

## Gender Differences in Perceived Social Support and Heat Pain Tolerance

# NARC U\*STAR at UMBC

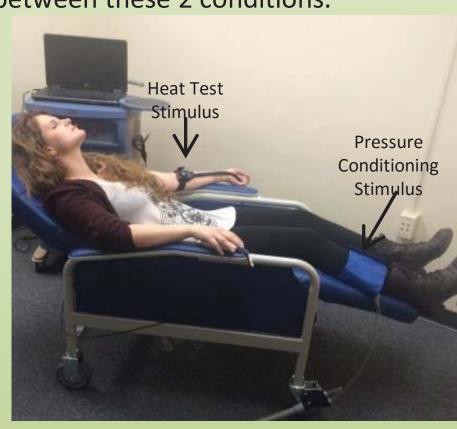
## Introduction

Perceived social support (PSS) has been implicated in positive responses to stressors, including bodily pain. Pain as a stressor has been determined to affect males and females differently, with females often experiencing increased pain sensitivity and lower magnitude of conditioned pain modulation (CPM), a form of pain inhibition.

#### Materials and Methods

Seventy-six healthy adults were recruited and completed the **Multidimensional Scale of Perceived Social Support (MSPSS).** On a second visit, they underwent laboratory tests of heat pain tolerance, heat pain threshold, and CPM using a Medoc thermal probe on their forearm:

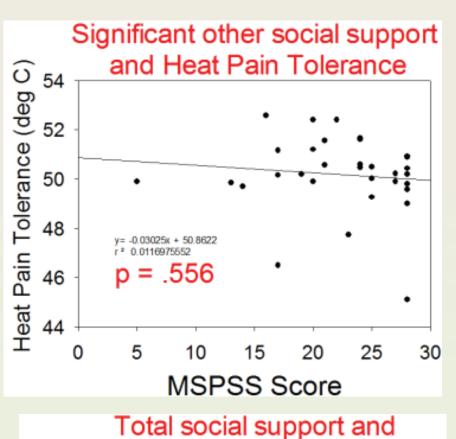
- Heat pain threshold Minimum temperature at which the participant experienced pain
- Heat pain tolerance Maximum temperature the participant could tolerate
- CPM Participants rated a series of painful heat stimuli alone, then the series of stimuli again while a painful pressure stimulus was applied to the leg. CPM magnitude was calculated as the change in heat pain ratings between these 2 conditions.



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## Results

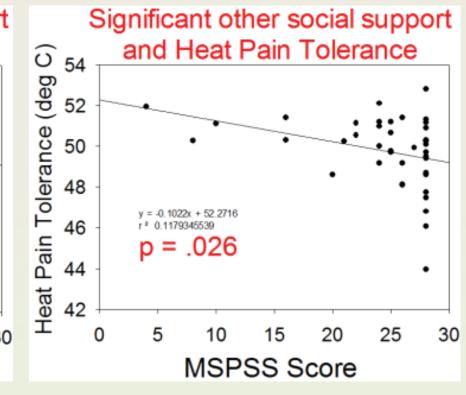
Males Females

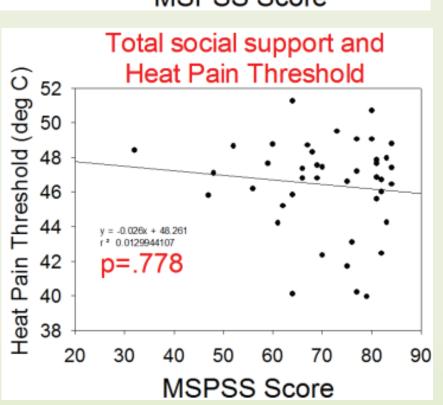


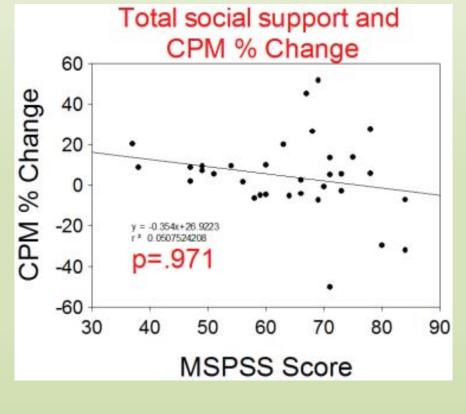
Heat Pain Threshold

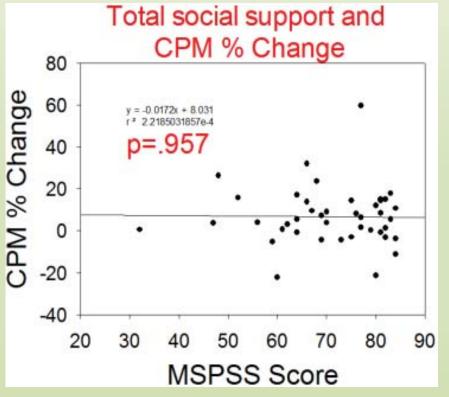
p = .817

MSPSS Score









Pain measures do not differ by gender		
Female	Male	P-value after
		comparison
46.42 °C	46.85 °C	p = .080
49.79 °C	50.19 °C	p = .937
-6.8%	-4.3%	p = .523
	<b>Female</b> 46.42 °C 49.79 °C	Female         Male           46.42 °C         46.85 °C           49.79 °C         50.19 °C

#### Conclusions

- Pain tolerance is correlated with social support in women but not men.
- Due to the observation that women have more aversive responses to experimentally induced pain, there many be other confounding variables that explain the social support and pain tolerance correlation.
- Heat pain threshold and CPM were not correlated with social support and thus are pain measures that may not be as modifiable as tolerance.
- The generalizability of these findings is limited by the small sample size and greater number of females.

#### References

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Quiton, R. L., & Greenspan, J. D. (2007). Sex differences in endogenous pain modulation by distracting and painful conditioning stimulation. Pain,132, S134-S149.

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