

# **Values Insight and Balance Evaluation Scales (VIBEs-PC): Psychometric characteristics in the prostate cancer clinical setting**

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# Background

- Measures of patient preferences are needed that allow participants to easily judge the importance of treatment outcomes and characteristics.
- Past work has focused on domains of sexual and urinary function, and survival; however, there is evidence that other less well documented domains are important, such as self-esteem and masculinity.



# Purpose

- We have developed a measure of patient preferences, the **Values Insight and Balance Evaluation Scales-Prostate Cancer (VIBEs-PC)**, that includes a wide range of concerns based on extensive patient input.
- We sought to evaluate the psychometric characteristics of this newly developed measure for decision making in localized prostate cancer care.



# Aims

Specifically, our aims were to accumulate evidence for:

- 1) subscale variability
- 2) internal consistency reliability
- 3) predictive validity
- 4) construct validity

# Hypotheses

The slide features a decorative header with the word "Hypotheses" in a large, black, sans-serif font. Above the text, there are six circles arranged in a horizontal line. The first circle is solid light purple and partially overlaps the letter 'H'. The second circle is white with a light purple outline and overlaps the letter 'y'. The third circle is solid light purple. The fourth circle is white with a light purple outline. The fifth circle is solid light purple. The sixth circle is solid light purple.

- No ceiling or floor effects.
- Internal consistency above 0.70.
- Predicts treatment choice (active treatment versus watchful waiting).
- Low correlations with measures of dissimilar constructs.



# Eligibility

- Localized or locally invasive prostate cancer.
- Diagnosed in the last 5 years.
- Managed with active treatment (surgery, radiation therapy, hormonal therapy) or watchful waiting.
- Speak/understand English.
- Provide informed consent.

# Values Insight and Balance Evaluation Scales-Prostate Cancer (VIBEs-PC)

- Paper/pencil measure with three sections.
  - Importance judgments – 50 items
  - Coping evaluation – 8 items
  - Stated choice tasks – 12 tasks
- Administered to patients in VA and university-based urology clinics.

# VIBEs-PC Hypothesized Subscales

<b>Subscale</b>	<b>Item examples</b>
<b>Important Relationships</b>	relationships with people you are closest to or most trusted
<b>Responsibilities</b>	work, family, or volunteer
<b>Treatment Characteristics</b>	duration, invasiveness, convenience
<b>Sexual Function</b>	erections, sexual activity level, fertility
<b>Urinary Function</b>	control, discomfort, wearing pads, wearing a catheter
<b>Survival</b>	being cancer free, longevity, cancer recurrence
<b>Self-Esteem</b>	self-worth, stigma, body image, masculinity
<b>Other Side Effects</b>	pain, "hot flashes," bowel function, concentration/memory

# Sample Item from Relationships Subscale

<b>How important is...</b>	<b>Extremely Important</b>	<b>Very Important</b>	<b>Moderately Important</b>	<b>A Little Important</b>	<b>Not Important</b>
<b>1. Avoiding a treatment that causes problems for my relationship with my spouse/partner.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Measures used for Construct Validation

- **DECISIONAL CONFLICT** (O'Connor)
  - Ambivalent
  - Uncertain
- **DECISION SATISFACTION** (Holmes-Rovner)
  - Satisfied with treatment information
  - Believe that the correct treatment was selected
- **Decision Regret** (Clark)
  - Would make a different decision if I could
  - Regret the decision



# Analyses of importance items

- Item and subscale statistics were calculated to examine subscale variability.
- Coefficient alphas were calculated to examine internal consistency reliability.
- t-tests were conducted to evaluate differences between groups that were hypothesized to differ in preferences.
- Correlational analyses were conducted to examine dissimilar constructs.

## Demographic and clinical characteristics (N=250)

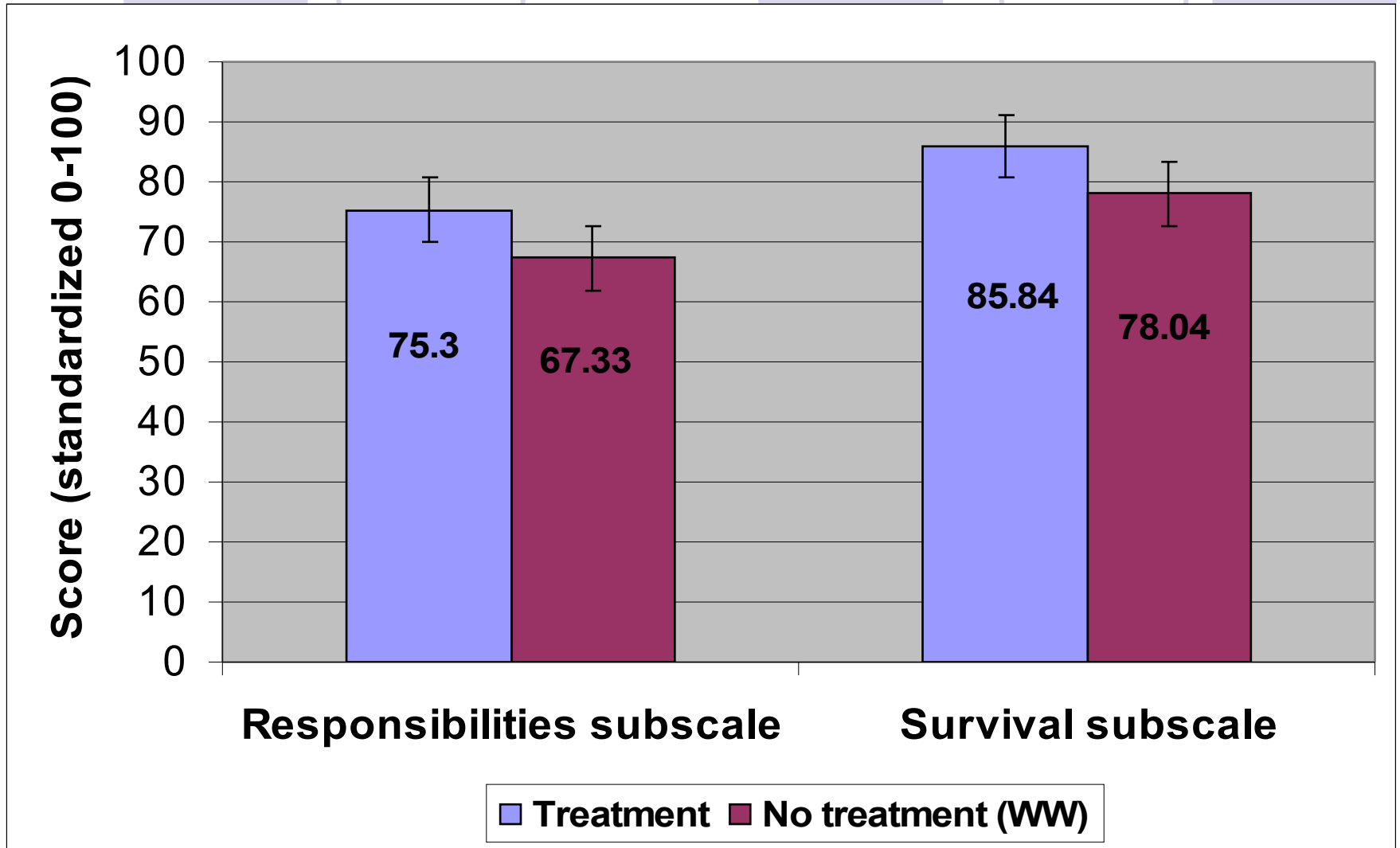
Age, Mean (range)	66 (40-87)
Married	57.0%
Ethnicity	
African American	8.0%
Caucasian American	84.0%
Highest level of education	
High School or less	18.5%
College and college graduate	44.7%
Graduate school	36.8%
Primary Treatment	
Surgery	41.0%
Radiation/hormone therapy	39.0%
Watchful waiting	20.0%

# Subscale Characteristics for Raw Scores

<b>VIBEs-PC Subscale</b>	<b>Mean</b>	<b>Range</b>	<b>alpha</b>
Survival	4.2	3.4-4.7	0.80
Responsibilities	3.7	3.2-3.9	0.73
Other Side Effects	3.6	2.9-4.4	0.91
Urinary Function	3.6	3.1-4.1	0.82
Important Relationships	3.5	2.8-4.1	0.70
Self-Esteem	3.2	2.7-3.8	0.76
Sexual Function	3.1	2.2-3.5	0.84
Treatment Characteristics	2.9	1.9-4.0	0.77

Higher mean scores indicate greater importance; Highest importance = 5

# Evidence of Predictive Validity



Responsibilities:  $p=0.009$ , CI: 1.98,13.98

Survival:  $p=0.001$ ; CI: 3.40,12.20

# Evidence of Construct Validity

VIBEs-PC Subscale	Decision Conflict	Decision Regret	Decision Satisfaction
Imp Relationships	-0.24**	-0.02	-0.05
Responsibilities	-0.24**	0.01	0.03
Self-Esteem	-0.16*	0.14*	-0.09
Urinary Function	-0.16*	-0.06	-0.03
Sexual Function	-0.14*	-0.07	-0.05
Other Side Effects	-0.11	-0.08	-0.10
Survival	-0.09	-0.09	-0.03
Tx Characteristics	-0.07	-0.21**	-0.16*

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)



# Discussion

- Good variability across and within subscales.
- No evidence of ceiling or floor effects.
- Very good to excellent internal consistency reliability.
- Evidence for construct and predictive validity.



# Conclusion & Next Steps

- The VIBEs-PC shows potential as a measure of patient preferences for use in decision making in the clinical prostate cancer setting.
- Longitudinal predictive analyses to examine how well the VIBEs-PC importance subscales and stated choice tasks work jointly as predictors of treatment choice.

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THANK YOU

