Cancer Health Literacy Study

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Cancer Health Literacy Study

OUTLINE

- Introduce CHLT-30 and CHLT-6
    - Why two tests
    - Test properties
    - Supporting evidence
- Conclusion and future directions

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Why Two Tests:

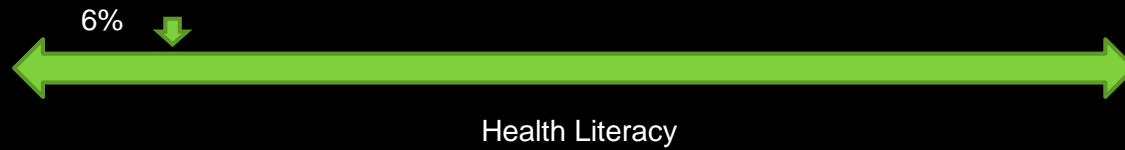CHLT-30: To measure cancer health literacy along a continuum.

CHLT-6: To identify individuals with limited cancer health literacy
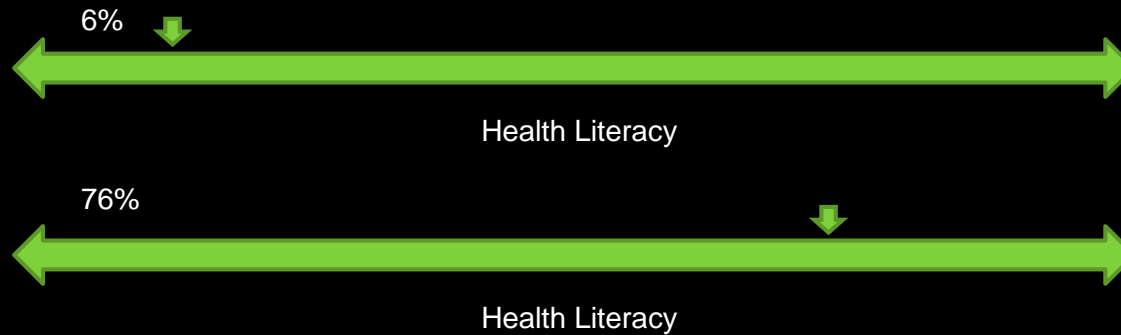
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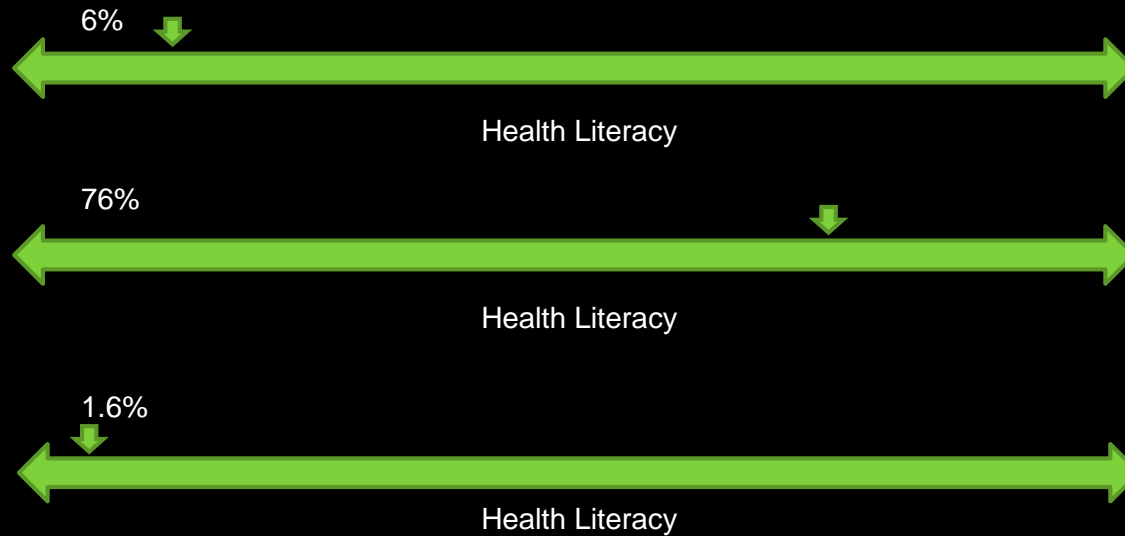
Health Literacy

Cancer Health Literacy Study

6%

Health Literacy

Cancer Health Literacy Study

6%

Health Literacy

76%

Health Literacy

Cancer Health Literacy Study

6%

Health Literacy

76%

Health Literacy

1.6%

Health Literacy

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6%

Health Literacy

76%

Health Literacy

1.6%

Health Literacy

36%

Health Literacy

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CHLT-30: Test Development Process

- Item writing:
  - Transcripts from
    - Delphi Panel discussions
    - Focus groups
  - Actual patient education materials
  - Recent advances in health literacy

- Item selection:
  - 6 item writes ➡ 128 items
  - 76 items following cognitive interviews
  - 30 items using exploratory methods

CHLT-30

- Measures a unidimensional construct
  - 1-factor model / 2-PL IRT
  - N = 1,306 persons with cancer

χ^2	df	p	RMSEA	90% CI	CFI	TLI
542.57	405	.001	.016	.010 - .019	.990	.989

CHLT-30

- Invariant measurement (i.e., no test bias) between
  - Blacks and Whites
  - Males and females
  - Persons with (N=1,306) and without (N=512) cancer

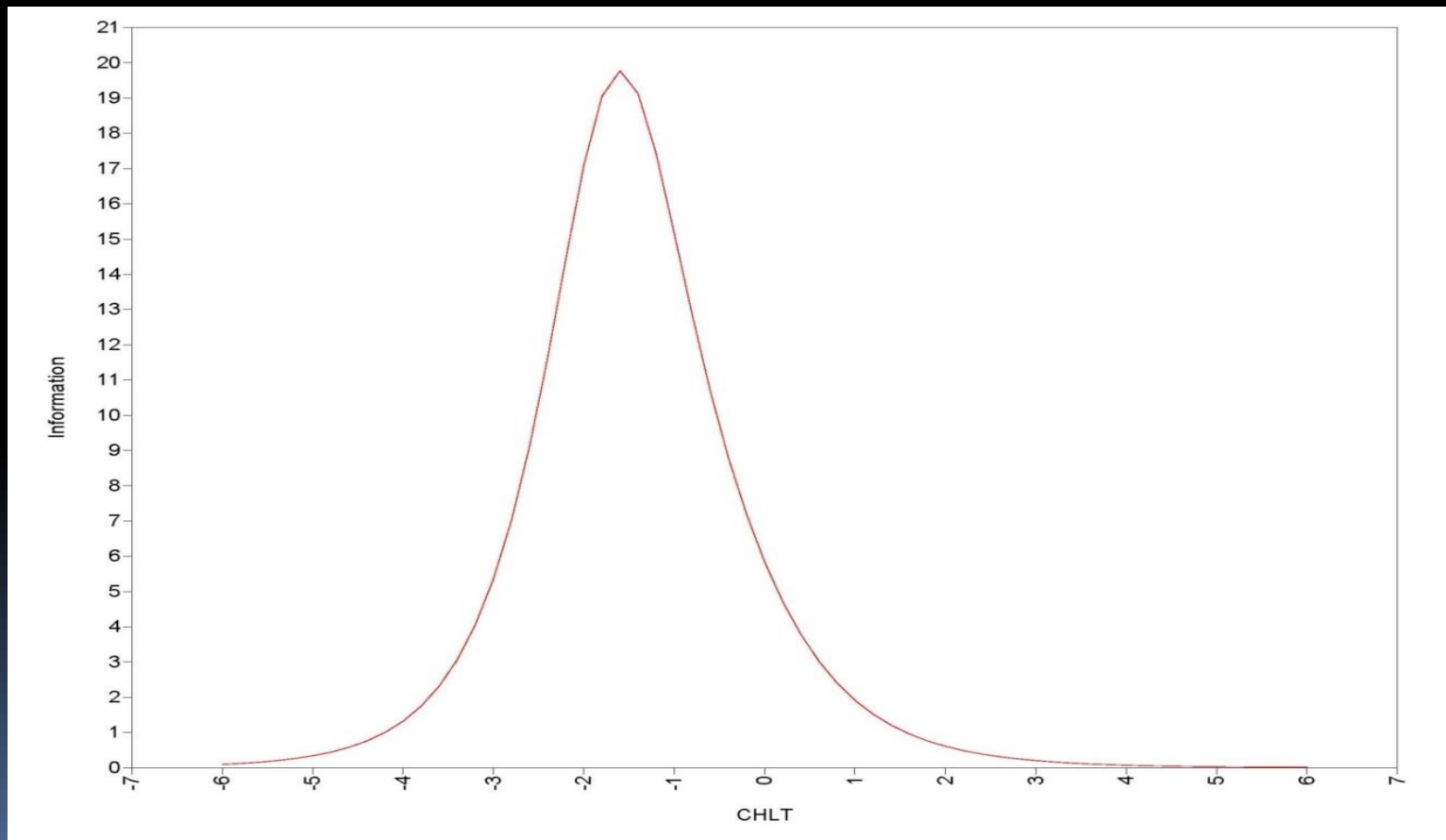| Group	Test	Configural	Scalar	Difference
Blacks vs White	Chi-Sq (df)	938.81 (810); p<.005	996.37 (838); p< .005	22.21 (28); p=.095
Males vs Females	Chi-Sq (df)	933.96 (810); p<.005	1004.05 (838); p< .0001	62.52 (28); p<.005
Cancer vs Non-Cancer	Chi-Sq (df)	1011.62 (810); p<.0001	1041.64 (838); p< .0001	37.44 (28); p>.10

CHLT-30

- Whites score higher than Blacks
- Persons with cancer score higher than persons without
- No mean difference between gender groups

Group	Mean	*p*
Males vs Females	23.97 – 24.26	= 0.247
Black vs Whites	20.04 – 26.61	<0.001
Cancer vs non-Cancer	24.13 – 21.58	<0.001

CHLT-30

- The CHLT-30 scores are most informative of CHL of patients at the lower end of the distribution.
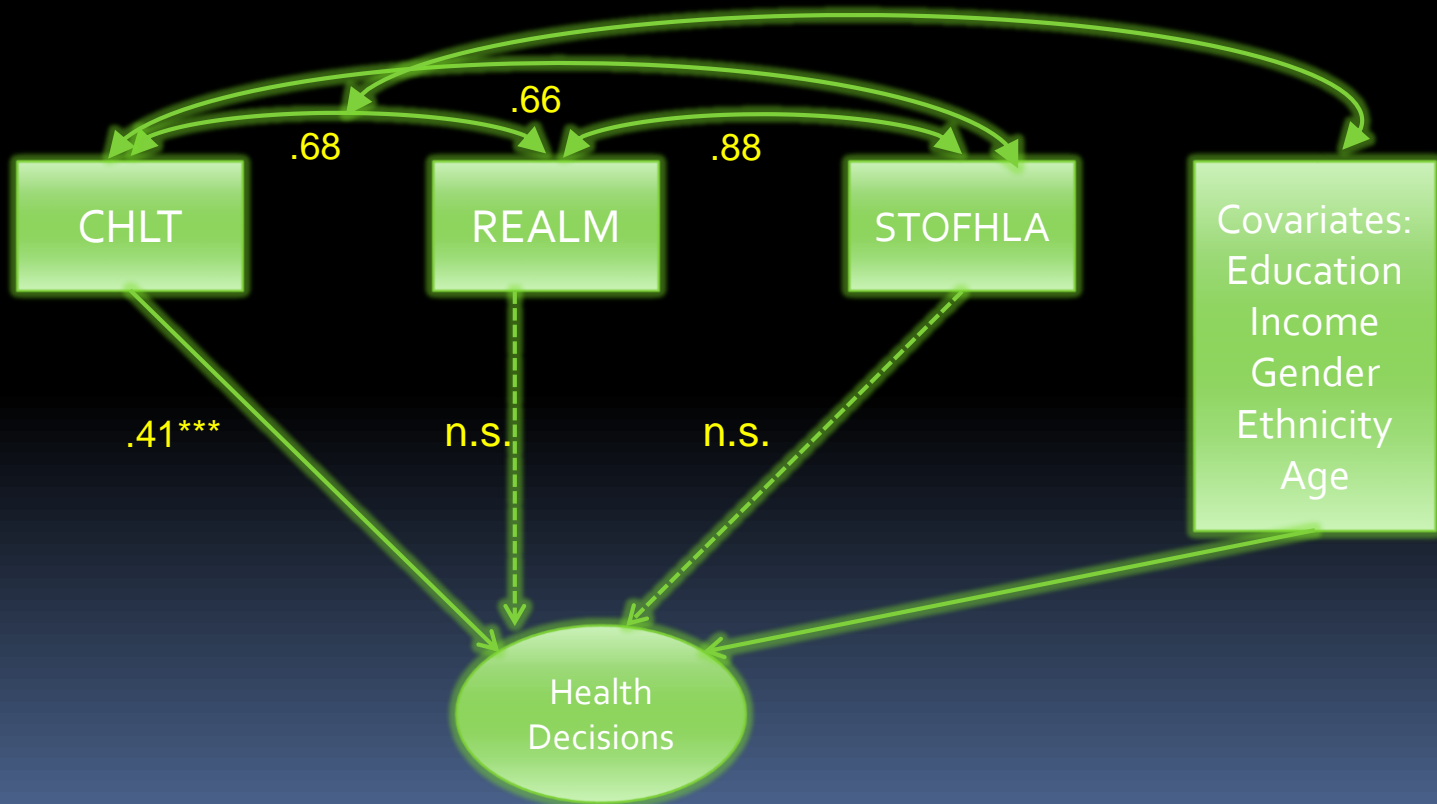
CHLT-30

- Test scores are highly reliable.

Internal Consistency (N = 1,306)	
Cronbach's Alpha	McDonald's Omega
.88	.93

Test – Retest	Two – Week (N = 98)	Six – Month (N = 60)
Mean: Time - 1	23.92	24.87
Mean: Time - 2	23.97	25.45
r	.90	.92

CHLT-30

- Taking into account important covariates and general health literacy tests, the CHLT-30 is a strong predictor of self-confidence in engaging in health decisions.
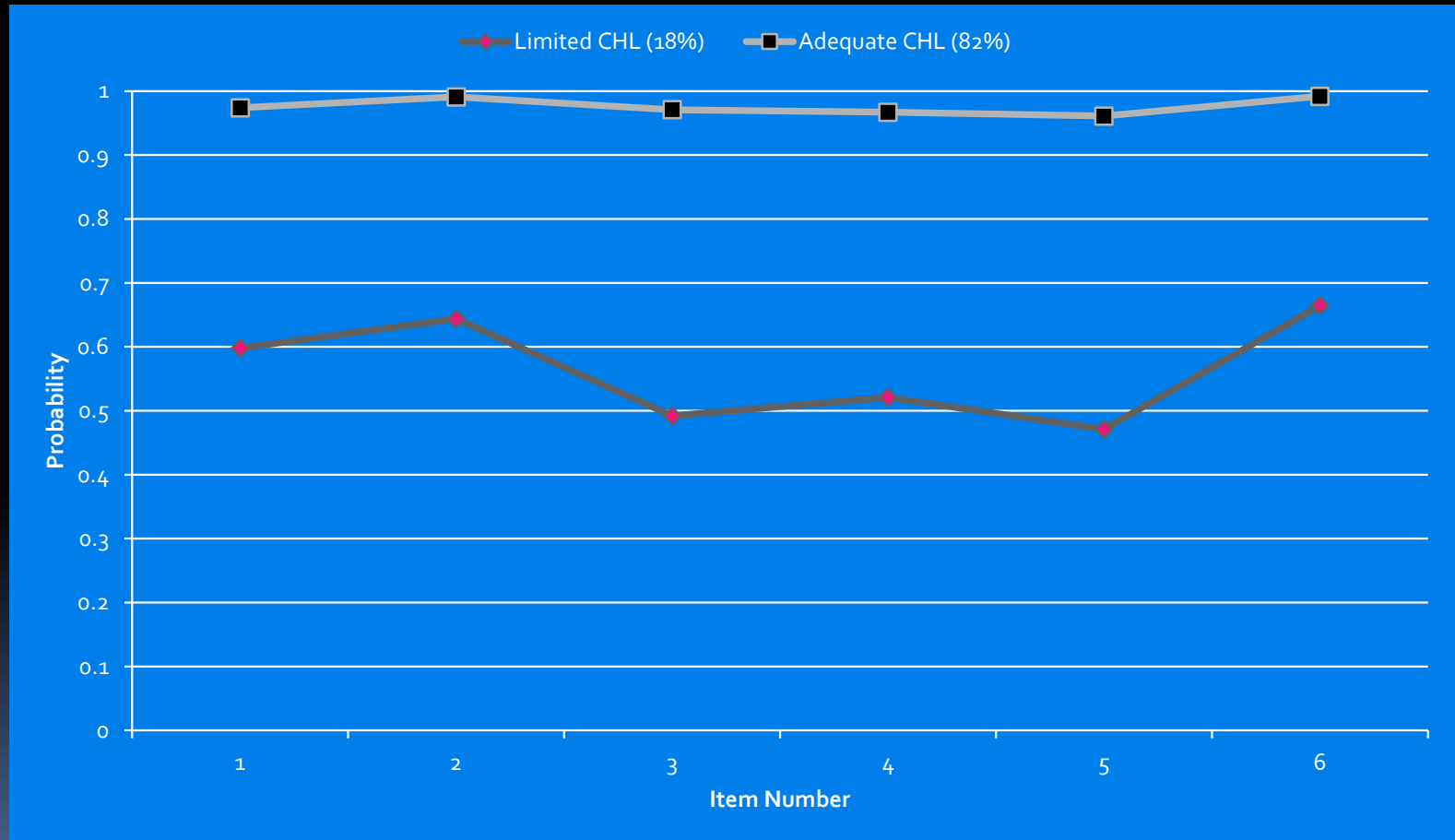
CHLT-6

- 6 items selected from the 30 items containing the largest amount of information about cancer health literacy
- Measures a binary construct
- Latent class model – 2 classes
  - Limited CHL
  - Adequate CHL
  - N = 1,306 persons with cancer

Test	χ^2 (df)	p =
Pearson's χ^2	84.76 (50)	0.002
LRT χ^2	82.22 (50)	0.003

CHLT-6

- Prevalence

CHLT-6

- Classification are highly accurate.

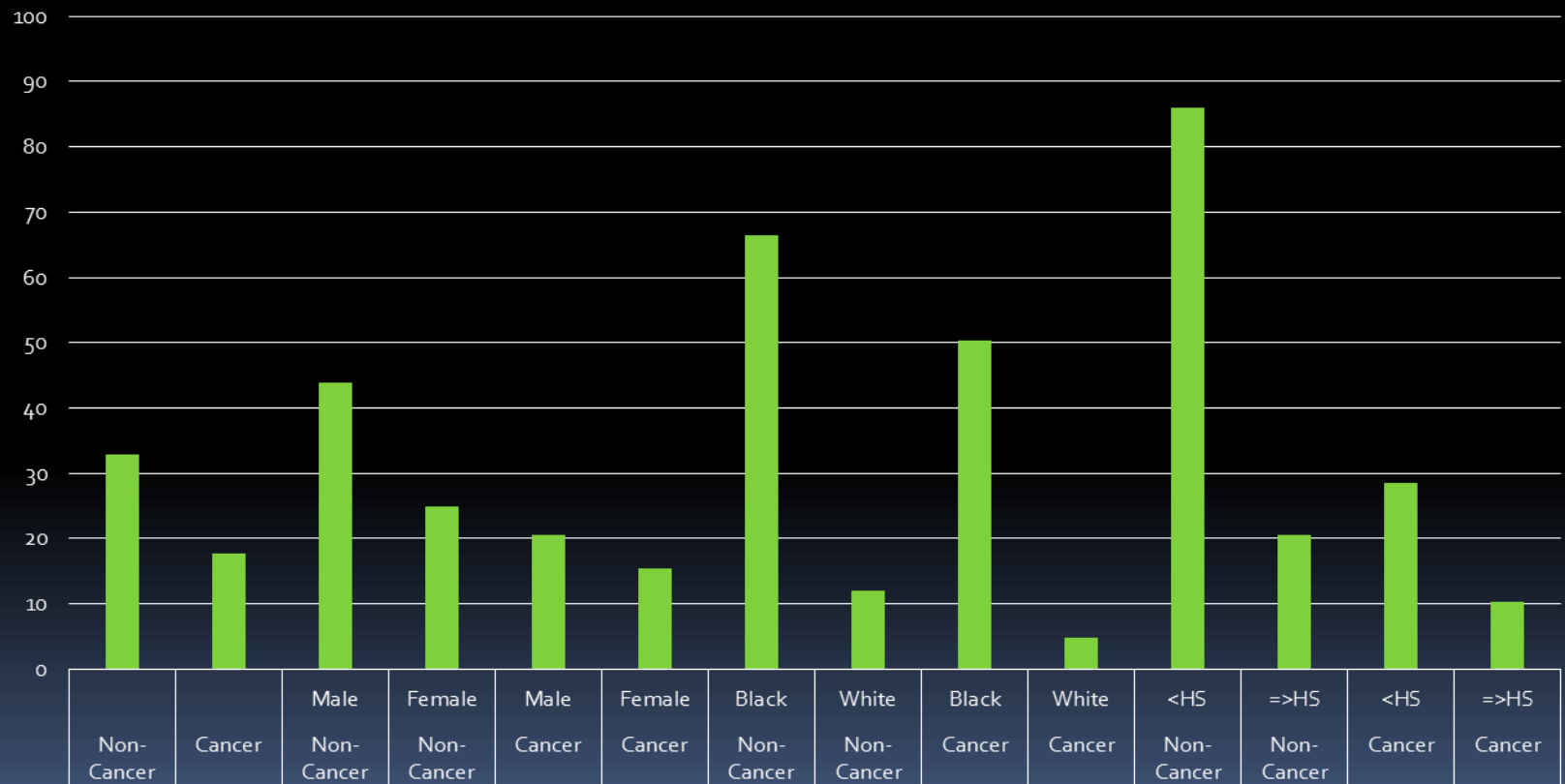|	Limited	Adequate
Limited	.950	.050
Adequate	.037	.963

CHLT-6

- Invariant measurement (i.e., no test bias) between
  - Blacks and Whites
  - Males and females
  - Persons with and without cancer diagnosis

Group	Pearson's χ^2 (*df*)	*p* =	LRT χ^2 (*df*)	*p* =	Entropy
Blacks vs Whites	145.03 (100)	0.002	126.75 (100)	0.037	0.902
Males vs Females	122.97 (100)	0.059	123.11 (100)	0.058	0.915
Cancer vs No-Cancer	117.08 (100)	0.117	119.56 (100)	0.888	0.899
Blacks vs Whites	139.92 (112)	0.038	124.40 (112)	0.199	0.869
Males vs Females	104.75 (112)	0.674	125.03 (112)	0.189	0.875
Cancer vs No-Cancer	162.25 (112)	0.001	160.29 (112)	0.002	0.895

CHLT-6

Prevalence Rates of Limited Cancer Health Literacy

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TO-DO LIST

❑Expending the scope: Test standardization and validation in non-cancer population
❑Translational: Implementing in clinics and pharmacies
❑Next grant: Developing research protocols to test predictors and health outcomes of change in cancer health literacy during treatment