress, my level of social support, and some personal information. I further realize that the data are confidential, my participation is voluntary, and I can withdraw from the study at any time without penalty."

Date: _____

Signature of Subject: _____

Signature of Witness: _____

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October 1, 1991

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PM-1 3½"x4" PHOTOGRAPHIC MICROCOPY TARGET
NBS 1010a ANSI/ISO #2 EQUIVALENT

PRECISIONSM RESOLUTION TARGETS

Informed Consent (controls)

Psychological Factors and Irritable Bowel Syndrome

The topic of our research is psychological factors and the "Irritable Bowel Syndrome (IBS)". IBS is a pattern of some abdominal pain, combined with other symptoms such as alternating diarrhea and constipation. IBS is fairly common (it affects about 20% of adults). Some people go to the doctor for IBS, while others don't. The purpose of the research project is to understand why some people go to the doctor for IBS, and why others don't seek medical care for IBS. As a person who does not have IBS, you have been selected as a control subject for our study for comparison to people with IBS.

In the packet of questionnaires that follows this form, we will ask you questions about how often you experience common symptoms such as coughing and headaches, your beliefs about the common flu, your emotional state, the ways in which you cope with stress, your level of social support, and finally, some personal information, such as education level.

The questionnaires will take approximately one hour to complete. We will be paying you \$10.00 to help reimburse you for parking or transportation expenses for your participation in this study. Please note that your participation in this research project is voluntary - you are under no obligation to participate. In addition, your participation is independent of any treatment that you are obtaining from the Civic Hospital. If for any reason after beginning the questionnaires, you decide you no longer wish to continue, you may withdraw from the study without jeopardizing any current or future treatment at the hospital. There is no evidence that completing the questionnaires will result in either physical or psychological risk. Please note that the data gathered today from these questionnaires is confidential and will be used for research purposes only in the following way. Your data will be assigned a

October 1, 1991

number - your name will not be used in connection with your data - so that all information is anonymous and disguised so that no identification can be made in any published article on this research. There are no direct benefits to you for participating in this study. However, you would be contributing to scientific research and an understanding of the psychological needs of people with IBS.

You will receive a copy of this consent form. Are there any questions now? We will have the opportunity to discuss the study further later. Also, if at any time after completion of the study, you have questions, please do not hesitate to call me at the number given below.

"I, _____, know that if I participate in this research project, I will be filling out questionnaires on my bowel patterns and beliefs about them and other common symptoms and illnesses, my emotional state, my ways of coping with stress, my level of social support, and some personal information. I further realize that the data are confidential, my participation is voluntary, and I can withdraw from the study at any time without penalty."

Date: _____

Signature of Subject: _____

Signature of Witness: _____

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