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Assessing anxiety in Black men with prostate cancer: Further data on the reliability and validity of the Memorial Anxiety Scale for Prostate Cancer (MAX-PC)

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Abstract

PURPOSE—The National Cancer Institute has highlighted the need for psychosocial research to focus on Black cancer patients. This applies to Black men with prostate cancer, as there is little systematic research concerning psychological distress in these men. This study was designed to validate the Memorial Anxiety Scale for Prostate Cancer (MAX-PC) in Black men with prostate cancer to help facilitate research within this group.

METHODS—At three institutions, Black men with prostate cancer (n=101) completed the MAX-PC, the Hospital Anxiety and Depression Scale (HADS), the Functional Assessment of Cancer Therapy (FACT) Quality of Life Questionnaire, and the Distress Thermometer.

RESULTS—The average age of the 101 men was 66 (S.D. = 10) and 58% had early-stage disease. The MAX-PC, and its subscales (Prostate Cancer Anxiety, PSA Anxiety, and Fear of Recurrence), produced strong coefficient alphas (0.89, 0.88, 0.71, and 0.77, respectively). Factor

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Conflict of Interest Statement

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

We confirm that the manuscript has been read and approved by all name authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

We confirm that we have given due consideration to the protection of intellectual property associated with this work and that there are no impediments to publication, including the timing of publication and the respect to intellectual property. In so doing we confirm that we have followed the regulations of our institutions concerning intellectual property.

We further confirm that any aspect of the work covered in this manuscript that has involved either experimental animals or human patients has been conducted with the ethical approval of all relevant bodies and that such approvals are acknowledged within this manuscript.

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analysis supported the three-factor structure of the scale established in earlier findings. The MAX-PC also demonstrated strong validity. MAX-PC total scores correlated highly with the Anxiety subscale of the HADS ($r = 0.59$, $p < 0.01$), and the FACT Emotional Well-Being subscale ($r = -0.55$, $p < 0.01$). Demonstrating discriminant validity, the correlation with the HADS Depression Subscale ($r = 0.40$, $p < 0.01$) and the CES-D ($r = 0.42$, $p < 0.01$) were lower compared to the HADS Anxiety subscale.

CONCLUSIONS—The MAX-PC is valid and reliable in Black men with prostate cancer. We hope the validation of this scale in Black men will help facilitate psychosocial research in this group that is disproportionately adversely affected by this cancer.

Keywords

Prostate Cancer; Anxiety; Psychosocial Research; Black Men; Validation; Disparities

INTRODUCTION

Prostate cancer (PC) is the most common cancer in men in the United States, with about 220,800 projected new cases to be identified in 2015 [1]. Not surprisingly, a significant number of men with PC experience anxiety and distress at some point during their illness. Although there has been a significant increase in psychosocial research in men with prostate cancer over the past decade [2–6], this research generally lacks appropriate sampling of Black men. This is a concerning trend as Black men are disproportionately impacted by this disease with incidence rates of PC significantly higher (approximately 60%) than White men [1]. Black men are more likely to be diagnosed with advanced cancer [7] and are 2.4 times more likely to die from the disease as compared to White men [1]. Moreover, age-specific mortality rates from prostate cancer are three times greater among Black men compared to White men [8]. Even when controlling for PSA and age, black race remains a significant predictor of PC [9].

Anxiety appears to be the most prevalent psychological construct in men with PC. In a study of 121 PC patients, Roth et al. [10] found that 32.6% of these men scored at or above the anxiety cut off score of the Hospital Anxiety and Depression Scale (HADS), as compared to 15.2% who scored at or above the cut off score for depression on the HADS [10]. The higher frequency of anxiety symptoms, as compared to depressive symptoms, has been supported by other research in this field [11]. This led Roth and his colleagues to develop the Memorial Anxiety Measure-Prostate Cancer (MAX-PC), which assesses anxiety specifically related to PC [12, 13]. The initial validation studies of the MAX-PC demonstrated this as a psychometrically sound instrument, and this measure is currently considered one of the gold standard measures when assessing prostate cancer specific anxiety [12, 13].

A limitation of the initial MAX-PC validation study however, was the underrepresentation of Black men in the sample. This is not unusual as research that focuses specifically on the psychosocial issues of Black men with prostate cancer is limited [14, 15]. It is clear from the literature that Black men will not be appropriately studied unless research is designed specifically to address this population. Thus, given the high levels of anxiety in men with PC, the disproportionately high levels of Black men diagnosed with the disease, and the lack

of research focused on Black men with PC, we designed the current study to establish the psychometric properties of the MAX-PC in a sample of Black men with PC with the hope to facilitate research within this group.

METHODS

Participants

One hundred and one Black men with PC, proficient in English, and monitored with PSA tests, were recruited from clinics at Memorial Sloan Kettering Cancer Center (MSKCC) (n=59, 58%), the State University of New York (SUNY) Downstate Medical Center (n=23, 23%), and Kings County Hospital Center (n=19, 19%) during routine hospital visits. Participants were recruited from three sites to include Black men from various backgrounds. Both SUNY Downstate and Kings County Hospital Center serve patients from lower socioeconomic backgrounds. “Black” was defined as Black, African-American, or of African descent, including those who self-identified as both Black and Hispanic. The race of the men was determined by self declaration. Because different disease stages may present different manifestations of distress, we recruited patients with both early and late stage disease. Early stage was defined as T1 or T2, N0M0, and late stage as either locally advanced/biochemical recurrence/rising PSA (T3 or T4, N0M0) or metastatic disease (T3 or T4, N1-3M-1a-c).

Procedure

Prospective participants from MSKCC were identified through monthly reports generated by the hospital’s data resource, while non-MSKCC patients were identified and approached during PC consultation visits. Patients approached during medical visits completed the questionnaires at that time; however, patients who did not have sufficient time to complete the questionnaire at their appointment had the option to complete it over the phone within one week of consent. As the literature has shown consistency with in-person and phone interviews [16], it was not expected that this would compromise the accuracy of our results. Participants completed the MAX-PC along with a Demographic Questionnaire, the Hospital Anxiety and Depression Scale (HADS) [17], the Center for Epidemiologic Studies Depression Scale (CES-D) [18], the Distress Thermometer [10], the Functional Assessment of Cancer Therapy (FACT) Quality of Life Scale [19], and the self-report Karnofsky Performance Rating Scale (KPRS) [20]. A research study assistant (RSA) read these questions to the subjects. In order to tap into unique aspects of anxiety for Black men that may not have been addressed in the original development of the MAX-PC, the version of the MAX-PC used for this study included one open-ended question which stated, “What other questions should we have asked about how nervous you are about your prostate cancer?” All subjects were reimbursed \$10 for their participation upon completion of the questionnaires.

Measures

Memorial Anxiety Scale-Prostate Cancer (MAX-PC)—The MAX-PC is an 18-item measure consisting of three subscales: Prostate Cancer Anxiety (PCA), PSA Anxiety, and Fear of Recurrence [12, 13]. Items include intrusive and avoidant thoughts specifically related to prostate cancer. All items are rated on a 4-point Likert scale. In a primarily White

sample (89% White, non-Hispanic), the MAX-PC total scores demonstrated strong internal consistency with a coefficient alpha of 0.90 and a median item-total correlation of 0.62 (range: 0.19 to 0.72). Likewise, the PCA and Fear of Recurrence subscales also demonstrated strong internal consistency (PCA α = 0.90, Fear α = 0.85). The median item-total correlation of these two scales was .63 (range: 0.58 to 0.70) and 0.67 (range: 0.66 to 0.73) respectively. The internal consistency of the PSA Anxiety subscale was somewhat weaker, with a coefficient alpha of .54 and a mean item-total correlation for the PSA subscale of .44 (range: .19 to .52). Factor analysis confirmed the three-factor model with the three distinct subscales as outlined above. The MAX-PC also demonstrated good concurrent and discriminate validity.

The other measures used in the study and stated above are all widely used scales with established psychometric data which are well described in the literature. As such, we will not elaborate on these scales here.

Statistical Analysis

The reliability of the MAX-PC was measured through the use of internal consistency (coefficient alpha and item-total correlations) [21]. Validity was tested using the multitrait-multimethod approach proposed by Fiske and Campbell [22] in which convergent and discriminant validity are assessed through correlational analysis and known group differences.[22] In addition, the factor structure of the MAX-PC was analyzed using exploratory factor analysis to assess the extent to which the current data produced the anticipated three-factor model upon which the MAX-PC was originally developed.

Simple categorical analysis was used to delineate common themes of the responses to the last question (added for this study), “What other questions should we have asked about how nervous you are about your prostate cancer?” Since the majority of the subjects (72%, $n=73$) reported that they would not add any additional questions, and the remaining 28 subjects provided brief comments, there was minimal qualitative data to analyze. As such, one member of the research team (CN) easily grouped the responses in “like” categories. The categories and percentage of responses will be reported.

RESULTS

Subject Characteristics

A total of 101 Black men with PC consented to participate in the study. The average age of the sample was 66 (S.D. = 10; range: 46 – 92). All men identified as Black, and 2% (2) also identified as Hispanic. The majority (54%, $n=54$) identified as Caribbean, 4% (4) identified as Haitian, 22% (22) stated they were African Black, 12% (12) stated they were “Other, non-Hispanic Black”, and 9% (9) declined to answer. Almost the entire sample (96%, $n=97$) usually spoke English, while 2% (2) usually spoke Creole, and 1% (1) usually spoke Arabic. Most of the subjects (58%, 59) were classified as having early stage disease while 41% (41) were classified with late stage disease (one subject missing disease stage data). Sixty-one (60%) of the men were currently married and 35 (35%) had earned a college or advanced degree. The percentage of subjects reporting family income bracket was as follows: 22%

(22) < \$10,000; 25% (25) \$10,000-\$40,000; 26% (26) \$40,000-\$75,000; 16% (16) \$75,000-\$150,000, and 8% (8) > \$150,000. Four subjects (4%) did not report income data.

Reliability Analysis

The MAX-PC total scores demonstrated strong internal consistency with a coefficient alpha of 0.89 and a median item-total correlation of 0.59 (range: 0.38 to 0.75; see Table 1). Likewise, the three subscales, Prostate Cancer Anxiety (PCA), PSA Anxiety, and Fear of Recurrence (Fear), also demonstrated moderate to strong internal consistency (PCA α = 0.88, PSA Anxiety α = 0.71, Fear α = 0.77). The median item-total correlation for each of the three subscales was: PCA subscale 0.68, range: 0.57 to 0.78; the PSA Anxiety subscale 0.84, range: 0.70 to .84; and the Fear subscale 0.77, range: 0.71 to 0.82.

Factor Analysis

Exploratory factor analysis using a varimax rotation supported the three-factor model that had been identified in previous research [10] (see Table 2). When examining the PCA subscale, except for Items 8 and 10, all items had a factor loading of > 0.45 and demonstrated higher factor loadings on the PCA subscale than the other two subscales. Items 8 and 10, which are part of the PCA subscale and have been supported as items in this factor in past research, had a greater item loading on the Fear subscale. From these results, it could be argued that for Black men, Items 8 and 10 should be assigned to the Fear of Recurrence subscale. However, with previous research demonstrating consistent loading of Items 1 to 11 on the PCA subscale, the sound internal consistency for each subscale in this sample, and to keep consistency of the subscales across populations, we retained these items in the PCA scale. The Fear subscale items (items 15–18) loaded onto a second factor, with each item loading greater than 0.55 and no items loading > 0.30 on the other two factors. The PSA subscale items (12–14) also comprised a single factor, with each item loading > 0.60, and no items loading > 0.30 on the other two factors.

Concurrent and Discriminant Validity Analysis

The MAX-PC total scores were significantly correlated with other measures of anxiety and psychological functioning (see Table 3), including the HADS Anxiety subscale ($r=0.59$, $p < .01$), HADS total scores ($r=0.54$, $p < .01$), and the FACT Emotional Well-Being subscale ($r=-0.55$, $p < .01$). As expected, the MAX-PC total scores demonstrated a somewhat weaker, although still statistically significant, correlation with the Depression subscale of the HADS ($r=0.40$, $p < .01$), CES-D ($r=0.42$, $p < .01$), Distress Thermometer ($r=0.23$, $p < .01$) as well as with the FACT quality of life subscales (See Table 3). The correlation between MAX-PC total scores and overall quality of life (FACT Total score) was -0.44 ($p < .01$). The MAX-PC total scores were also negatively correlated with age ($r = -0.20$, $p < .01$) but were not associated with education, income, or self-reported KPRS. In terms of disease characteristics, MAX-PC total scores were associated with PSA level ($r = -0.20$, $p < .01$) and patients with late stage disease reported higher mean scores on the MAX-PC compared to patients with early stage disease (15.7 versus 12.7). This difference did not reach statistical significance ($t(98) = 1.42$, $p = 0.16$), however this did produce an effect size (Cohen's d) of 0.29 and the sample size may not have been large enough to detect the difference. That the late stage group scored higher than the early stage group (3 points

higher in this sample) is similar to the second validation study of the MAX-PC which reported that the late stage group scored 4 points higher than the early stage group. This 4-point difference was statistically significant with a sample size close to 400.

The three subscales produced a comparable pattern of results to the MAX-PC total scores (See Table 3). The PSA Anxiety and Fear subscales produced somewhat weaker correlations across all measures. The PSA Anxiety subscale produced two correlations that stand out. The PSA Anxiety subscale, as compared to the other subscales, appears to be less sensitive to functional well-being as seen in the correlation between PSA anxiety and FACT Functional Well-Being ($r=-.05$, $p>0.05$). This is in contrast to the Total MAX-PC score, PCA subscale, and Fear subscale which all produced significant correlations with the FACT Functional Well-Being subscale (-0.31 , -0.34 , and -0.20 , all $p<0.01$, respectively). In addition, the PSA Anxiety subscale was not related to PSA values ($r=-0.08$, $p=ns$). The other scales of the MAX-PC produced significant correlations with PSA values that ranged from 0.20 to 0.24. Although this null result sounds surprising, this was not unexpected. In the previous validation study of the MAX-PC, only the Fear subscale was significantly associated with PSA levels. However, in the most recent validation study, the total MAX-PC scores and all subscales were sensitive to *changes* in the three PSA levels prior to completing the MAX-PC. Unfortunately, this same analysis could not be repeated for the current study because of difficulty extracting previous PSA results from some of the charts.

Subgroup Analysis

Two subgroup analyses were run. To explore differences related to socio-economic backgrounds, we split the group into a low income group (family income $<\$40,000/\text{year}$, $n=47$) and a moderate/high income group (family income $\geq 40,000/\text{year}$, $n=50$). In general, the pattern of results for both of these subgroups for reliability and validity were similar to the patterns reported for the entire sample. There were two exceptions for the low income group. When compared to the total sample, the discriminant validity was less pronounced in the low income group (HADS Anxiety subscale, $r=0.61$, $p<.01$; HADS Depression measure, $r=0.57$, $p<.01$; CES-D, $r=0.55$, $p<.01$; and the Distress Thermometer, $r=0.33$, $p<.02$). Also, when comparing mean anxiety scores in early and late stage, the low income group produced a larger mean difference (early stage: $M=9.1$, $n=24$; late stage: $M=16.2$, $n=23$, $p=0.02$) than the total sample. Some caution in interpretation should be taken due to low sample size in the subgroups. However, this may indicate that in lower socio-economic backgrounds, while the MAX-PC continues to distinguish anxiety, it may be tapping more into a general emotional distress construct as compared to the total sample. We also explored the differences between those identified as being from Caribbean descent ($n=54$) compared to all other descents in the sample ($n=57$). The pattern of results for reliability and validity for both groups were similar to the total sample, and as such, are not reported.

The factor analyses were not run for these subgroup analyses because the minimum sample needed to run a factor analysis is generally considered to be $n=100$ [23, 24].

Thematic Analysis

A thematic analysis, grouping responses in themes or categories, was used to determine if there were any clear themes and/or items that emerged from the question added to the MAX-PC which asked “What other questions should we have asked about how nervous you are about your prostate cancer?” Of the themes that emerged, there were no consistent results that would lead to additional items for this sample. The clearest theme is that 72% (n=73) responded that the questionnaire appropriately covered anxiety in Black men with PC and they would not add a question. Of the 28 men who responded otherwise, the themes that emerged were: 1) Six men responded with answers that related to the impact of side effects of treatment (erectile dysfunction/urinary incontinence) and/or the potential impact of these side effects on relationships, and 2) Five men discussed logistical/information issues, such as the need for more information about PC or how to obtain PSA results faster after the blood test. Although the side effects of treatment are important concerns for men with PC, the MAX-PC was not meant to assess side effects or the associated. In addition, although providing appropriate information or helping with logistics of treatment can help reduce anxiety, the MAX-PC is meant to assess level of anxiety rather than interventions for anxiety. As such, these themes did not produce potential candidate items for the MAX-PC.

The subjects did offer a few explicit suggestions for potential candidate items. These included: “Do you believe PSA testing is accurate?” “Do you procrastinate about your treatment?” “Do you think too much about your prostate cancer?” “How certain are you about the progression of your disease?” and “Do you trust your MD?” Of these, the one question that we felt was not addressed with the current items on the MAX-PC was, “Do you trust your MD?” The inclusion of a medical mistrust item/scale would be congruent with the current literature which discusses medical mistrust among Black patients [25–27]. However, only one subject responded with a statement/comment about medical mistrust related to anxiety and their PC. We do not believe this meets the threshold of a “theme” raised by the sample, and does not warrant the addition of an item or scale to the MAX-PC.

DISCUSSION

This study demonstrates the reliability and validity for the 18-item MAX-PC in Black men with PC. In a sample of 101 Black men from three different medical centers, the MAX-PC demonstrated a high degree of reliability as well as convergent and discriminate validity. In some respects, the MAX-PC performed better in this sample of Black men as compared to the previous validation studies conducted in primarily White men (approximately 90%). The PSA Anxiety subscale clearly outperformed previous validation studies, and the correlations that demonstrated convergent validity are stronger in this sample of Black men when compared to the previous convergent validity statistics. The three-factor structure outlining the subscales of the measure (Prostate Cancer Anxiety, PSA Anxiety, and Fear of Recurrence) was also supported in this sample. However, the one aspect which deviates from previous validation work on the MAX-PC is the Prostate Cancer Anxiety subscale. In this study with Black men, two items (questions 8 and 10) from this 11 item subscale have higher factor loading on the Fear of Recurrence subscale.

These two items (Items 8 and 10) from the PCA subscale present an interesting decision point when contemplating the items assigned to each scale. When the research team took into account the entirety of the data available, we decided to retain Items 8 and 10 in the PCA subscale. This also applied to a lesser degree to Item 9, as the factor loading on this item was essentially equal on the Prostate Cancer Anxiety subscale (0.50) and the Fear of Recurrence subscale (0.47). Considering the previous research demonstrating consistent loading of Items 1 to 11 on the PCA subscale and the sound internal consistency and item-total correlations for each subscale in this sample, we thought it would be beneficial to keep consistency of the subscales across populations (White and Black men). In most situations, the scale will be given to a sample (for screening or research purposes) that will contain a mix of racial groups, in most cases predominately White and Black men. Additionally, Dale and colleagues found the Prostate Cancer Anxiety subscale has good reliability and validity in a mixed raced sample (43% Black men) at the time of prostate biopsy, which supports the use of the subscale as currently constructed [28].

In this study, the PSA Anxiety scale produced solid psychometric properties. In past validation studies of the MAX-PC, the PSA Anxiety scale has produced only marginal psychometric properties [12, 13]. In the original validation study, the internal consistency of the scale was .56. This led to the revision of the PSA Anxiety scale for the second validation study. The questions of the scale were changed from behavioral items (e.g., I have been so worried about my PSA test result that I had my doctor repeat the test) to cognitive oriented questions (e.g., I have been so worried about my PSA test result that I thought about asking my doctor to repeat the test). Despite this change, the PSA Anxiety scale continued to produce a marginal internal consistency coefficient of .54 and suffered from low item endorsement [12]. From the results of this study, it seems that this scale resonates more with Black men as compared to the primarily White sample in the first two validation studies. One possible reason for this is the well documented finding that Blacks have a higher mistrust in the medical establishment [25–27]. This mistrust may lead Black men to have less confidence in PSA results, thus causing them to think about (and maybe act upon) asking their doctors to delay, repeat, or have another lab run their PSA test.

Also of importance for the validity of the MAX-PC in Black men is that Black men rarely, if ever, stated that they would add or change the questionnaire in any way. We added the question at the end, “What other questions should we have asked about how nervous you are about your prostate cancer?” The general answer was “none”, with 72% of the sample indicating they would not add a question. For those who elaborated on their response and coping with PC, the two general themes stated were: 1) to assess side effects of treatment and 2) to address logistical concerns that cause anxiety.

We hope this validation study aids in clinical screening to identify Black men with PC who are potentially nervous/anxious. There has been some concern about increasing anxiety in Black men at risk for- and with PC [28–30]. However, studies have shown that anxiety in Black men is no higher than in White men and the key to helping Black men with PC-related anxiety is proper identification and dissemination [6, 15, 30]. Additionally, despite initial questioning, recent data suggest that Black men self-report anxiety (as opposed to denying anxiety) and this self-report anxiety is related to PC screening behaviors [29]. We hope the

validation of the MAX-PC in Black men with PC will bolster both clinical attention and research related activities in Black men with PC.

We believe this study has unique strengths. The most unique aspect is its focus on Black men and the relatively large sample of Black men compared to other research in this area. We believe another strength is the recruitment of subjects from three different sites and the mix of socioeconomic backgrounds as well as mix of descents represented in this sample. This mixture allowed us to run subgroup analyses of low and medium/high incomes as well as of Black men specifically of Caribbean descent. Despite these distinctive elements, the study does have some weaknesses. First, there was no test-retest reliability examined for this study due to limited resources available. Second, we would have liked to have a larger sample size for this study. As previously stated, the difference in anxiety between early and late stage men was not statistically significant. However, this difference did produce a meaningful effect size ($d=0.29$), and would have been significant with a larger sample. Furthermore, a larger sample would have allowed for additional subgroup analyses as well as the ability to run factor analyses for each subgroup. Finally, we did not add a non-Black control group to this study. While a non-Black control group may have added value, the previous two validation studies were carried out in primarily White samples (approximately 90% were White men). This essentially provided a comparison sample of White men, and we made a point of comparing the finding from this current sample of Black men to the findings in these original validation studies.

CONCLUSION

The combination of a solid psychometric performance, good internal consistency of the PSA Anxiety scale (specifically in relation to the two previous validation studies), and the fact that no additional items were suggested by the participants, provides evidence that this scale is appropriate for assessing prostate cancer specific anxiety in Black men with PC. We hope that this validation will help advance the psychosocial research in this group.

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Table 1

Scale reliability

	Coefficient α	Median Item-Total r
MAX-PC Total	0.89	0.59
PCA	0.88	0.68
PSA Anxiety	0.71	0.84
Fear of Recurrence	0.77	0.77

Table 2

Factor Analysis

	Prostate	Fear of	PSA
<u>Item</u>	<u>Cancer</u>	<u>Recurrence</u>	<u>Anxiety</u>
1	0.45	0.33	−0.07
2	0.62	0.02	0.30
3	0.71	0.09	0.00
4	0.82	−0.01	0.02
5	0.60	0.34	0.21
6	0.59	0.37	0.20
7	0.61	0.44	0.08
8	0.43	0.61	0.17
9	0.50	0.47	0.01
10	0.28	0.67	0.29
11	0.57	0.46	0.22
12	0.15	−0.02	0.64
13	0.11	0.24	0.76
14	0.01	0.20	0.80
15	0.04	0.57	0.17
16	0.15	0.77	−0.09
17	0.07	0.58	0.21
18	0.23	0.78	0.05

Note: primary factor loading is denoted by bold text

Table 3

Convergent and Discriminant Validity

	MAX-PC Total Score	Prostate Cancer	PSA Anxiety	Fear of Recurrence
HADS Total Score	0.54 **	0.52 **	0.28 **	0.43 **
HADS Anxiety	0.59 **	0.54 **	0.35 **	0.48 **
HADS Depression	0.40 **	0.40 **	0.15	0.29 **
CES-D	0.42 **	0.45 **	0.18	0.25 **
Distress Thermometer	0.23 *	0.20 *	0.23 *	0.12
FACT Total Score	-0.44 **	-0.41 **	-0.24 **	-0.38 **
FACT Physical Well-being	-0.44 **	-0.38 **	-0.34 **	-0.36 **
FACT Social Well-being	-0.02	-0.01	-0.02	-0.04
FACT Emotional Well-being	-0.55 **	-0.46 **	-0.38 **	-0.55 **
FACT Functional Well-being	-0.31 **	-0.34 **	-0.05	-0.20 **
FACT Prostate Concerns	-0.40 **	-0.36 **	-0.23 *	-0.35 **
Age	-0.20 *	-0.15	-0.22 *	-0.18
Years of Education	-0.09	-0.03	0.05	-0.23 *
Income	0.15	0.13	0.24 *	0.09
Baseline PSA	0.20 *	0.21 *	-0.08	0.24 *
Disease stage (early v. late)	0.17 *	0.13^	-0.03	0.26***

Note:

*
 $p < .05$,**
 $p < .01$