

RACIAL AND ETHNIC DISPARITIES IN HEALTH-RELATED QUALITY OF LIFE IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE: RESULTS FROM THE NATIONAL HEALTH AND WELLNESS SURVEY

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INTRODUCTION

- Racial and ethnic disparities in health-related quality of life (HRQoL) have been observed in several conditions, with Black, Indigenous, and People of Color (BIPOC) reporting worse outcomes than White individuals.¹⁻³
- Among patients with inflammatory bowel disease (IBD), there are significant differences between racial and ethnic groups regarding patient perceptions on how the disease impacts daily life and health outcomes.^{4,5}
- Studies assessing humanistic burden among patients with IBD of different races/ethnicities are limited.
- The objective was to assess the relationship between race/ethnicity and patient-reported outcomes (PROs) in White, Black, and Hispanic participants with self-identified Crohn's disease (CD) or ulcerative colitis (UC).

METHODS

- This study includes 2018, 2019, and 2020 data from the US National Health and Wellness Survey (NHWS), a self-administered, internet-based questionnaire collected from a nationwide sample of adults that includes approximately 75,000 participants per year.⁶
- Inclusion criteria were as follows: ≥18 years of age and a US resident at the time of study, self-reported Hispanic ethnicity or White or Black race, self-reported diagnosis of CD or UC, and a valid Patient Activation Measure score.
- The following PRO measurement tools were used to assess:
 - HRQoL: 5-level EQ-5D (EQ-5D-5L), EQ visual analog scale (EQ VAS), 36-item Short Form Survey version 2 (SF-36v2[®]) Mental Component Summary (MCS) and Physical Component Summary (PCS) scores, and Short Form – 6 Dimension (SF 6D[®]).
 - Depression and anxiety: 9-item Patient Health Questionnaire (PHQ-9) and 7-item General Anxiety Disorder scale (GAD-7), respectively.
 - Work productivity (among employed respondents): 6-item Work Productivity and Activity Impairment (WPAI) questionnaire
- Bivariate analyses were conducted to compare study variables across racial/ethnic groups.
- Analyses were conducted separately for the CD and UC cohorts using Chi-square tests, analysis of variance (ANOVA), and independent sample t tests.
- Multiplicity adjustments were conducted using the Bonferroni correction for multiple comparisons.

CONCLUSIONS

- Overall, Hispanic participants with self-reported IBD had worse HRQoL and WPAI outcomes than White or Black participants.
- Black participants with self-reported UC also reported worse WPAI outcomes than White participants.
- Notably, the Hispanic participants in this study had a higher education level and average household income than historical national estimates for the Hispanic population.
- These results highlight important distinctions between racial and ethnic groups, supporting a need to consider individual groups within the BIPOC population separately as opposed to limiting comparisons to White versus non-White populations.
 - Assessing PROs in lower versus high income groups of different races/ethnicities would provide more insight into whether the differences observed in this study are generalizable to additional populations.
- Further research is needed to better understand potential factors that may impact the relationship between HRQoL and race/ethnicity among patients with IBD.

RESULTS

Sociodemographic Characteristics

- A total of 2,577 participants were included:
 - CD: 818 White (76.0%), 109 Black (10.1%), and 150 Hispanic (13.9%)
 - UC: 1,150 White (76.7%), 99 Black (6.6%), and 251 Hispanic (16.7%)
- Several sociodemographic characteristics differed significantly between racial/ethnic groups, including age, employment status, household income, and health insurance type (Table 1).
- Mean age was lower among Black and Hispanic participants with CD and UC than among White participants (all $P < 0.001$).
- A greater proportion of Hispanic participants with CD and UC were employed full time than White participants (both $P < 0.001$).
- A greater proportion of Black participants with CD had a household income <\$25,000 USD than White ($P < 0.001$) and Hispanic ($P = 0.001$) participants.
- A greater proportion of Black and Hispanic participants with CD did not have commercial health insurance than White participants (both $P = 0.02$); similarly, more Hispanic participants with UC lacked health insurance than White participants ($P = 0.001$).
- Severe disease was more frequently reported among Black participants with CD than among White participants ($P = 0.03$) and among Hispanic participants with UC than among White participants ($P = 0.04$).

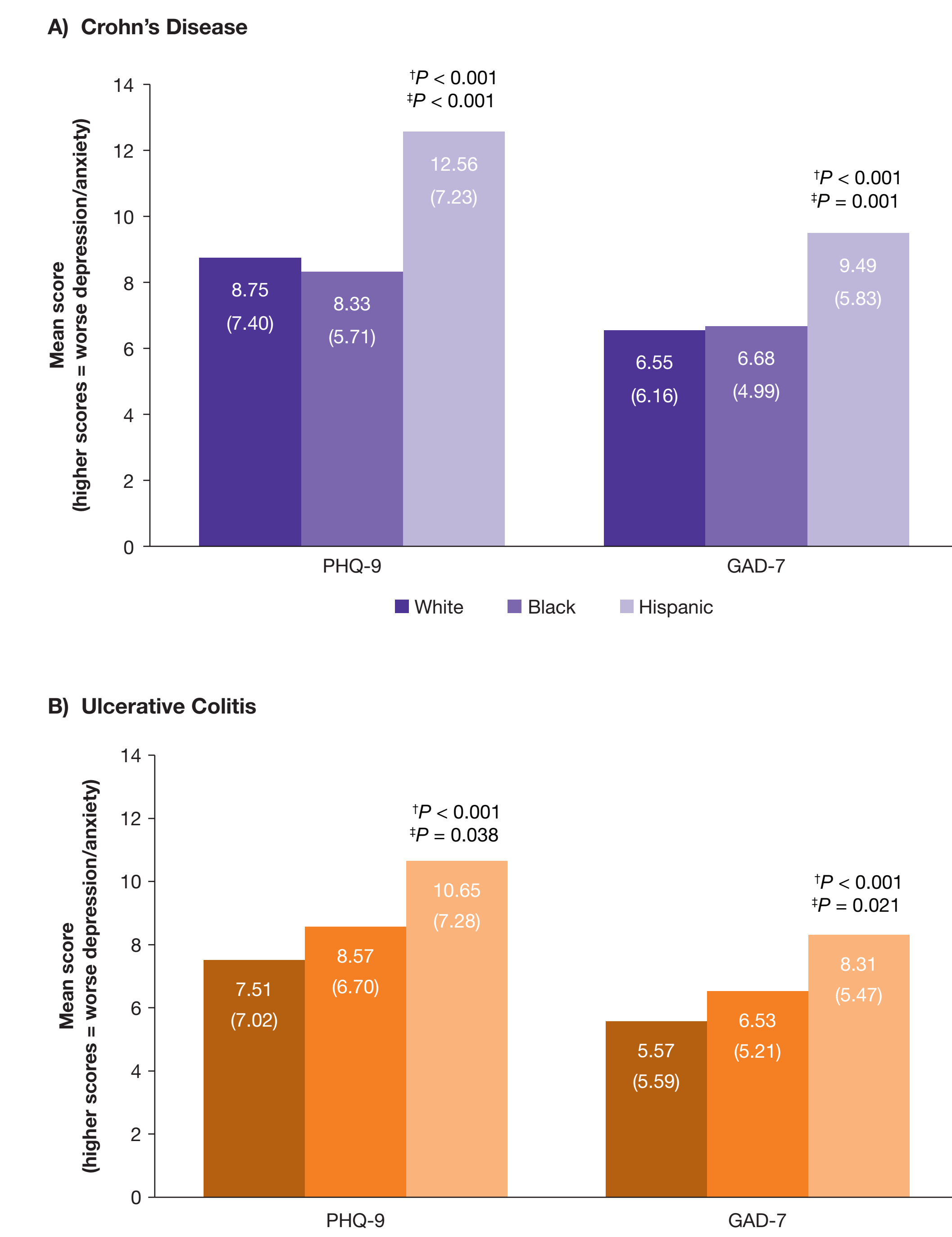
	Crohn's Disease (N = 1,077)			Ulcerative Colitis (N = 1,500)		
	White (n = 818)	Black (n = 109)	Hispanic (n = 150)	White (n = 1,150)	Black (n = 99)	Hispanic (n = 251)
Female, n (%)	421 (51.5%)	55 (50.5%)	55 (36.7%)*	696 (60.5%)	47 (47.5%)*	138 (55.0%)
Age in years, mean (SD)	48.34 (16.48)	36.84 (14.39)*	34.05 (11.05)*	52.48 (16.28)	38.48 (16.08)*	38.45 (14.27)*
Marital Status						
Married/living with partner	518 (63.3%)	37 (33.9%)*	94 (62.7%) [†]	718 (62.4%)	29 (29.3%)*	125 (49.8%)* [†]
Single, not married/divorced/separated/widowed	299 (36.6%)	71 (65.1%)*	56 (37.3%) [†]	429 (37.3%)*	70 (70.7%)*	124 (49.4%)* [†]
Decline to answer	1 (0.1%)	1 (0.9%)	0 (0.0%)	3 (0.3%)	0 (0.0%)	2 (0.8%)
Education, n (%)						
Less than a college graduate	383 (46.8%)	66 (60.6%)*	81 (54.0%)	564 (49.0%)	59 (59.6%)	133 (53.0%)
College graduate or higher	434 (53.1%)	43 (39.4%)*	69 (46.0%)	582 (50.6%)	39 (39.4%)*	118 (47.0%)
Decline to answer	1 (0.1%)	0 (0.0%)	0 (0.0%)	4 (0.3%)	1 (1.0%)	0 (0.0%)
Employment status, n (%)						
Employed full time	364 (44.5%)	56 (51.4%)*	94 (62.7%)*	424 (36.9%)	44 (44.4%)*	132 (52.6%)*
Self-employed	54 (6.6%)	9 (8.3%)	13 (8.7%)	13 (1.2%)	9 (9.1%)	15 (6.0%)
Employed part time	83 (10.1%)	14 (12.8%)	12 (8.0%)	85 (7.4%)	17 (17.2%)*	30 (12.0%)*
Homemaker	39 (4.8%)	7 (6.4%)	3 (2.0%)	73 (6.3%)	3 (3.0%)	19 (7.6%)
Retired	159 (19.4%)	2 (1.8%)*	9 (6.0%)*	321 (27.9%)	9 (9.1%)*	29 (11.6%)*
Student	21 (2.6%)	9 (8.3%)*	7 (4.7%)*	16 (1.4%)*	8 (8.1%)*	8 (3.2%)*
Long-term disability	56 (6.8%)	5 (4.6%)	5 (3.3%)*	84 (7.3%)*	2 (2.0%)*	12 (4.8%)*
Not employed (whether looking for work or not)	42 (5.1%)	7 (6.4%)*	7 (4.7%)*	69 (6.0%)*	7 (7.1%)*	6 (2.4%)*
Household income, n (%)						
<\$25,000	102 (12.5%)	32 (29.4%)*	16 (10.7%)*	166 (14.4%)	22 (22.2%)*	39 (15.5%)*
\$25,000 to <\$50,000	163 (19.9%)	20 (18.3%)	29 (19.3%)	235 (20.4%)	25 (25.3%)*	53 (21.1%)*
\$50,000 to <\$100,000	289 (35.3%)	29 (26.6%)*	47 (31.3%)*	409 (35.6%)	29 (29.3%)*	74 (29.5%)*
\$100,000+	246 (30.1%)*	27 (24.8%)*	57 (38.0%)*	299 (26.0%)*	23 (23.2%)*	77 (30.7%)*
Decline to answer	18 (2.2%)	1 (0.9%)	1 (0.7%)	41 (3.6%)	0 (0.0%)	8 (3.2%)*
Health insurance, n (%)						
Not insured	58 (7.1%)	16 (14.7%)*	21 (14.0%)*	88 (7.7%)*	11 (11.1%)*	37 (14.7%)*
Commercially insured	456 (55.7%)*	65 (59.6%)*	91 (60.7%)*	553 (48.1%)*	54 (54.5%)*	149 (59.4%)*
Medicaid	81 (9.9%)	10 (9.2%)*	11 (7.3%)*	85 (7.4%)*	13 (13.1%)*	21 (8.4%)*
Medicare	203 (24.8%)*	15 (13.8%)*	14 (9.3%)*	362 (31.5%)*	16 (16.2%)*	27 (10.8%)*
Other type of insurance/insure	20 (2.4%)*	3 (2.8%)*	13 (8.7%)*	32 (2.8%)*	5 (5.1%)*	17 (6.8%)*
Severity of condition, n (%)						
Mild	514 (62.8%)*	51 (46.8%)*	83 (55.3%)*	789 (68.6%)*	61 (61.6%)*	134 (53.4%)*
Moderate	249 (30.4%)*	43 (39.4%)*	50 (33.3%)*	300 (26.1%)*	27 (27.3%)*	93 (37.1%)*
Severe	55 (6.7%)*	15 (13.8%)*	17 (11.3%)*	61 (5.3%)*	11 (11.1%)*	24 (9.6%)*

* $P < 0.05$ between Black and White participants; [†] $P < 0.05$ between Hispanic and White participants; [‡] $P < 0.05$ between Hispanic and Black participants. Abbreviations: SD = standard deviation.

Health-related Quality of Life

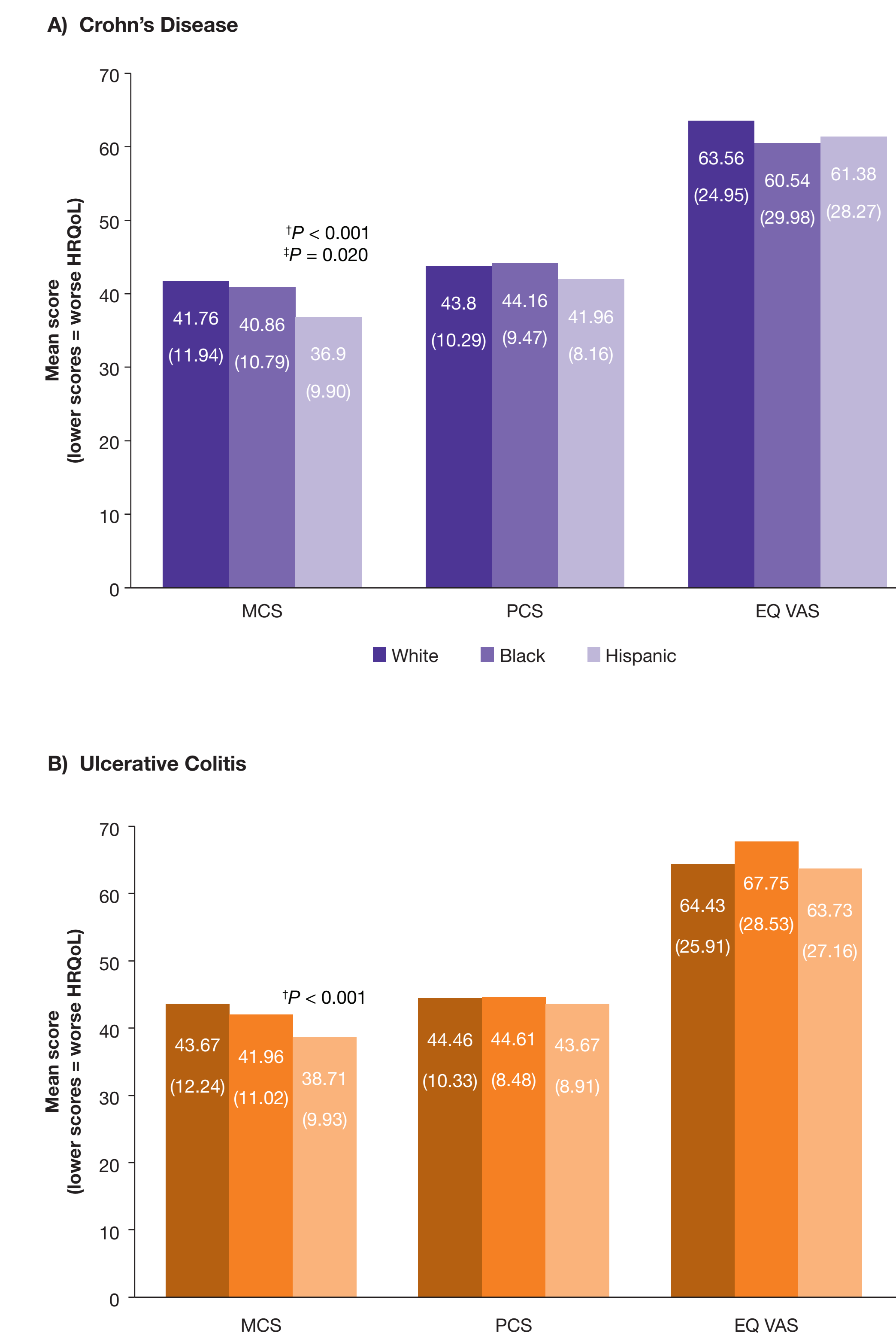
- Hispanic participants with self-reported CD and UC had significantly worse depression (PHQ-9) and anxiety (GAD-7) than White and Black participants (Figure 1A, B).
- Hispanic participants with self-reported CD also had significantly worse mean MCS, SF-6D, and EQ-5D index scores than White and Black participants (Figure 2A and Figure 3A).
- Hispanic participants with self-reported UC had significantly worse MCS, SF-6D, and EQ-5D index scores than White participants and significantly worse EQ-5D index scores than Black participants (Figure 2B and Figure 3B).

Figure 1. Depression (Patient Health Questionnaire – 9 Item) and anxiety (General Anxiety Disorder – 7 Item) scores in participants with self-reported inflammatory bowel disease



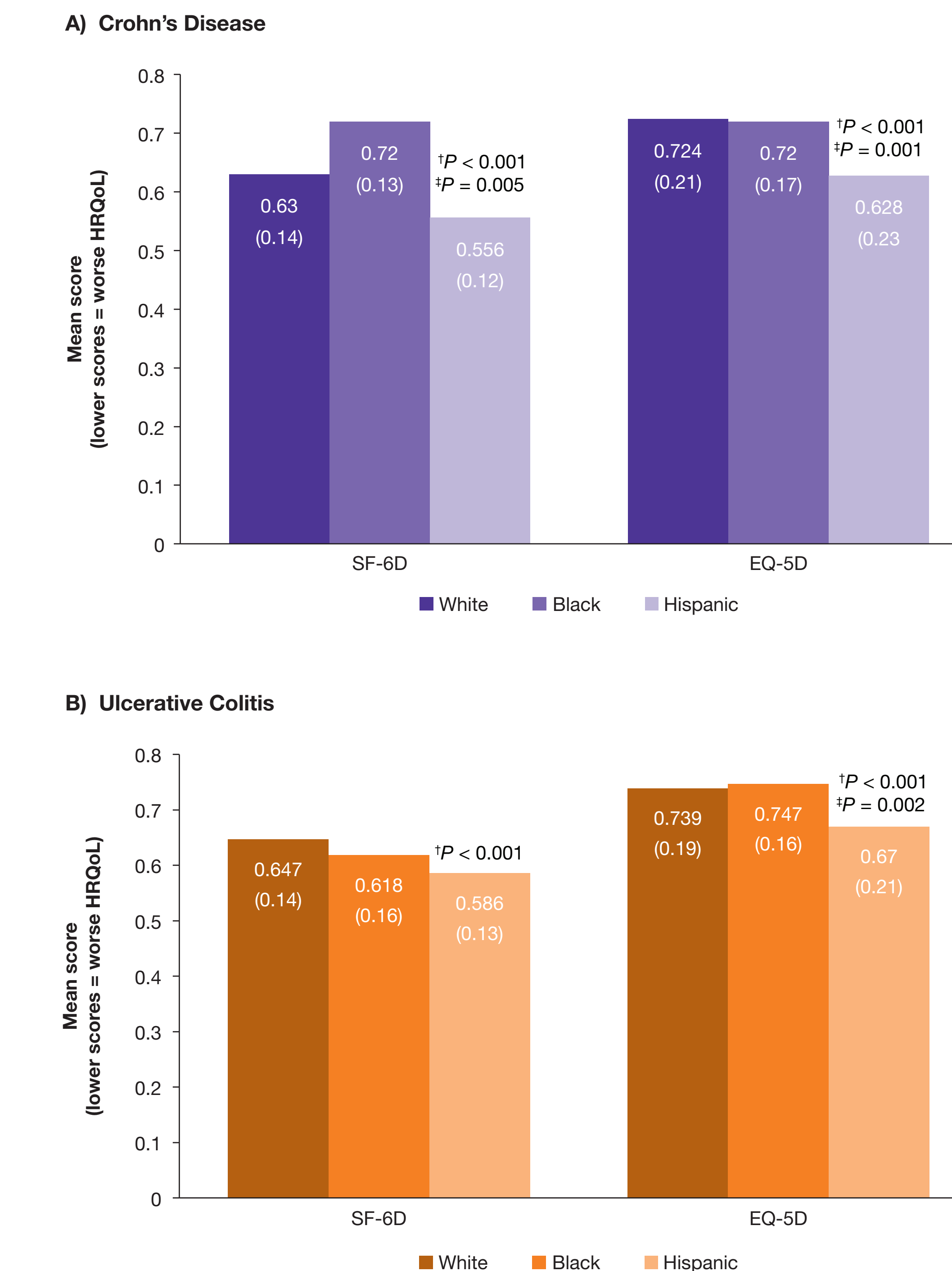
Note: Higher PHQ-9 and GAD-7 scores indicate more severe depression and general anxiety disorder, respectively. [†] $P < 0.05$ between Hispanic and White participants; [‡] $P < 0.05$ between Hispanic and Black/African American participants. Abbreviations: GAD-7 = General Anxiety Disorder – 7 Item; PHQ-9 = Patient Health Questionnaire – 9 Item.

Figure 2. Mean Mental Component Summary*, Physical Component Summary*, and EQ Visual Analog Scale scores in participants with self-reported inflammatory bowel disease



Note: Lower scores indicate worse HRQoL. [†]Differences in 3 points on the norm-based component summary scores represent clinically meaningful differences. [‡] $P < 0.05$ between Hispanic and White participants; [§] $P < 0.05$ between Hispanic and Black/African American participants. Abbreviations: EQ VAS = EQ Visual Analog Scale; HRQoL = health-related quality of life; MCS = Mental Component Summary; PCS = Physical Component Summary.

Figure 3. Mean Short Form – 6 Dimension* and EQ-5D* index scores in participants with self-reported inflammatory bowel disease

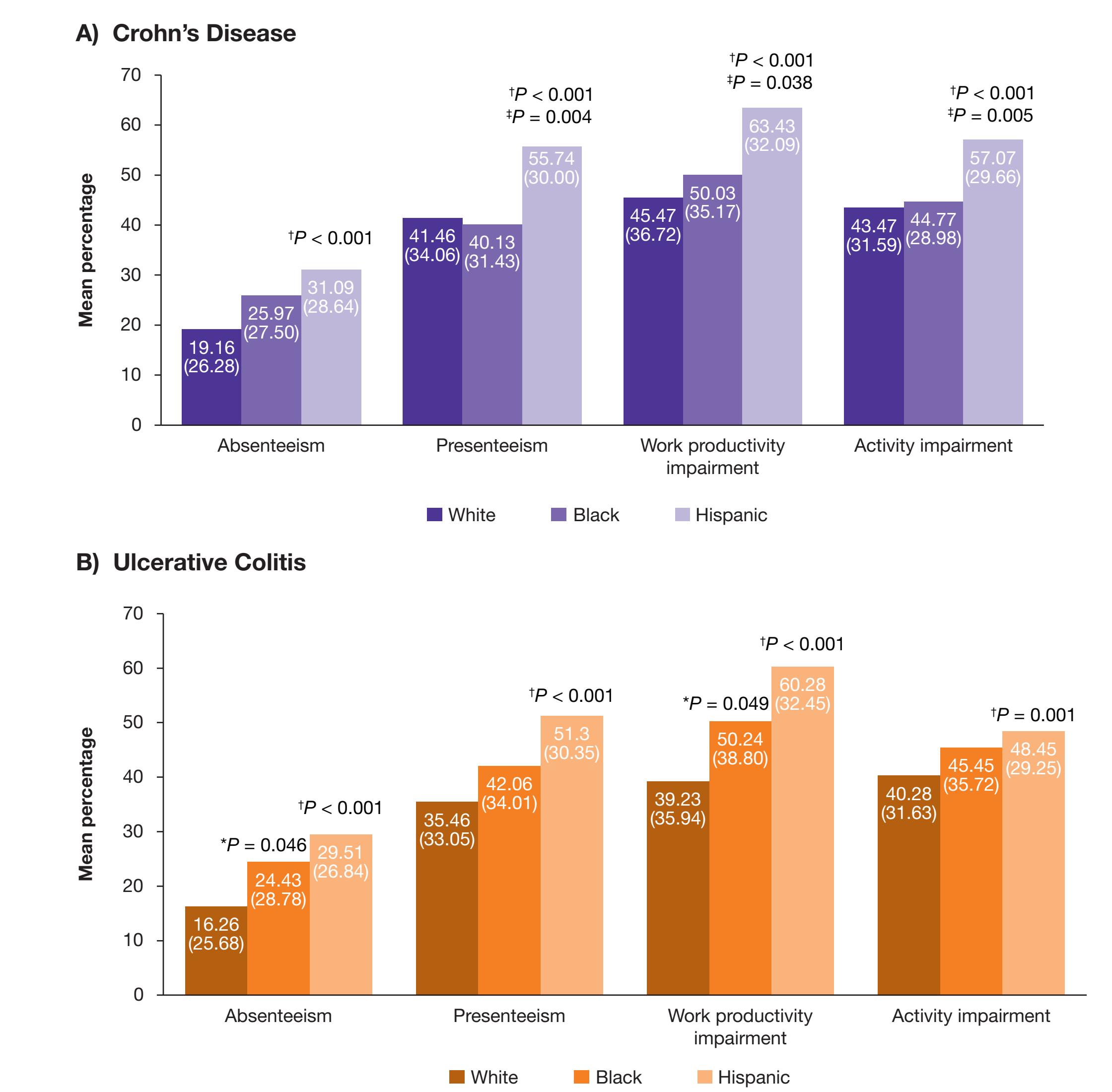


Note: Lower scores indicate worse HRQoL. [†]Differences in 0.041 points on health utilities represent clinically meaningful differences. [‡]The minimally important difference for this measure is considered to be approximately 0.074 points. [§] $P < 0.05$ between Hispanic and White participants; [¶] $P < 0.05$ between Hispanic and Black/African American participants. Abbreviations: HRQoL = health-related quality of life; SF-6D = Short Form – 6 Dimension.

Work Productivity and Activity Impairment

- Hispanic participants with self-reported CD had greater mean absenteeism, presenteeism, and overall work productivity and activity impairment than White participants and more presenteeism, overall work productivity impairment, and activity impairment than Black participants (Figure 4A).
- Hispanic participants with self-reported UC had greater mean absenteeism, presenteeism, overall work productivity impairment, and activity impairment than White participants (Figure 4B).
- Black participants with self-reported UC had greater mean absenteeism and overall work productivity impairment than White participants (Figure 4B).

Figure 4. Work Productivity and Activity Impairment outcomes in participants with self-reported inflammatory bowel disease



Note: absenteeism was not calculated for those who worked zero hours and missed zero hours in the last seven days and presenteeism was only asked among those who worked more than zero hours in the last seven days. [†] $P < 0.05$ between Black and White participants; [‡] $P < 0.05$ between Hispanic and White participants; [§] $P < 0.05$ between Hispanic and Black/African American participants. Abbreviations: WPAI = Work Productivity and Activity Impairment.

Limitations

- Limitations of this study include relatively small sample sizes for the Black and Hispanic groups, the self-reported nature of the data collected via survey, potential underrepresentation of people without access to online administration, sociodemographic data from the study population not reflecting historical national demographic data, and use of only bivariate statistics.

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Disclosures

SCB and AAP are employees of Janssen Scientific Affairs (JSA), LLC (a Johnson & Johnson company) and hold stock in Johnson & Johnson. KK, JCM, and NW are employees of Cerner Enviza and paid consultants of JSA. JL is an employee of Morehouse School of Medicine and a paid consultant of JSA. This study is funded by Janssen Pharmaceuticals.