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Development of a Kineisophobia Scale for Adolescents with Heart Disease: A Preliminary Analysis of Validity and Reliability

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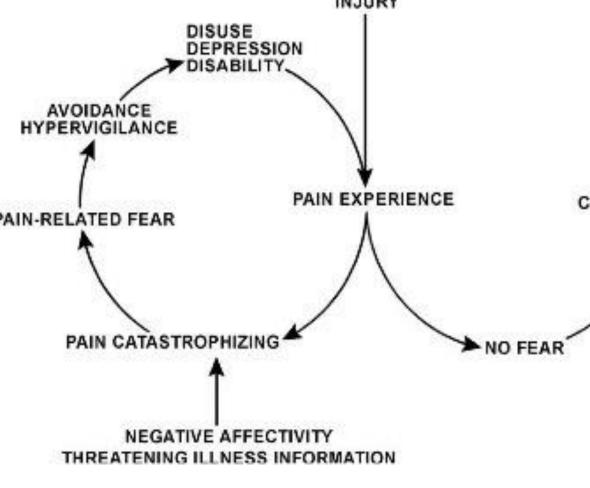
Authors

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A Preliminary Analysis of Validity and Reliability Brandy Enneking, RN^{1,2}; Kelli M. Teson, PhD^{1,2}; Jessica S. Watson, MS^{1,2}; Dara Watkins, MA^{1,2}; William R. Black, PhD^{5,6} ⁵ University of Kansas Medical Center; ⁶ Center for Children's Healthy Lifestyles & Nutrition Methods Results PARTICIPANTS Study Design **Key Variables** n M TSK-Heart-A Sum Score 59 3 Phase I **Exclusion Criteria** Inclusion Criteria 59 4 PROMIS Anxiety T-Score Initial Development Phase II: Content Area Experts PROMIS Depression T-Score 59 • Professional or academic researcher • Non-English speaking (Study Team) **59** 7 PedsQL Generic Scale Score • Professional conflict of interest Expertise in KP or pediatric HD PedsQL Cardiac Module Score 59 Phases III and IV: Adolescents with Heart Disease (HD) INJURY Phase II • Age 12-18 years old • Non-English speaking PAQ-A Sum Score 59 DISUSE • Diagnosed with at least one of the following HDs: Significant intellectual or **Content Validity** developmental delay Complex SVT Cardiomyopathy VALIDITY **N=6** Cardiac surgery or procedure Long QT Syndrome (LQTS) CPVT Content area experts PAIN EXPERIENCE CONFRONTATION in the past 1 month PAIN-RELATED FEAR ARVC Ventricular Tachycardia (VT) **PROMIS** Anxiety **PROMIS Depression** • Curative cardiac EP procedure Scale modified Idiopathic sudden cardiac WPW 90 80 r=0.45 r=0.32 arrest (ISCA) • Unable to complete electronic 80 Fontan 70 PAIN CATASTROPHIZI $p = 0.0^{-1}$ p<0.01 surveys at home Brugada Syndrome Phase III 9 60 **VALIDITY & RELIABILITY** NEGATIVE AFFECTIVIT ں اب 20 Face Validity **N=6** Assessment 1 Assessment 2 Adolescents with HD **TSK-Heart-A TSK-Heart-A** 18 22 26 30 34 38 42 46 50 54 18 22 26 30 34 38 42 46 50 54 Scale modified TSK-Heart-A Sum Score TSK-Heart-A Sum Score ress 14 days after \rightarrow Reliability \rightarrow Criterion Validity Assessment 1 Phase IV PedsQL Cardiac Module PedsQL Generic Scale 100 **1. PROMIS Emotional Distress - Pediatric Anxiety** (short form)¹³⁻¹⁵ Criterion Validity PAQ-A 4.0 **2.PROMIS Emotional Distress - Depression** (short form)^{13,14,16} n=59 80 3.5 3.PedsQL[™] Generic Scale (teen report, v4.0)¹⁷ Internal <u>& Test-Retest</u> S 55 560 **4.PedsQL[™] Cardiac Module** (teen report, v3.0)¹⁸ **Reliability** 8 2.5 r=-0.57 40 r=-0.52 **5. Physical Activity Questionnaire for Adolescents** (PAQ-A)^{19,20} ဟိ 2.0 n=40 p<0.01 p<0.01 20 Adolescents with HD **STATISTICS** 18 22 26 30 34 38 42 46 50 54 18 22 26 30 34 38 42 46 50 54 ISK-Heart-A Sum Score ISK-Heart-A Sum Score • Correlation analyses were used to evaluate the validity of the TSK-Heart-A. • Reliability was evaluated using test-retest reliability and Cronbach's alpha. Sample Demographics (n=59) Conclusions Mean \pm SD The TSK-Heart-A demonstrated strong criterion Fontan 28.8% Female 50.9% 15.5 ± 1.9 Age (years) Cardiomyopathy 17.0% Male 49.2% validity and internal and test-retest reliability. Age at diagnosis LQTS 17.0% 7.0 ± 6.3 (years) Complex SVT 11.9% Non-Hispanic 93.2% 0.7 ± 1.1 BMI Z-score WPW 11.9% Additional validity including a factor analysis with a Hispanic 6.8% ARVC 5.1% Unplanned 2.0 ± 3.4 Admissions (lifetime) ■ VT 5.1% large generalizable sample is warranted. White 79.1% CPVT 1.7% 4.9 ± 8.3 ED Visits (lifetime) ISCA 1.7% Non-White 20.9% Brugada 0.0% **Center for Children's**

Development of a Kinesiophobia Scale for Adolescents with Heart Disease: David A. White, PhD^{1,2}; Jami Gross-Toalson; PhD^{1,2,3}; Emily Cramer, PhD^{1,4}; Lindsey Malloy-Walton, DO^{1,2}; Mollie M. Walton, MD^{1,2}; Laura Martis, CPNP^{1,2}; ¹Children's Mercy Kansas City; ² Ward Family Heart Center; ³ Department of Developmental & Behavioral Health; ⁴ Health Services & Outcomes Research; Background Purpose a modified Tampa Scale for

- Kinesiophobia (KP) an excessive, irrational, and debilitating fear of physical activity (PA) resulting from a feeling of vulnerability related to a medical condition.¹
- KP is a manifestation of the **Fear-Avoidance Model**^{2,3}
- KP is measured using the Tampa Scale for KP (TSK)⁴
- 17-item survey developed with chronic pain
- Survey items are specific to pain.



• In adolescents, increased KP is associated with 5-7...

-	↑ Depression	↑ Functional Disability	↑ Post-traumatic stre
	↑ Anxiety	↑ Catastrophizing	↓ QoL

- Similar to adolescents with chronic pain, adolescents with heart disease may avoid PA due to fear related to their heart disease.⁸⁻¹²
- There are no studies or validated tools to measure of KP in adolescents with heart disease.

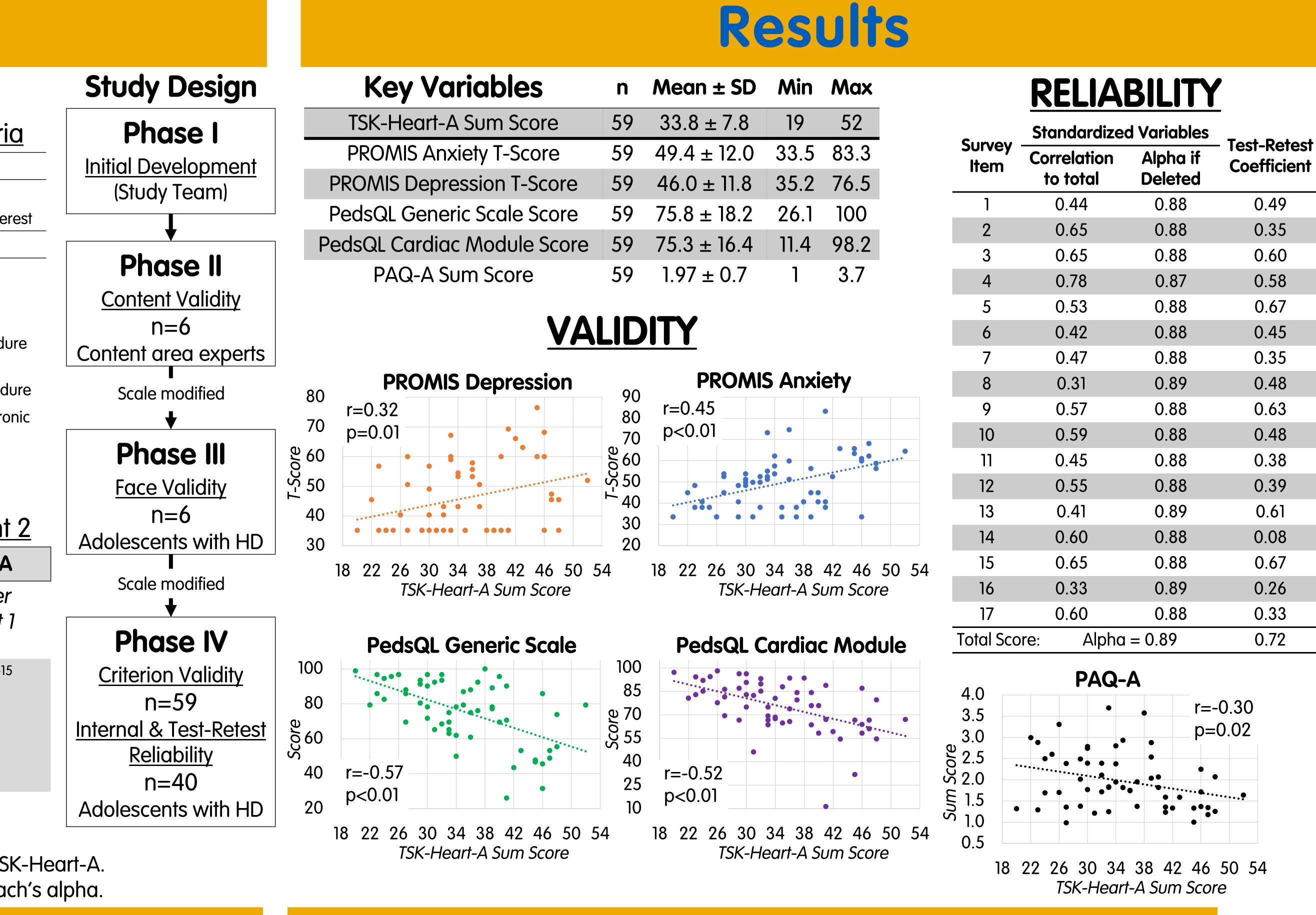
To assess the validity and reliability of

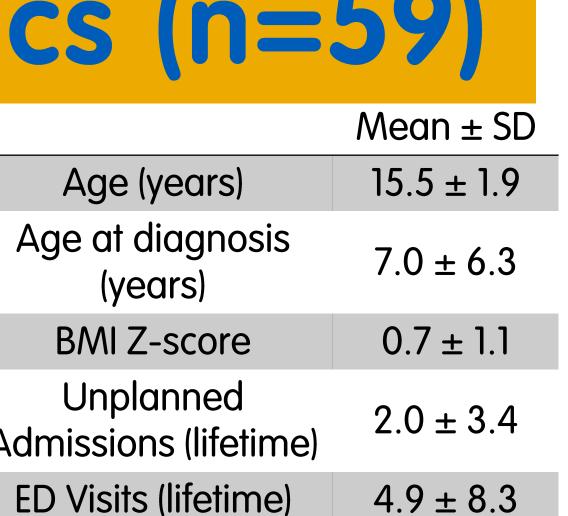
Kinesiophobia for adolescents with

Heart Disease (TSK-Heart-A)











Healthy Lifestyles

& Nutrition

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lean ± SD	Min	Max
3.8 ± 7.8	19	52
9.4 ± 12.0	33.5	83.3
6.0 ± 11.8	35.2	76.5
5.8 ± 18.2	26.1	100
5.3 ± 16.4	11.4	98.2
.97 ± 0.7	1	3.7

1	0.44	0.88	0.49
2	0.65	0.88	0.35
3	0.65	0.88	0.60
4	0.78	0.87	0.58
5	0.53	0.88	0.67
6	0.42	0.88	0.45
7	0.47	0.88	0.35
8	0.31	0.89	0.48
9	0.57	0.88	0.63
10	0.59	0.88	0.48
11	0.45	0.88	0.38
12	0.55	0.88	0.39
13	0.41	0.89	0.61
14	0.60	0.88	0.08
15	0.65	0.88	0.67
16	0.33	0.89	0.26
17	0.60	0.88	0.33
Total Score	Δln	ha – 0.89	0.72

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TSK-Heart-A

PDF

