Factors Impacting Mental Health in the Great Lakes Region

USING CHR-2022

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PQHS 431 – FALL 2022

Analysis One: Exploring the nature of the association between county's food environment index and poor mental health of its residents

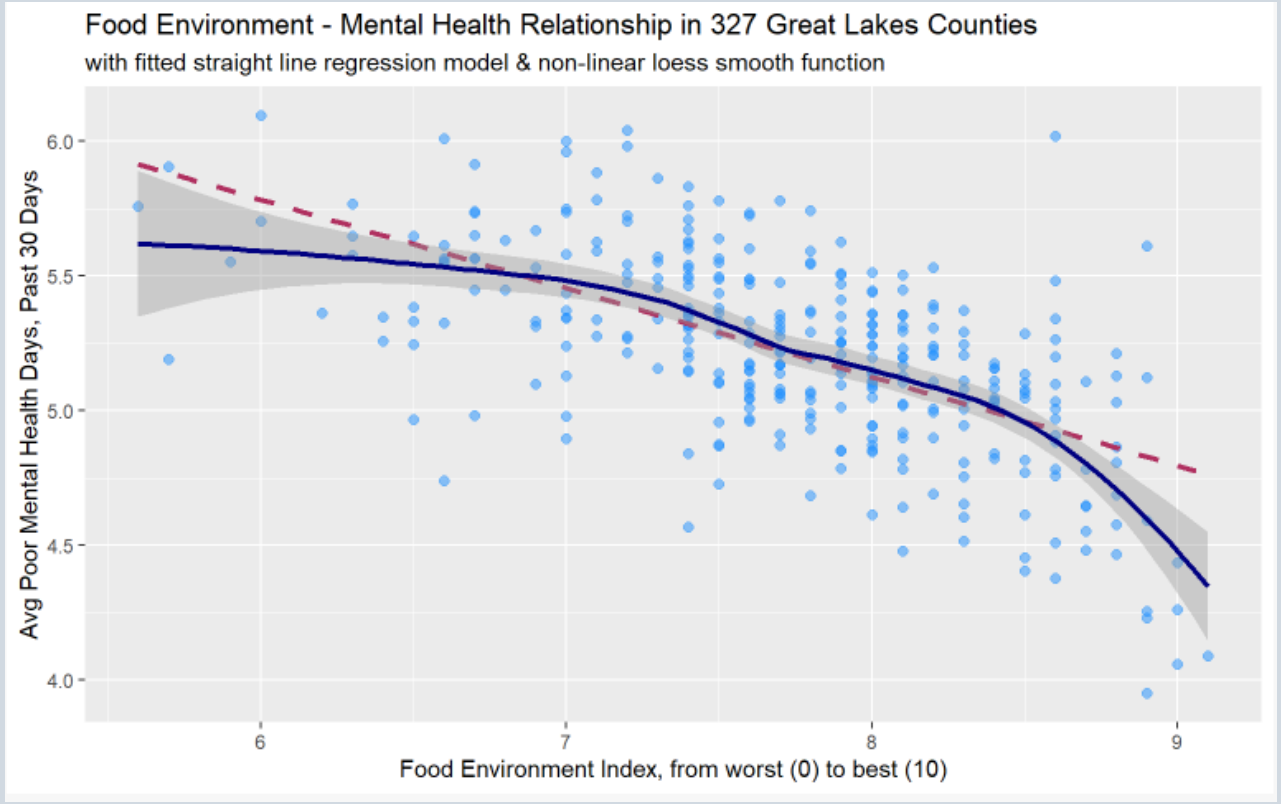
- Started with 330 counties in Ohio, Indiana, Michigan, and Pennsylvania
- 327 complete cases for my analysis

County Count for Analysis 1		
State	**n**	**Percent**
Ohio	88	26.9%
Indiana	90	27.5%
Michigan	82	25.1%
Pennsylvania	67	20.5%
Total	327	100%

- **Predictor variable:** food environment index
- **Outcome variable:** poor mental health days

Descriptive Statistics for Predictor and Outcome Variables for OH, IN, MI, PA		
	Food Environment Index (ranking 1 - 10)	**Poor Mental Health (days)**
Mean	7.7	5.21
Median	7.8	5.22
Range	5.6 – 9.1	3.95 – 6.09 (**Δ**: 2.14)
IQR	7.4 – 8.6	5.02 – 5.47 (**Δ:** .45)

Analysis One: Visualization & Prediction Equation



Prediction Equation:

$$\widehat{\text{poor\_mental\_health}} = 7.76 - 0.33(\text{food\_environment})$$

R-squared = .369

Pearson correlation = -.61

Analysis Two: Do counties with water violations show higher levels of poor mental health days?

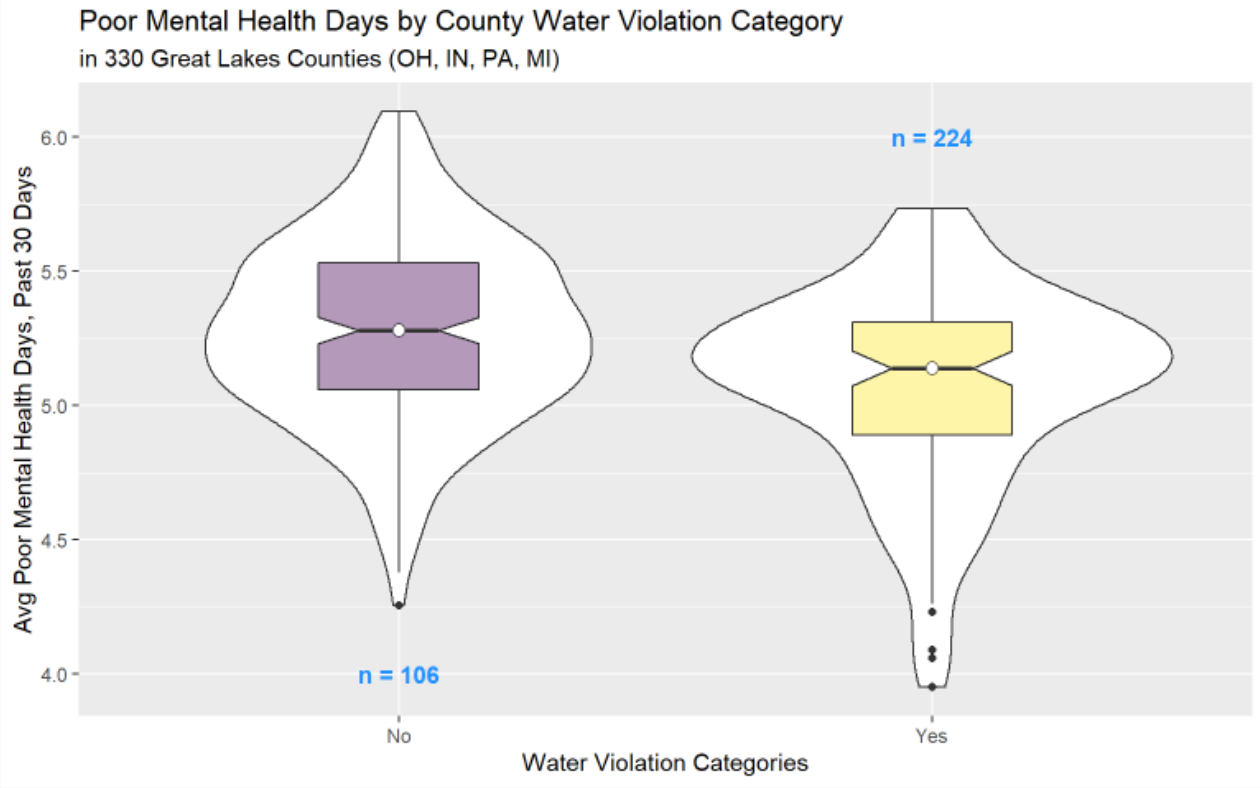
- 330 counties in Ohio, Indiana, Michigan, and Pennsylvania

County Count for Analysis 2		
State	**n**	**Percent**
Ohio	88	26.7%
Indiana	92	27.9%
Michigan	83	25.2%
Pennsylvania	67	20.3%
Total	330	100%

- **Predictor variable:** water violation (binary categorical variable)
- **Outcome variable:** poor mental health days

Water Violations: Two Levels		
Counties with water violations	224	67.9%
Counties without water violations	106	32.1%
Total	330	100%

Analysis Two: Visualization & Prediction Equation



Prediction Equation:

$$\widehat{\text{poor\_mental\_health}} = 5.28 - 0.2(\text{water\_violations}_{\text{Yes}})$$

R-squared = .068