

# Exploring replicability and clinical utility of gastrointestinal-anxiety associations in youth with caregiving disruptions

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## Introduction

- Gastrointestinal (GI) symptoms are associated with anxiety<sup>1</sup>
- GI symptoms could be used to detect anxiety in youth that have increased vulnerability, such as those with caregiving disruptions<sup>2</sup>
- Only 1 study found GI-anxiety associations in youth who experienced caregiving disruptions<sup>3</sup>

## Knowledge Gap & Research Questions

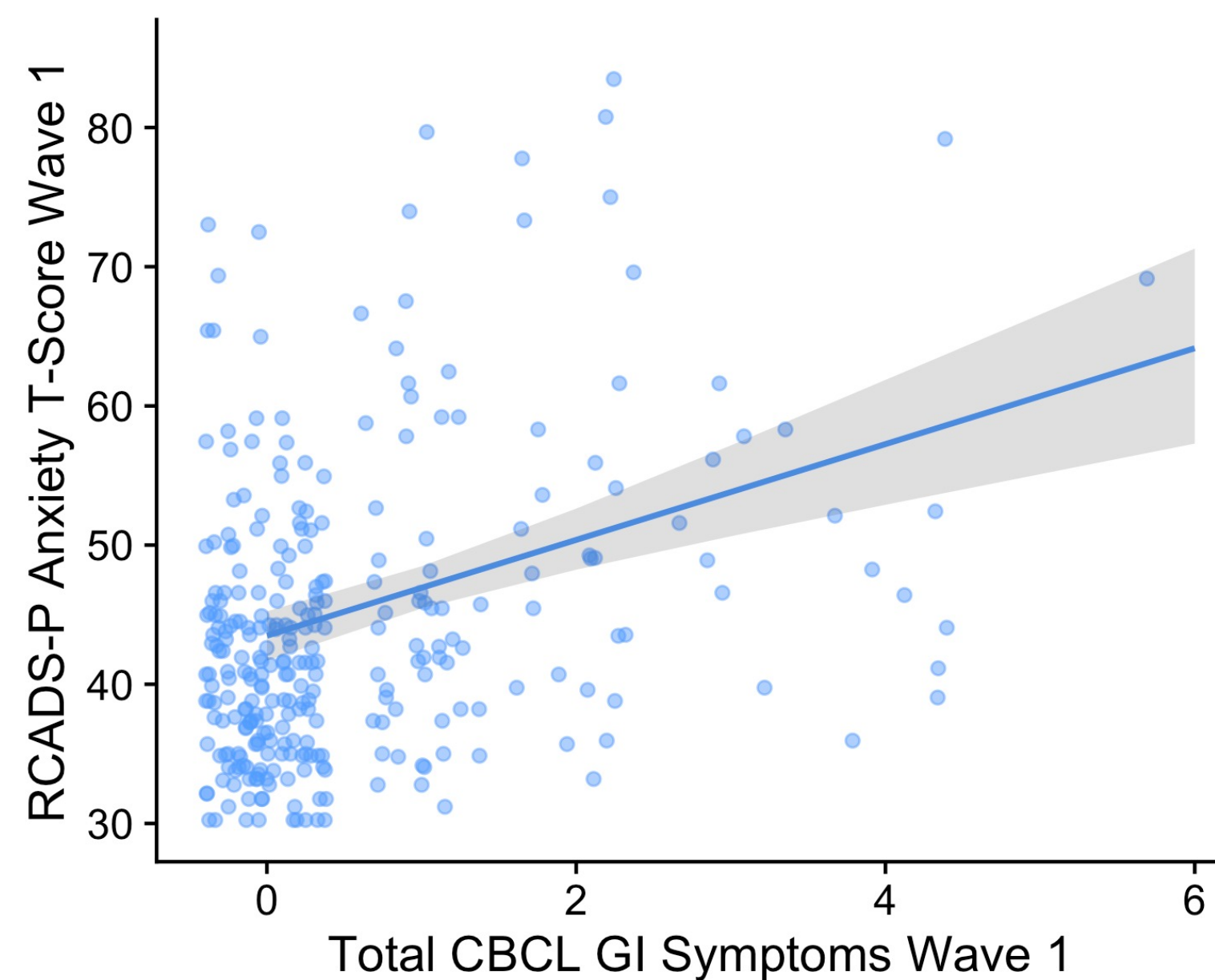
- More evidence needed to determine whether **GI-anxiety associations** and their **clinical utility** exist in youth with caregiving disruptions
1. Do GI-anxiety associations replicate in youth with caregiving disruptions?
  2. Do GI-anxiety associations have clinical utility in youth with caregiving disruptions?  
(*assessing predictive model performance of previous regression models<sup>4</sup>*)

## Methods

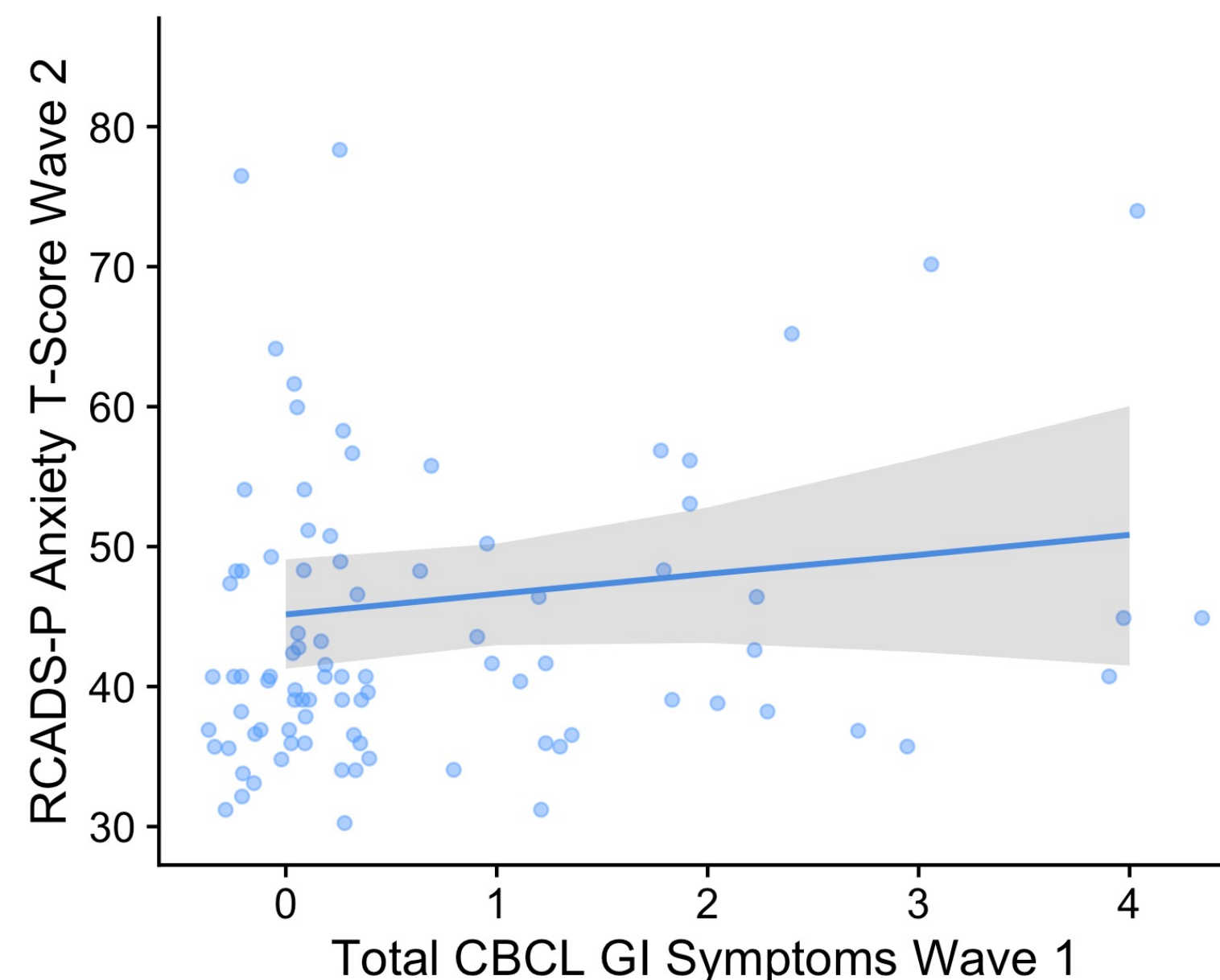
- Participants are youth with caregiving disruptions (*i.e., institutional care, foster care, adoption*), and a comparison group without such disruptions
- Data collected in New York City
  - Wave 1: 295 children aged 6-12 years, 151F/144M
  - Wave 2: 89 children aged 7-13 years, 43F/46M
- **GI symptoms** assessed by 4 items from the Child Behavior Checklist (CBCL)
  - Data only from wave 1
- **Anxiety** assessed by the Revised Children's Anxiety and Depression Scale – Parent Version (RCADS-P), and Kiddie Schedule for Affective Disorders & Schizophrenia (KSADS)
  - Data from both wave 1 and 2

## Results

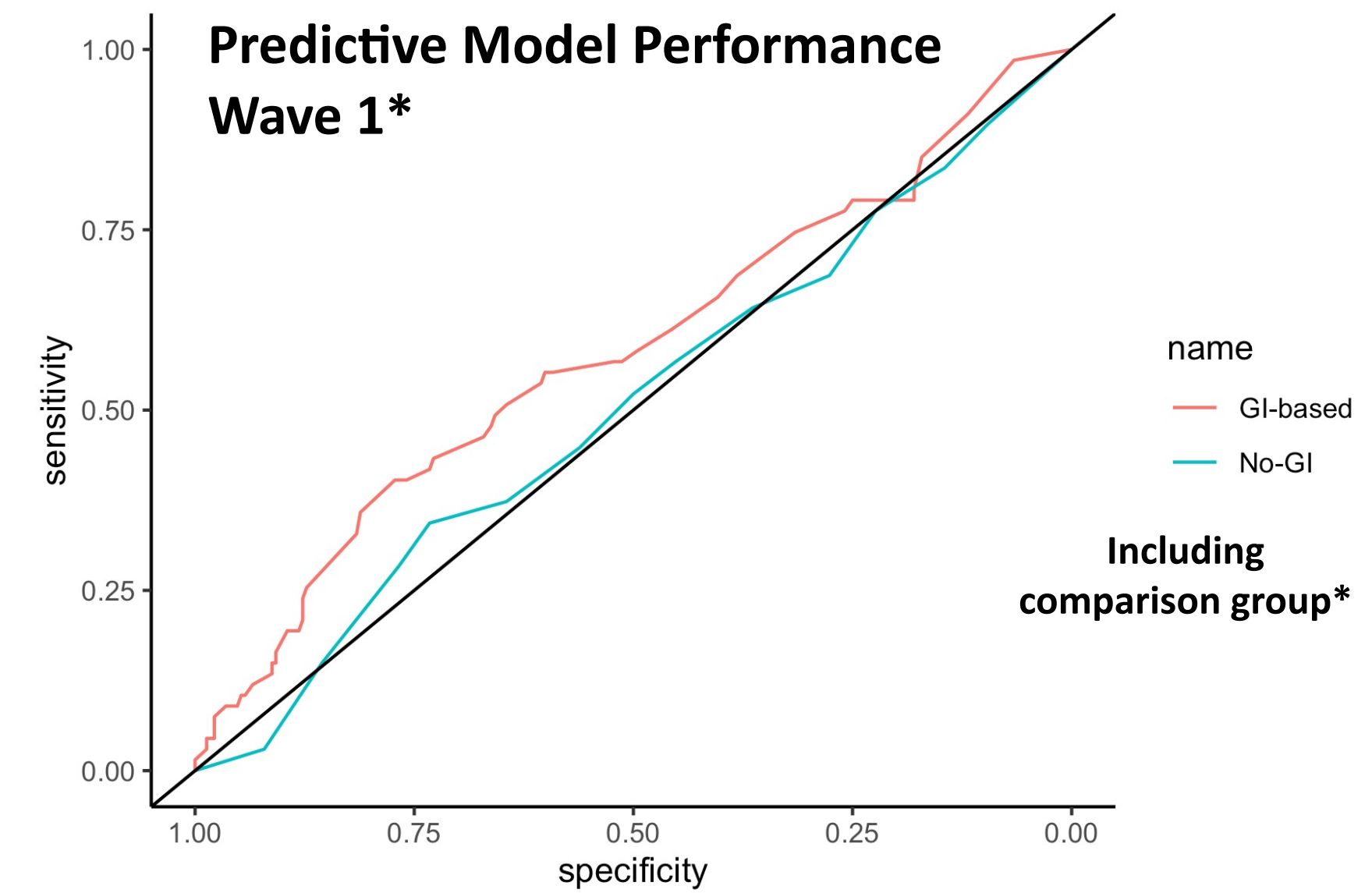
### Linear Regression Modeling of GI-Anxiety in Youth with Caregiving Disruptions



$$\beta^{\wedge} = 3.4, 95\% \text{ CI } [2.1, 4.7]$$



$$\beta^{\wedge} = 1.4, 95\% \text{ CI } [-1.2, 4.0]$$



## Conclusions

- GI-anxiety associations **do generalize** to youth with caregiving disruptions
- But, clinical utility still requires **additional evidence**
- **Why** lack of clinical utility of GI-anxiety associations?
  - Predictive models perform worse in out-of-sample data
  - It is harder to accurately predict a binary outcome (anxiety outcome was coded into a binary variable)

### Some limitations are ...

- GI measurements not precise enough
- Cohort not representative enough

### Some future directions are ...

- Continuous anxiety outcome, not binary
- Precise GI measurements
- Representative cohorts

## References

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3. Callaghan, B. L., Fields, A., Gee, D. G., Gabard-Durnam, L., Caldera, C., Humphreys, K. L., Goff, B., Flannery, J., Telzer, E., Shapero, M., & Tottenham, N. (2020). Mind and gut: associations between mood and gastrointestinal distress in children exposed to adversity. *Development and psychopathology*, 32(1), 309-328.
4. Bloom, P. A., Douglas, I. J., VanTieghem, M., Tottenham, N., & Callaghan, B. (2020, June 17). Using Gastrointestinal Distress Reports to Predict Youth Anxiety Risk: Implications for Mental Health Literacy and Community Care.