

## Stress and Fear: Exploring the Gap Between Self-Reported and Objective Functional Measures in Women Treated for Breast Cancer



Mary I. Fisher, PT, PhD\*, Lynn Hendricks, SPT, Megan McClure, SPT,  
Kim Parent, SPT, Renee Roberts, SPT

\*Board-certified Orthopedic Clinical Specialist; Certified Lymphedema Therapist  
Department of Physical Therapy, University of Dayton, Dayton, OH

## Disclosures

*No relevant  
financial relationship exists*

## Acknowledgements

### Co – investigators:

- Anne Fleischer, PhD, MPH, OT/L, CLT-LANA
- MSOT Students
  - Occupational Science and Occupational Therapy Department, Eastern Kentucky University, Richmond, Kentucky



## Background Methods Result Conclusion Clinical Relevance

- Breast cancer survivors experience ongoing upper extremity functional limitations after treatment
- Objective measures do not reflect extent of reported functional deficits
- Stress and other psychological effects of breast cancer diagnosis and treatment have been documented in current literature
- Lack of literature on effect of psychological/cognitive factors on self-reported function

Hayes 2012; Hegel 2011; Yang 2010; Smoot 2010; Fisher 2010; Groarke 2013

## Background Methods Results Conclusion Clinical

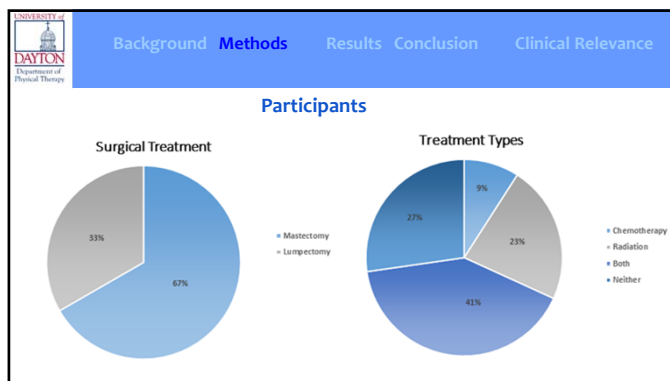
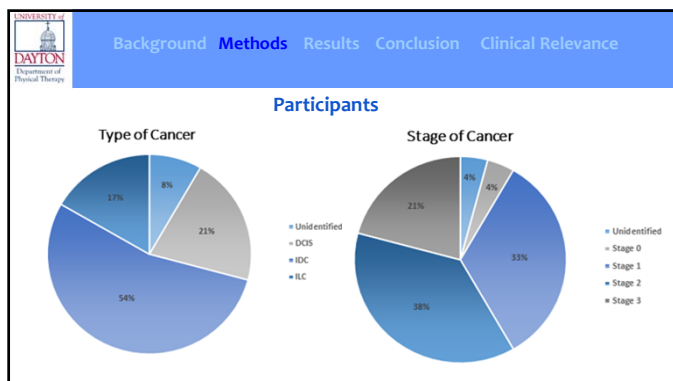
### Purpose:

*To investigate the relationship between self-reported upper extremity function and perceived stress, fear of physical activity, and objective measures among women treated for breast cancer.*

## Background Methods Results Conclusion Clinical

### Participants

- 24 women
- Mean age 52 (range 31-68)
- Stage 1-3 breast cancer in the past 12-60 months
- Mean BMI = 28.07 (SD = 6.6)
- Mean Duration of cancer = 30 months (SD 13.4)



**Self-reported Outcome Measures:**

- Functional Assessment of Cancer Therapy (FACT-B)
- Fear of Physical Activity/Exercise Scale-Breast Cancer (FPAX-B)
- Perceived Stress Scale (PSS)
- Disabilities of the Arm, Shoulder, and Hand (DASH)

**Perceived Stress Scale**

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

Name \_\_\_\_\_ Gender (Circle) M F Other \_\_\_\_\_ Date \_\_\_\_\_

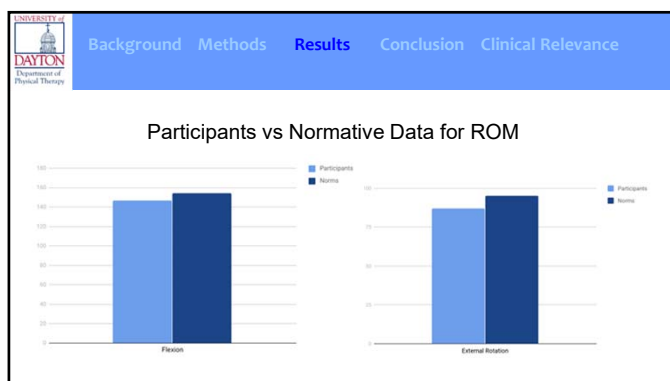
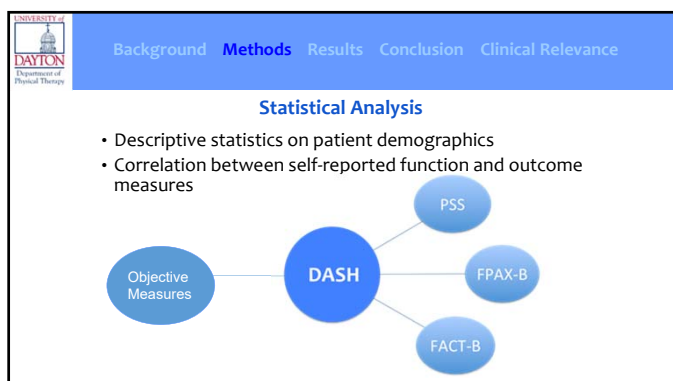
0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

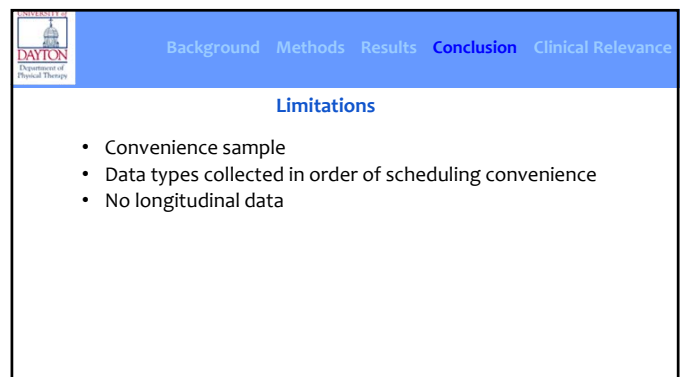
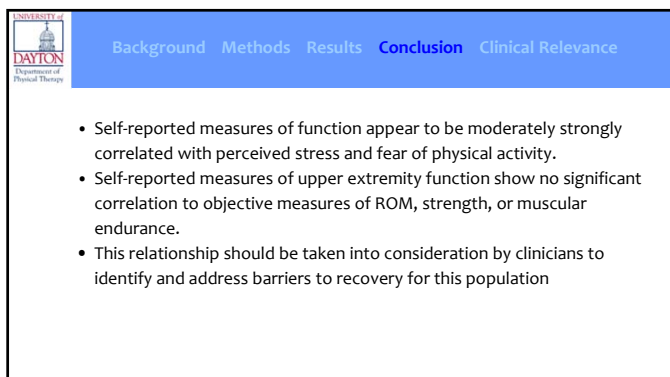
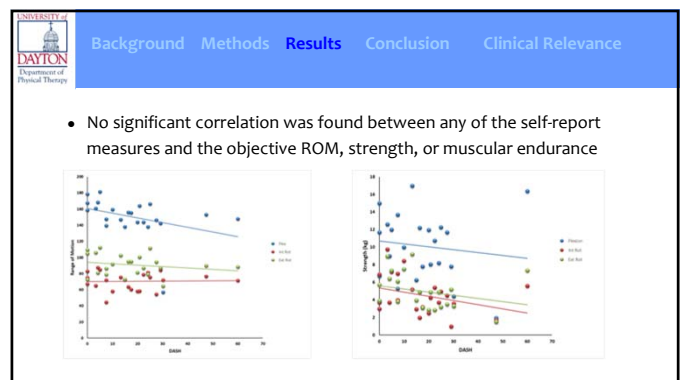
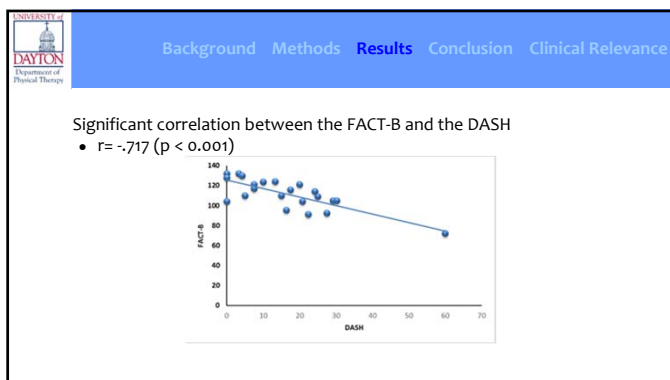
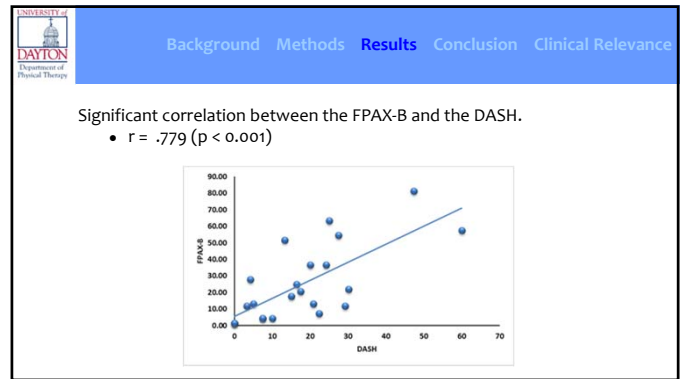
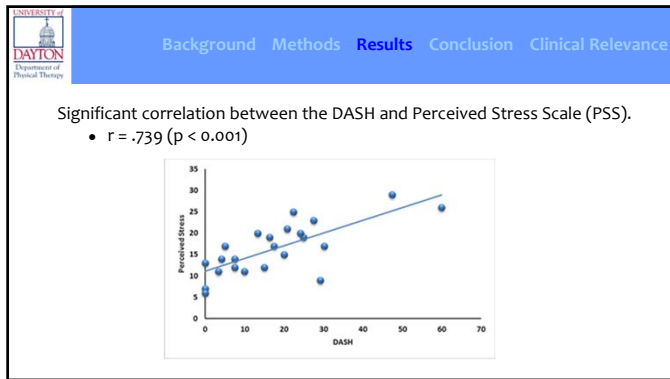
1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "wired"?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4


Circle the number next to symptoms:  
 0 = Not at all or increasing 1 = Increasing or decreasing 2 = Neither  
 3 = Decreasing or increasing 4 = Neither

**Objective Measures (bilateral):**

- Shoulder ROM
  - Flexion
  - Internal Rotation
  - External Rotation
- Shoulder Strength
  - Flexion
  - Internal Rotation
  - External Rotation
- Endurance
  - Upper Limb Lift Test (ULLT)








Background Methods Results Conclusion **Clinical Relevance**


- Experience of stress and fear of physical activity appear to result in lower levels of self-reported UE function than what would be expected based on measures of motion, strength, and muscular endurance
- Perceived stress and other cognitive constructs may explain apparent difference between objective and perceived measures of function currently observed in this population
- Exploring cognitive and psychological effects of breast cancer diagnosis and treatment may direct rehabilitation strategies and aid in improved outcomes



Background Methods Results Conclusion **Clinical Relevance**

**Future Research**

- Further exploration into the cognitive and psychological effect of breast cancer diagnosis and treatment on physical function
- Long term physical impact of cancer treatment
- Impact of treatment type on self-reported and objective measures of function



Background Methods Results Conclusion **Clinical Relevance**

**Thank you!**

**Questions?**