Published in final edited form as:

Inflamm Bowel Dis. 2011 February ; 17(2): 614–620. doi:10.1002/ibd.21314.

The Role of Self-Efficacy in Inflammatory Bowel Disease Management: Preliminary Validation of a Disease-Specific Measure

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Abstract

IBDs require self-management skills that may be influenced by self-efficacy (SE). Self Efficacy represents an individual's perception of his or her ability to organize and execute the behaviors necessary to manage disease. The goal of this study was to develop a valid and reliable measure of IBD-specific SE that can be used in clinical and research contexts. 122 adults with a verified IBD diagnosis participated in the study. Data were pooled from two sources: patients from an outpatient university gastroenterology clinic ($n = 42$) and a sample of online respondents ($n = 80$). All participants ($N = 122$) completed the IBD-Self-Efficacy Scale (IBD-SES) and the Inflammatory Bowel Disease Questionnaire. Additionally, online participants completed the Brief Symptom Inventory-18 and Rosenberg Self-Esteem Scale; while the clinic sample completed the Perceived Health Competence Scale, Perceived Stress Questionnaire, and Short Form Version 2 Health Survey. The IBD-SES was initially constructed to identify 4 distinct theoretical domains of self-efficacy: a) managing stress and emotions, b) managing medical care, c) managing symptoms and disease, and d) maintaining remission. The 29-item IBD-SES has high internal consistency ($r = 0.96$), high test-retest reliability ($r = 0.90$), and demonstrates strong construct and concurrent validity with established measures. The IBD-SES is a critical first step towards addressing an important psychological construct that could influence treatment outcomes in IBD.

Keywords

IBD; IBD Self-efficacy Scale; self-efficacy; disease management

Inflammatory Bowel Diseases (IBD) including Ulcerative Colitis (UC) and Crohn's Disease (CD) are lifelong, relapsing and remitting inflammatory conditions that have a high impact on quality of life and function in physical, psychological, social and occupational contexts[1–4]. Like other chronic illnesses without a cure, IBD require a unique set of patient self-management skills including adherence to complex medication regimens and cancer surveillance guidelines, adequate management of medication side effects and extraintestinal symptoms, and lifestyle changes when necessary (e.g. stress management, healthy eating, smoking cessation)[5–10]. In response to disease-related demands, IBD patients may express illness-related concerns, mitigated by psychosocial constructs [31,32]. We were especially interested in the construct of self-efficacy which has been linked to important health outcomes in other chronic diseases [11–15].

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Financial Disclosures: The authors have no financial disclosures.

In social-cognitive theory, an individual's perception of his or her ability to organize and execute the behaviors necessary to manage certain situations is known as *perceived self-efficacy*[16,17]. Self-efficacy (SE) beliefs have a profound effect on the degree to which a person will actively engage in appropriate coping behaviors, persist at a task or regimen over time and/or continue to put forth effort despite obstacles. SE has also been linked to one's vulnerability to psychological distress in the face of adversity[16,17], and mediates the relationship between disease outcomes and physical, psychological and social function in cancer[18], multiple sclerosis[19], heart disease[20], and diabetes[21]. High SE has also been linked to success at health behavior change, including exercise[22] and cancer screening[23]. To our knowledge, SE has not been measured in IBD.

SE is a *task-specific construct* that depends on one's prior experience with a given task, one's view of the steps involved in managing the task and the context in which one is required to engage in a behavior[17]. Therefore, SE is *non-transferable* from other life domains; an individual could have high SE in his or her ability to do their job but low SE when presented with a situation where there is no concrete solution or expected / final outcome (i.e. chronic disease). To account for this discrepancy, *self-efficacy scales must be disease-specific and relate directly to the unique self-management requirements of the condition*.

The primary goal of this study was to provide preliminary support for the reliability and validity of a recently developed measure of self-efficacy in IBD. Our main hypothesis was that the IBD Self-Efficacy Scale would provide adequate internal, construct and concurrent validity and satisfactory test-retest reliability.

Methods

Ethical Considerations

This study was approved by the Institutional Review Board (IRB) at Northwestern University.

Participants

Data were obtained from a convenience sample of patients who completed the IBD-SES as part of their participation in one of two ongoing psychosocial research projects at our Center. Therefore, the data sample for this study comes from one of two distinct sources of recruitment (no overlap between patient groups): 1) an outpatient university gastroenterology clinic ($n = 42$) or 2) online ($n = 80$) via high-traffic IBD message boards (www.healingwell.com, www.crohnszone.co.uk, www.wearecrohns.com), a social networking website (www.facebook.com), online classifieds (www.craigslist.com), and a link from the Center for Psychosocial Research in IBD's (www.ibdpsych.org). Collectively, we obtained data from a total of 122 individuals ages 18 to 75 with a verified IBD diagnosis. To control for the impact of completing questionnaires on a computer, after obtaining informed consent, clinic participants completed a set of questionnaires using the secure third-party survey provider, Survey Monkey (www.surveymonkey.com). Online participants consented using an IRB-approved online consent procedure and completed questionnaires through the same mechanism, Survey Monkey.

Procedure

IBD diagnoses were gastroenterologist-confirmed by medical record review (clinic sample) or a standardized series of screening questions (online sample; e.g., which of the following best describes your IBD diagnosis; Number of years you have been diagnosed with IBD; How often do you experience a disease flare; Current gastroenterologist and visit frequency;

Current medications). Individuals who reported a history of definitive surgery for their IBD were excluded. To ensure quality of the data online, all site visits were logged to measure the number of disqualified participants and individual Internet Protocol (IP) addresses were logged for each entry to discourage multiple responses from a single individual. Data was exported from the Survey Monkey database into Microsoft Excel and combined with clinic data for analysis.

Experimental Measure

Inflammatory Bowel Disease Self-Efficacy Scale (IBD-SES)—Preliminary items (29) on this measure were generated through patient interview, self-efficacy theory and previously validated disease-specific self-efficacy measures in the public domain[19,20,23,24]. Consistent with other SE Scales, responses were given on a 10-point Likert scale with 10 being “Totally Sure,” 5 “Somewhat Sure,” and 1 “Not Sure at All”. Questions are grouped into 4 subscales, which were identified as relevant domains by our IBD patient group: 1) managing stress and emotions (e.g., Do something to make yourself feel better when discouraged), 2) managing medical care (e.g., Follow the instructions for your prescription medications), 3) managing symptoms and disease (e.g., Keep physical discomfort or pain from interfering), and 4) maintaining remission (e.g., Manage your disease in general, engage in self-care). The overall score of the IBD-SES ranges from 29 to 290 with a lower score indicating lower SE. See Appendix for the complete measure.

Validated Measures

Inflammatory Bowel Disease Questionnaire (IBDQ)[25]—The IBDQ is a 32-item validated questionnaire to assess disease severity and quality of life in IBD, yielding four subscale scores: bowel health, systemic health, emotional functioning, and social functioning. Responses are given on a 7-point Likert scale, with 7 being “best function” and 1 being “worst function.” Lower scores indicate greater disease severity and lower quality of life.

Rosenberg Self-Esteem Scale (RSES)[26] is a validated, 10-item measure of self-esteem. It consists of statements related to overall feelings of self-worth and acceptance. Items are rated on a 4-point Likert scale from “strongly agree” to “strongly disagree.” This questionnaire was completed by online participants only.

Brief Symptom Inventory-18 (BSI)[27]—The BSI is an 18-item validated questionnaire that assesses overall psychological distress, symptom intensity, and total number of symptoms reported across 3 symptom dimensions: somatization, depression, and anxiety. Items on the BSI are rated on a 5-point Likert scale, ranging from “not-at-all” to “extremely.” Higher scores indicate higher levels of distress. This questionnaire was completed by online participants only.

Perceived Health Competence Scale (PHCS)[28]—The PHCS is a domain-specific, validated measure that examines the degree to which an individual perceives their ability to effectively manage his or her own health outcomes (general health self-efficacy). The PHCS includes 8 questions on a 5-point likert scale ranging from “strongly disagree” to “strongly agree.” Higher scores indicate higher perceived competence. This questionnaire was completed by clinic participants only.

Perceived Stress Questionnaire-Recent (PSQ)[29]—The PSQ-Recent is a 30-item validated measure of stress in the past month across 7 factors: harassment, overload, irritability, lack of joy, fatigue, worries, and tension. Items are rated on a 4-point Likert scale

from “almost never” to “usually.” Higher scores suggest greater perceived stress. This questionnaire was completed by clinic participants only.

Short Form 12 Health Survey Version 2 (SF-12v2)[30]—The validated SF-12v2 includes 12 items from the Short-Form 36 Health Survey[31] and yields a physical and mental composite score as well as 8 subscale values: physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional, and mental health. Lower scores correspond with poorer health-related quality of life. This scale was completed by clinic participants only.

Sociodemographic and Clinical Information—Participants were asked to report several demographic and illness-related variables, including: age, gender, ethnicity, education level, population of hometown, marital status, IBD diagnosis, disease duration, disease status (flare versus remission), extraintestinal manifestations, date of most recent disease flare, flare frequency and intensity, medication regimen, frequency of physician appointments, surgical history, and presence of an ostomy.

Statistical Analysis

Statistical analyses were completed using SPSS 17.0 for Windows (SPSS Inc., Chicago IL). Statistical significance was set at $p < 0.05$ for all analyses. Data were normally distributed. Preliminary analyses were completed for frequencies, means, standard deviations, and percentages where applicable. We evaluated the reliability of the IBD-SES as a measure of SE in individuals with IBD by calculating Cronbach's α for the entire sample ($N = 122$) and test-retest reliability for a subset ($n = 19$). Construct validity was demonstrated by correlating the scores on the RSES, PHCS, and PSQ using Pearson's product-moment correlation coefficient. To illustrate concurrent validity, Pearson's correlations were calculated between the IBD-SES and scores on the IBDQ and SF-12v2; and a linear regression was performed to evaluate the effects of SE, bowel and systemic health (as measured by the IBDQ) on BSI scores. A series of independent sample t -tests and chi-square analyses were performed to evaluate significant differences in continuous and categorical data between diagnoses, study condition, and disease state.

Results

In our sample of 122 patients with IBD, 61 had UC (50%), 66% were women, 93% were white, 58% were married, 65% had a college degree and higher, 27% reported past bowel resections, 69% reported having at least one flare per year, and 63% reported being in remission at the time of study participation. Their mean age was 37.9 ($SD = 11.9$, range 18 to 69 years) and mean length of time since diagnosis (LOTD) was 10.2 years ($SD = 9.5$, range 0.1 to 52 years).

There were significant differences between study conditions (clinic vs. online) on gender ($\chi^2 = 3.88$, $p < 0.05$), diagnosis ($\chi^2 = 32.70$, $p < 0.0001$), disease state ($\chi^2 = 24.30$, $p < 0.0001$), total SE scores ($t(118) = 3.35$, $p = 0.001$) and total IBDQ scores ($t(120) = 3.79$, $p < 0.001$). The online sample consisted of more women, respondents with CD, higher frequency of current flare activity, and lower SE and IBDQ scores. Demographic and clinical characteristics for the entire sample and subsamples are shown in Table 1.

Psychometric Properties of the IBD-SES

Internal Validity / Reliability—Derived from the entire sample ($N = 122$), the internal consistency of the 29-item IBD-SES is excellent (Cronbach's $\alpha = 0.96$). See Table 2 for the means and standard deviations of all items and item-total score correlations for the sample.

Fifteen of 29 items were highly related to at least one other item ($r \geq 0.80$) and all items were significantly related to the total IBD-SES score with correlations ranging from 0.43 to 0.83 (all $p < 0.01$).

Test-retest reliability—A subset of the clinical sample ($n = 19$) completed the questionnaire at 2 separate time points with mean days elapsed = 15.2 (range 8 to 27 days). The correlation from time 1 to time 2 was 0.90 ($p < 0.001$).

Construct validity—From the clinical sample, scores on the IBD-SES were positively correlated with perceived health competency ($r = 0.76$, $p < 0.001$) and negatively correlated with perceived stress ($r = -0.70$, $p < 0.001$). From the online sample, scores on the IBD-SES were positively correlated with self-esteem ($r = 0.66$, $p < 0.001$).

Concurrent validity—As evidence of concurrent validity, total scores on the IBD-SES were positively correlated with the total score on the IBDQ ($r = 0.67$, $p < 0.001$), bowel health subscale ($r = 0.59$, $p < 0.001$), systemic health ($r = 0.64$, $p < 0.001$), social functioning ($r = 0.55$, $p < 0.001$), and emotional functioning of the IBDQ ($r = 0.65$, $p < 0.001$). From the clinical sample alone, scores on the IBD-SES were positively correlated with the Mental Component Summary subscale of the SF-12v2 ($r = 0.71$, $p < 0.001$) but not with the Physical Component Summary ($r = 0.17$, $p = 0.30$).

A simple linear regression analysis was performed to evaluate the unique contribution of SE to the previously established relationship[32] between the bowel and systemic health subscales (IBDQ) and psychological distress (BSI). Data from the online sample was used for this analysis. The criterion variable in this model was psychological distress (measured by the BSI), and predictor variables included (in the following order) the total score on the IBD-SES and the bowel and systemic health indices of the IBDQ. The systemic health index was non-significant and dropped from the model. Using forward entry method, predictors IBD-SES and bowel health were included the model and were significant ($F(79) = 41.31$, $p < 0.001$) predictors with SE accounting for 40% of the total variance ($R^2(1.78) = 0.40$, $p < 0.001$) and bowel health accounting for an additional 12% of the total variance in psychological distress ($R^2(1.77) = 0.12$, $p < 0.001$). See Table 3.

Criterion Validity—As a preliminary assessment of criterion validity, that is, exploring the relationship of SE with time elapsed since diagnosis, we correlated SE scores with a patient's self-reported LOTD [10.2 (9.5) years] using the entire sample. Contrary to our expectation, LOTD (i.e., an opportunity to learn to manage the disease over time) was not associated with increased SE; suggesting that in the absence of a directed intervention, SE may be a relatively stable construct.

Differences Between Disease Groups on Self-Efficacy

We further tested between group differences across diagnosis (CD vs. UC) and disease state (flare vs. remission). While these results are preliminary, we found statistically significant differences between those with CD and UC on total SE scores ($t(118) = -3.00$, $p < 0.01$), total IBDQ scores ($t(120) = -2.75$, $p < 0.01$), and disease state ($\chi^2(1) = 10.2$, $p = 0.001$) with CD reporting lower scores on SE, the IBDQ, and subjective report of current flare activity. Also, we observed differences between groups defined by disease state on total SE ($t(118) = -5.36$, $p < 0.001$), IBDQ scores ($t(120) = -8.30$, $p < 0.001$), and psychological distress ($t(78) = 3.45$, $p = 0.001$) with those indicating current flare activity reporting lower SE, lower scores on the IBDQ, and increased psychological distress.

Discussion

In this study, we introduce the 29-item IBD Self-Efficacy Scale, a disease-specific measure that proved to be reliable and valid with a high potential for clinical and research utility. While additional validation efforts are necessary, this measure is a critical first step toward quantifying an important and potentially modifiable psychological construct that could influence treatment outcomes in IBD. We report high internal reliability, test-retest reliability, and multiple indicators of validity of this measure. Moreover, we suggest that the differences observed in self-efficacy across diagnosis, recruitment method, and disease state, speaks to the IBD-SES's sensitivity to detect differences across important factors.

The measurement of SE is important as the demands of grant-funding agencies intensify their focus on patient-reported outcomes. Placebo rates in IBD clinical trials are high (30–40%) and suggest that an alteration in a person's psychological expectation for control over their disease may affect disease activity directly[33]. Indeed, in this study, bowel symptoms in our online sample were less likely to impact quality of life than SE, which accounted for 40% of the variance in patients' psychological functioning and related quality of life.

This measure allows SE to be assessed across 4 theoretical domains: a) managing stress and emotions, b) managing medical care, c) managing symptoms and disease, and d) maintaining remission. Given the task-specific nature of SE, these subscales can detect specific areas in which the patient struggles and target interventions appropriately. For example, an individual who reports high SE in managing their medical care (e.g., I can ask my doctor about my illness; I can take my medication on time) and their symptoms (e.g., I can keep my fatigue under control) may still have difficulty achieving and maintaining remission because they have low SE to manage their stress and emotions (e.g., I can do something to reduce my stress, keep from getting sad; I can engage in a self-care program that includes a healthy diet, regular exercise, and quitting smoking). This could be identified and the appropriate intervention prescribed in a timely manner.

While not a primary research question, we did note some differences between patients with CD and UC in this sample: Patients with CD reported lower SE and quality of life than those with UC. Moreover, patients with CD have historically been described as more distressed by their condition[32,34]. Participants who completed the study online also reported lower IBDQ and SE scores than their clinic counterparts. Lower quality of life among online patient samples has been previously reported and may be influenced by disease severity and/or stigma [35]. Similarly, individuals with higher self-efficacy may be more proactive in general about their health care, have more office visits and have an interest in psychological support for their disease; hence explaining why our clinic sample reported higher SE.

Limitations

We note several limitations in this study. First, there is high overlap between the items in this measure, supporting its internal consistency and construct validity however, it is likely after further empirical investigation that may include a principal components analysis (PCA) along with item reduction techniques, that certain items may be eliminated, therefore improving usability in clinical settings. Further study on this measure would include the PCA and eventually a confirmatory factor analysis; however, these methods require a much larger sample size (up to 290). Second, all completed measures in this study were self-report, and while it is common in psychological research to rely on self-report (in the absence of objective measures of psychological constructs) this methodology is considered partially flawed due to the subjective nature of the resulting data. We did not assess constructs such as coping behaviors, illness perceptions, and medication adherence,

therefore, we cannot attest to those factors' interaction with self-efficacy and quality of life in this sample.

Our most significant limitation was our decision to examine the psychometric properties of the IBD-SES, a measure we have been informally using as part of our clinical research program in IBD. In order to have a large enough sample to evaluate the utility of this measure for continued use in our patient population, we decided to combine IBD-SES data from two of our larger studies, thereby compromising our research design. Nevertheless, we suggest that the construct of SE is important and be considered a potential mediator in IBD outcome research. Our samples differ on a few key variables, most importantly on self-efficacy and quality of life. We did our best to control for this difference; however, with a larger sample from both sources, we could stratify patients by these notable factors while maintaining a decent sample size from each and establish normative data within IBD. We may then draw some conclusions about the modifiable nature of SE and its direct link to disease outcomes (including flare, medication adherence, quality of life, and biological markers of inflammation).

Acknowledgments

We would like to acknowledge the contributions of Drs. Terrence Barrett and Alan Buchman for their assistance with recruitment.

Grant Support: This study was funded in part by a grant from NIH-NCCAM, R21AT003204 awarded to the first author; <http://clinicaltrials.gov/ct2/show/NCT00798642>

Abbreviations

IBD	Inflammatory Bowel Disease
SE	Self-Efficacy
(IBD-SES)	IBD Self-Efficacy Scale

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Table 1

Demographic and clinical characteristics of the total IBD sample ($N=122$) and subsamples from the clinic ($n=42$) and online sources ($n=80$)

<i>VARIABLES</i>	<i>Total sample: Mean (SD, Range)</i>	<i>Clinic sample: Mean (SD, Range)</i>	<i>Online sample: Mean (SD, Range)</i>	<i>P-value</i>
Age	37.9 (11.9, 18–69)	38.9 (11.7, 23–69)	37.4 (12.0, 18–65)	ns
Female gender				
Frequency (%)	81 (66%)	23 (55%)	58 (73%)	< 0.05
Race: Non-Hispanic White				
Frequency (%)	113 (93%)	35 (83%)	78 (98%)	= 0.07
Marital status: married				
Frequency (%)	71 (58%)	23 (55%)	48 (60%)	ns
Diagnosis of Crohn's disease	61 (50%)	6 (14%)	55 (69%)	< 0.0001
Currently in remission				
Frequency (%)	77(63%)	39 (93%)	38 (48%)	< 0.0001
Disease duration (in years)	10.2 (9.5, 0.1–52)	9.2 (8.0, 1–37)	10.8 (10.1, 1–52)	ns
IBDQ scores: Total	166.9 (40.7, 54–221)	185.2 (24.0, 106–202)	157.3 (44.3, 54–221)	< 0.0001
Bowel health	53.2(13.0, 14–70)	59.1 (8.0, 41–70)	50.1 (14.1, 14–70)	< 0.0001
Systemic health	22.9(7.3, 8–35)	25.5 (5.7, 13–34)	21.6 (7.7, 8–35)	< 0.01
Social functioning	28.4(6.8, 9–35)	32.9 (3.7, 19–35)	26.0 (6.9, 9–33)	< 0.0001
Emotional functioning	62.4(17.3, 15–84)	67.7 (10.2, 32–82)	59.6 (19.5, 15–84)	= 0.01
IBD Self-Efficacy Scale	194.9 (49.2, 50–290)	215.4 (44.9, 111–290)	184.7(48.4, 50–279)	= 0.001
Perceived Health Competence Scale [‡]	29.9 (6.2, 15–39)	29.9 (6.2, 15–39)	---	---
Rosenberg Self-Esteem Scale [*]	31.2 (5.8, 16–40)	---	31.2 (5.8, 16–40)	---
Perceived Stress Questionnaire [‡]	63.4 (15.0, 31–93)	63.4 (15.0, 31–93)	---	---
Brief Symptom Inventory [*]	28.4 (11.4, 15–69)	---	28.4 (11.4, 15–69)	---
Short Form Health Survey Version 2 [‡]				
Physical Component Summary	51.2 (7.9, 27–60)	51.2 (7.9, 27–60)	---	---
Mental Component Summary	48.2 (9.2, 26–60)	48.2 (9.2, 26–60)	---	---

Abbreviations: SD=Standard Deviation, IBDQ=Inflammatory Bowel Disease Questionnaire

[‡] From clinic sample only ($n=42$)

^{*} From the online sample only ($n=80$)

Table 2

IBD-SES item descriptions, statistics, and correlations to total IBD-SES score

	ITEM	Mean (Standard Deviation)	Correlation* to total score
Managing Stress and Emotions	1. Keep from getting stressed	5.45(2.37)	0.68
	2. Do something to reduce stress	6.01(2.28)	0.69
	3. Keep from getting discouraged	5.89(2.42)	0.81
	4. Do something to reduce discouragement	6.50(2.12)	0.76
	5. Keep from feeling sad	6.30(2.42)	0.76
	6. Do something to reduce sadness	6.58(2.20)	0.80
	7. Keep sadness / anxiety from interfering	6.29(2.58)	0.81
	8. Do something to reduce interference of sadness / anxiety	6.40(2.33)	0.82
	9. Get emotional support	7.05(2.51)	0.60
Managing Medical Care	10. Follow medication prescription	8.92(1.95)	0.44
	11. Take medication at instructed times	8.75(1.92)	0.46
	12. Take medication as directed to prevent flare-up	8.72(2.10)	0.51
	13. Work with providers on treatment plan	8.39(2.38)	0.57
	14. Ask doctor about illness	8.52(2.19)	0.65
	15. Discuss problems with medications	8.64(2.28)	0.63
	16. Work out differences with doctors	8.29(2.55)	0.63
Managing Symptoms and Disease	17. Ask doctor about medications	8.79(1.98)	0.59
	18. Reduce symptoms	6.06(2.70)	0.64
	19. Keep sleep problems from interfering	5.49(2.85)	0.69
	20. Keep discomfort / pain from interfering	5.86(2.89)	0.78
	21. Keep diarrhea / urgency from interfering	5.49(2.83)	0.70
	22. Keep symptoms from interfering	5.51(2.71)	0.79
	23. Decrease fatigue	4.78(2.70)	0.77
	24. Keep fatigue from interfering	4.96(2.72)	0.78
Maintaining Remission	25. Manage your disease	6.59(2.67)	0.70
	26. Keep disease in remission	6.03(2.98)	0.70
	27. Engage in self-care (exercise, diet, rest)	6.81(2.53)	0.73
	28. Engage in stress management program	5.57(2.64)	0.58
	29. Maintain your sense of well-being	6.34(2.56)	0.83

* All correlations significant at $p < 0.01$

Note: All item responses range from 1–10, unless an item did not apply and was coded as “0”.

Table 3

Simple Linear Regression Analysis Predicting Psychological Distress

Model	<i>B</i>	<i>SE B</i>	β	R^2
1. IBD-SES	-0.15	0.02	-0.64	0.40*
2. IBS-SES & Bowel health (IBDQ)	-0.10	0.02	-0.42	0.52*
	-.324	0.08	-0.40	

*
 $p < 0.001$

Appendix A

IBD Self-Efficacy Scale									
Over the past 2 weeks , how confident have you felt in your ability to perform each of the following tasks?									
1	2	3	4	5	6	7	8	9	10
not confident at all				some what confident		totally confident			
Managing your stress and emotions									
1 Keep from getting stressed?									
2 Do something to make yourself less stressed?									
3 Keep from getting discouraged?									
4 Do something to make yourself feel better when discouraged?									
5 Keep from feeling sad or down in the dumps?									
6 Do something to make yourself feel better when sad?									
7 Keep sadness or anxiety from interfering?									
8 Do something to make yourself feel better when your sadness or anxiety interferes?									
9. Get emotional support from family or friends?									
Managing your medical care									
10. Follow the instructions for your prescription medications?									
11. Take your prescription medication at the appropriate times?									
12. Take the medications to prevent a flare up of your IBD as directed?									
13. Work with your doctor or nurse to reach an agreement on a treatment plan?									
14. Ask your doctor about your illness?									
15. Discuss openly with your doctor any problems related to your medications?									
16. Work out differences with your doctor?									
17. Ask your doctor about your medications?									
Managing your symptoms and disease									
18. Reduce your symptoms in general?									
19. Keep sleep problems from interfering?									
20. Keep physical discomfort or pain from interfering?									
21. Keep diarrhea and/or urgency from interfering?									
22. Keep any other symptoms or health problems you have from interfering?									

23. Decrease your fatigue?
24. Keep fatigue from interfering?
Maintaining remission
25. Manage your disease in general?
26. Keep your disease in remission?
27. Engage in self-care? (exercise, rest, diet, etc.)
28. Engage in/continue with a stress management program?
29. Maintain your sense of well-being?