Can't you feel your heartbeat fast?: Mindfulness as a mediator between interoception and anxiety

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Introduction

- **Interoception:** perception of physical and emotional sensations within the body, such as hunger, respiration, and pain.
- **Interoceptive accuracy** (IAc): operationalized as the objective ability to detect heartbeats within the body
- **Interoceptive sensibility** (IS): subjective beliefs about interoceptive ability measured via self-report
- Studies linking interoceptive accuracy and anxiety have had mixed results, including positive and negative relationships.
- Proper emotion regulation involves detecting and interpreting internal and external signals in an appropriate manner.
- Mindfulness promotes this through its accepting, nonjudging, and nonreactive facets.

Methods

Measures

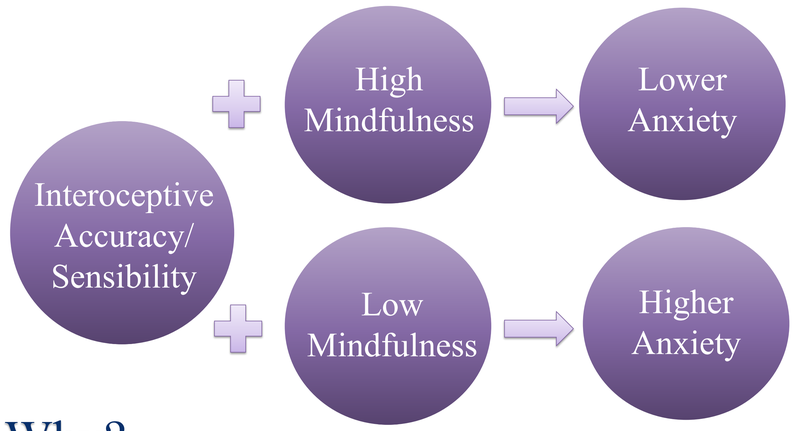
- **IAc**: Heartbeat Perception Task (HPT; Schandry 1981)
- Five Facet **Mindfulness** Questionnaire (Baer 2006)
- **IS:** "Noticing" subscale of the Multidimensional Assessment of Interoceptive Awareness (Mehling 2012)
- Beck **Anxiety** Inventory (Beck 1988)
- IAc **covariates**: BMI, gender, physical activity, heart rate, time estimation, and knowledge of resting heart rate.

Procedure

- Self-reports via Qualtrics
- Heartbeat Perception Task

Hypothesis

We hypothesize that both IAc and IS will predict higher anxiety at low levels of mindfulness but will predict lower anxiety at high levels of mindfulness.



Why?

We believe that if participants do not have the accepting, nonjudging, and nonreactive qualities associated with mindfulness, interoceptive signals may be interpreted in a way that causes emotion dysregulation.

Results

- 92 participants were recruited through the Duke Undergraduate Subject Pool. Participants were 65% Female, 55% Caucasian.

Model 1: Overall model is significant, F (5, 66) = 5.322, p < .001,

	β	t	Sig.
(Constant)		15.33	<.001
Mindfulness	**-0.62***	-5.72	<.001
Interoceptive Sensibility	0.17	1.53	0.13
Interoceptive Sensibility x Mindfulness	-0.06	-0.56	0.58

- **Mindfulness** significantly predicted **anxiety**
- In contrast to the hypothesis, the interaction effect of IS x mindfulness was not significant.

References

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Results (cont)

Average heartrate (r = -.378, p < .001) and time estimation (r = .246, p = .017) were significantly correlated with HPT performance, and thus included as covariates in subsequent regression analysis.

Model 2: Overall model is significant, F (5, 66) = 6.222, p < .001

	β	t	Sig.
(Constant)		15.39	<.001
Time Estimation	0.03	0.28	0.78
Heartrate	0.09	0.86	0.39
Interoceptive Accuracy	-0.05	-0.47	0.64
Mindfulness	**-0.55***	-5.27	<.001
Interoceptive Accuracy x Mindfulness	0.00	0.01	0.99

- In contrast to the hypothesis, the interaction effect of IAc x mindfulness was not significant.

Conclusion

- Mindfulness was not found to be a significant mediator between interoception and anxiety.
- Consistent with previous literature, mindfulness and anxiety have a negative relationship; controlling for IAc or IS, higher levels of mindfulness predict lower levels of anxiety.
- Future interventions may not need to consider harmful effects of increasing interoception in a nonclinical sample.

Future Directions

- Clinical sample
- Offer an incentive for accurate heartrate counts in order to ensure participant effort during HPT
- Explore other measurements of interoceptive accuracy

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