Pride & Joy

An investigation of mental health correlates in LGBQ+ people

Emily K. Sanders
June 2024

Problem Statement

- Unique factors affect the mental health of queer people, for better or for worse

- Social oppression vs. social connection

- Purpose: build a model to predict psychological well-being among queer people, and interpret the most influential factors.

Terminology

LGB and Queer

Scales and Scores

Terminology

LGB and Queer

- Participants were
  - Cisgender, with a minority sexual orientation, OR
  - Not cisgender, but didn't identify as trans either
- I chose the term queer.

Scales and Scores

Terminology

LGB and Queer

- Participants were
  - Cisgender, with a minority sexual orientation, OR
  - Not cisgender, but didn't identify as trans either
- I chose the term queer.

Scales and Scores

- Participants answered nearly 200 questions (items).
- Many questions grouped together into scales.
- Participants received one score per scale.

Method

- Dataset from Ilan H. Meyer

- 1518 observations from 2016

- Feature selection (1): elimination

- Feature engineering: condense, impute

- Feature selection: correlations, graphs

- Linear modeling for inference

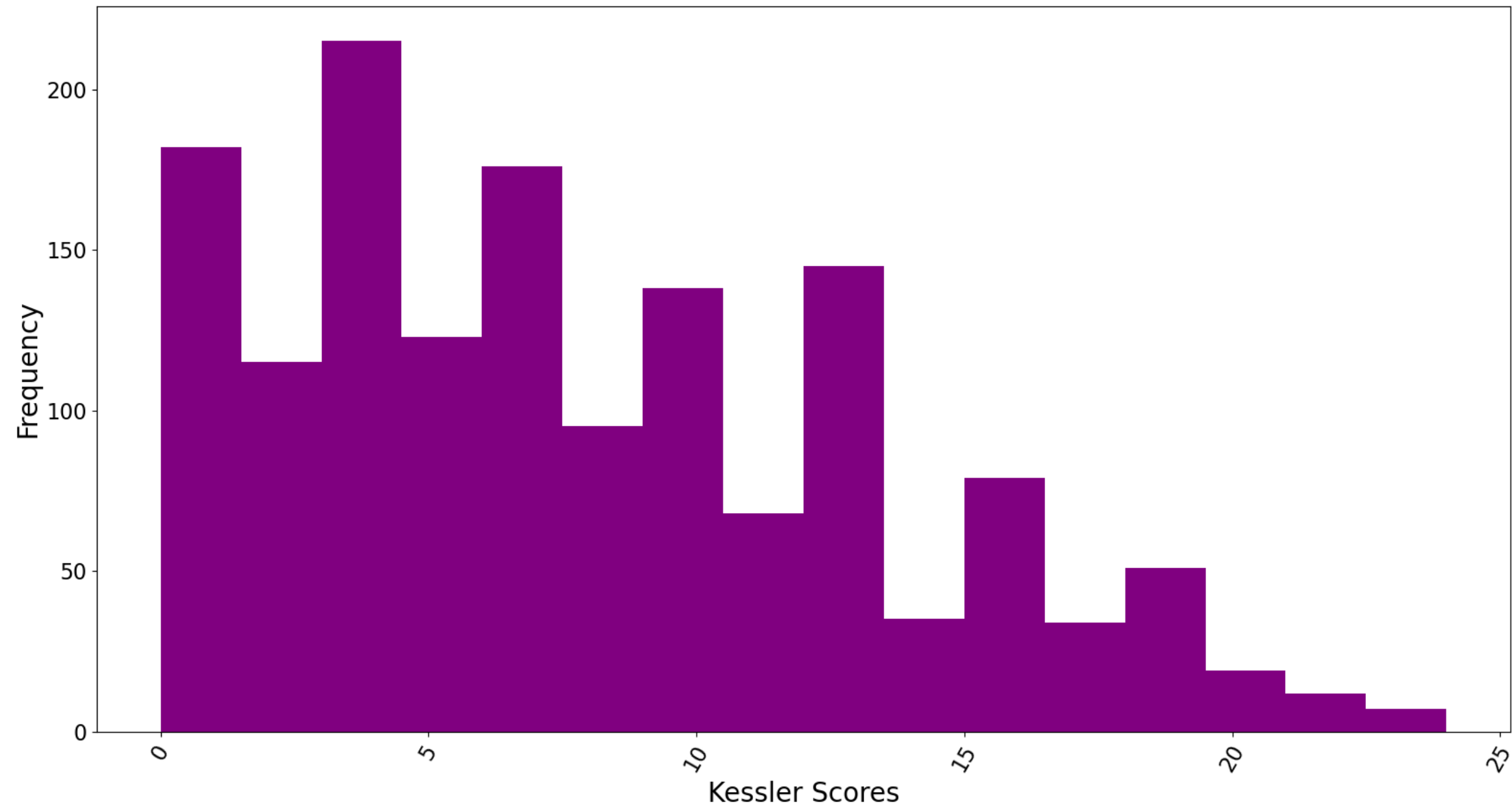*Image credit: UCLA*

Example: Kessler-6 Inventory (Scale)

During the past 30 days, about how often did you feel...

A. Nervous

B. Hopeless

C. Restless or fidgety

D. So depressed that nothing could cheer you up

E. That everything was an effort

F. Worthless

1. All

2. Most

3. Some

4. A little

5. None

...of the time

Distribution of Kessler Scores

Distribution Woes

Raw Kessler Scores — Range from 0-24 (theoretically 30)
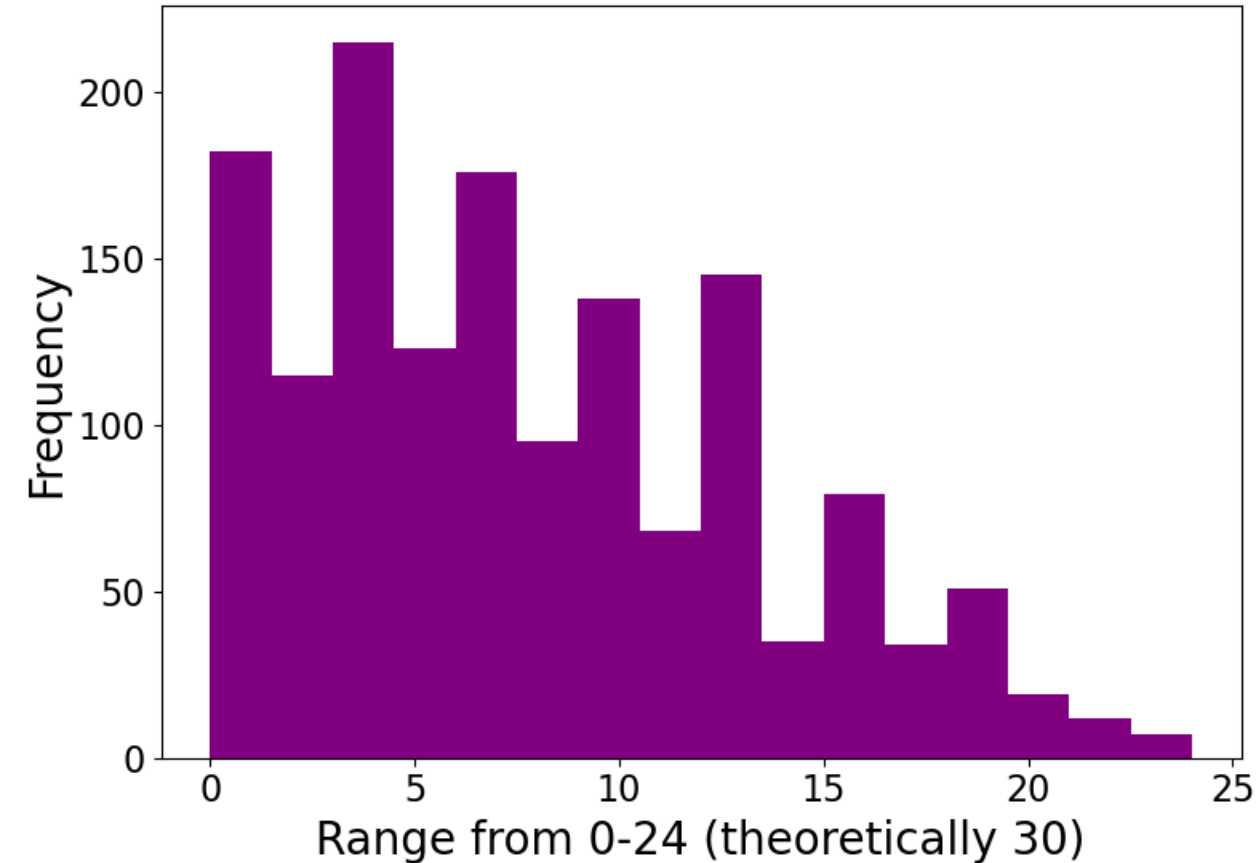
Square Root of Kessler Scores — Range from 0-5 (theoretically ~5.5)
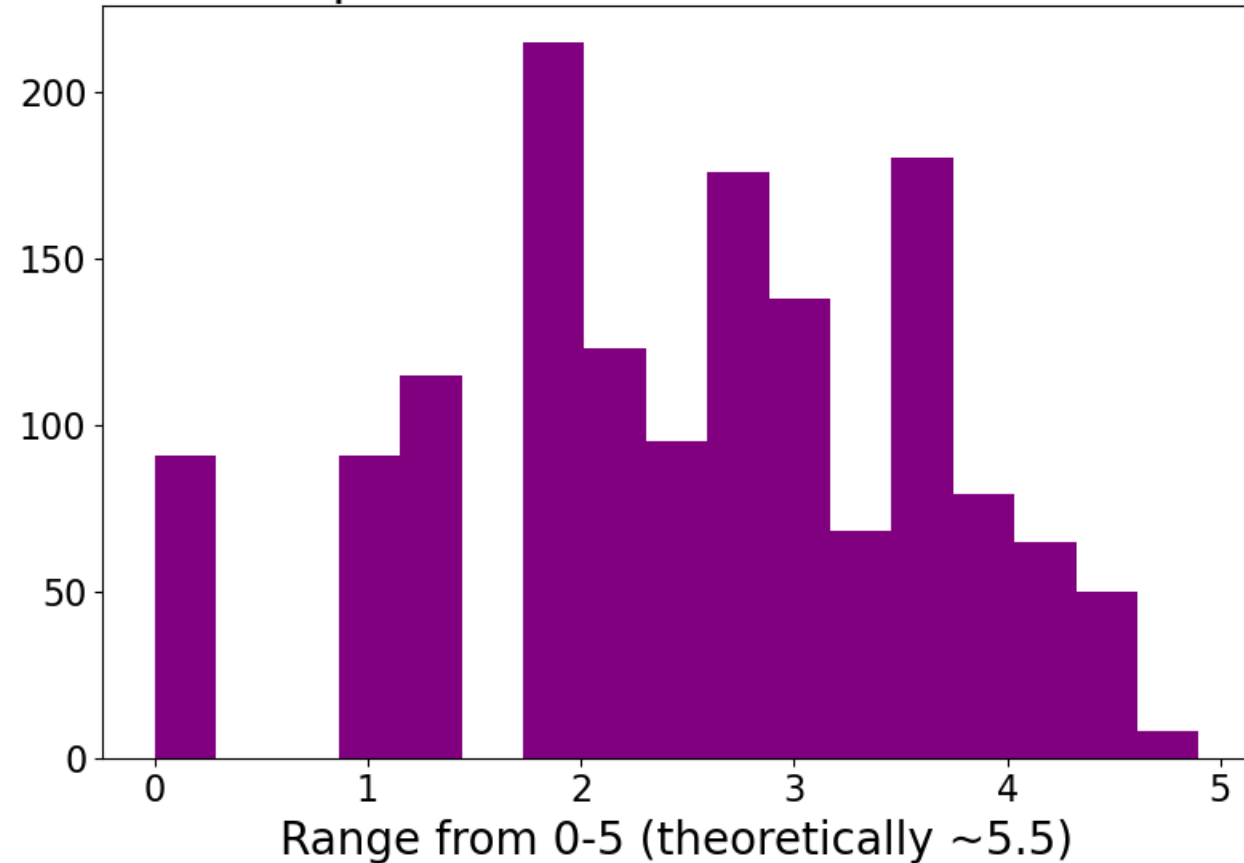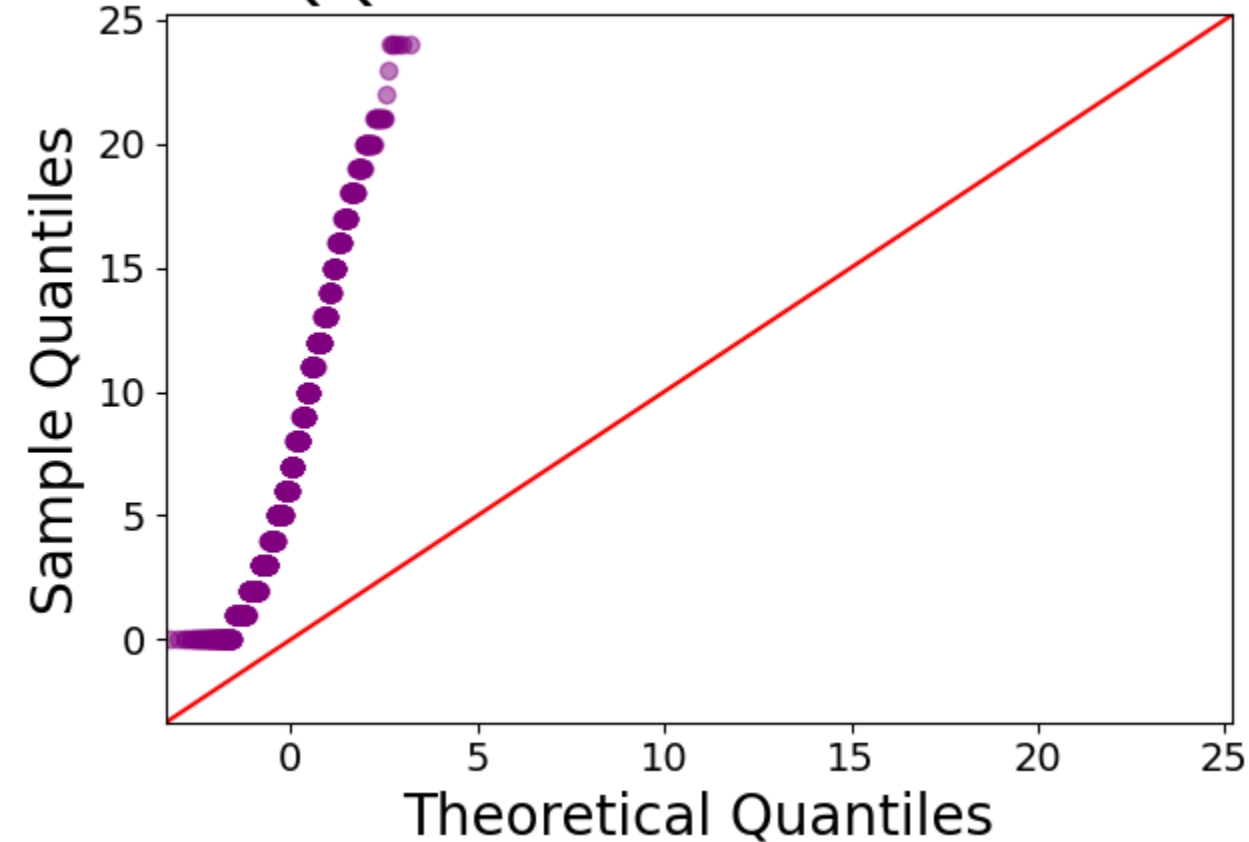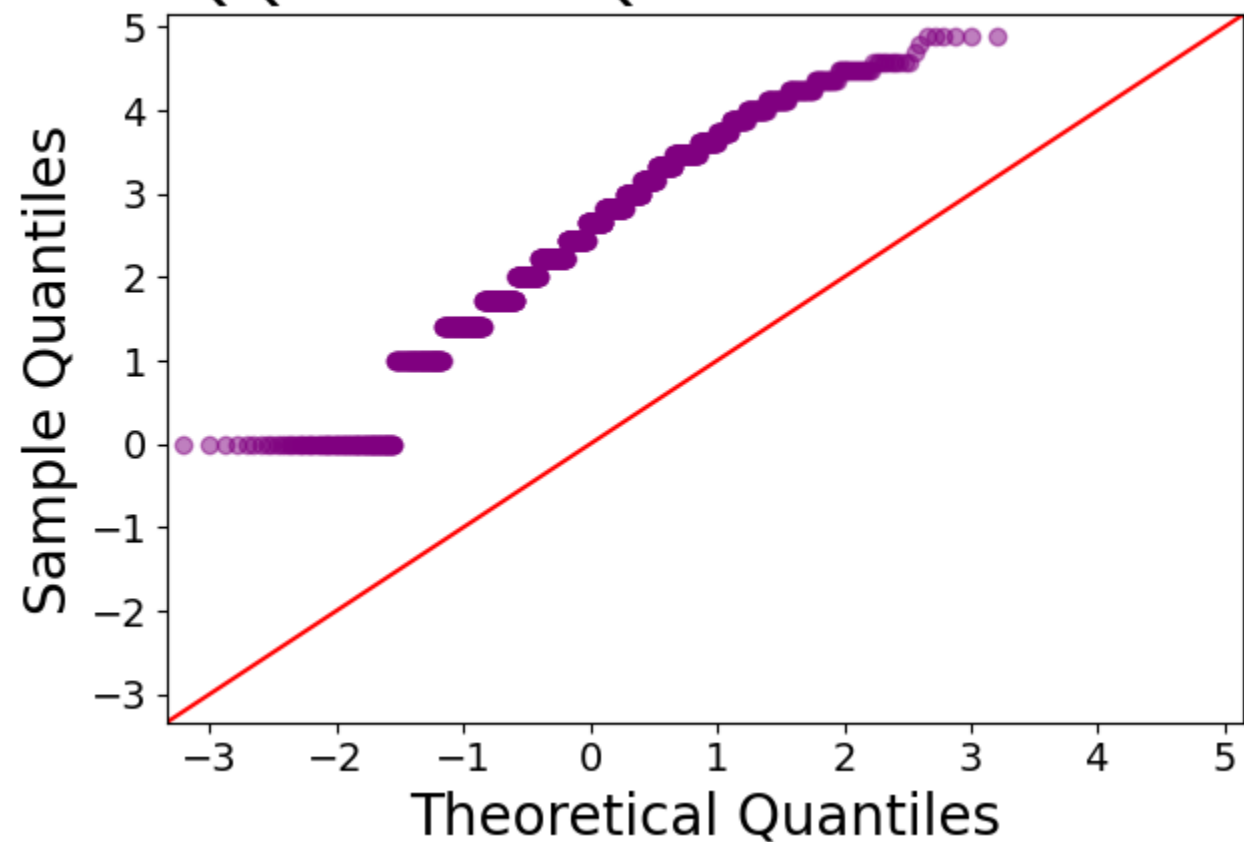
Distribution Woes


QQ-Plot of Kessler Scores

QQ-Plot of SQRT Kessler Scores

Features

- Demographics
- Life stress
- Victimization and discrimination
- Adverse childhood experiences (ACE)
- Healthcare access, use, and outcomes (Kessler-6)

- Identity, community, outness (sexual orientation & race)
- Well-being acceptance, & social support
- Childhood GNC
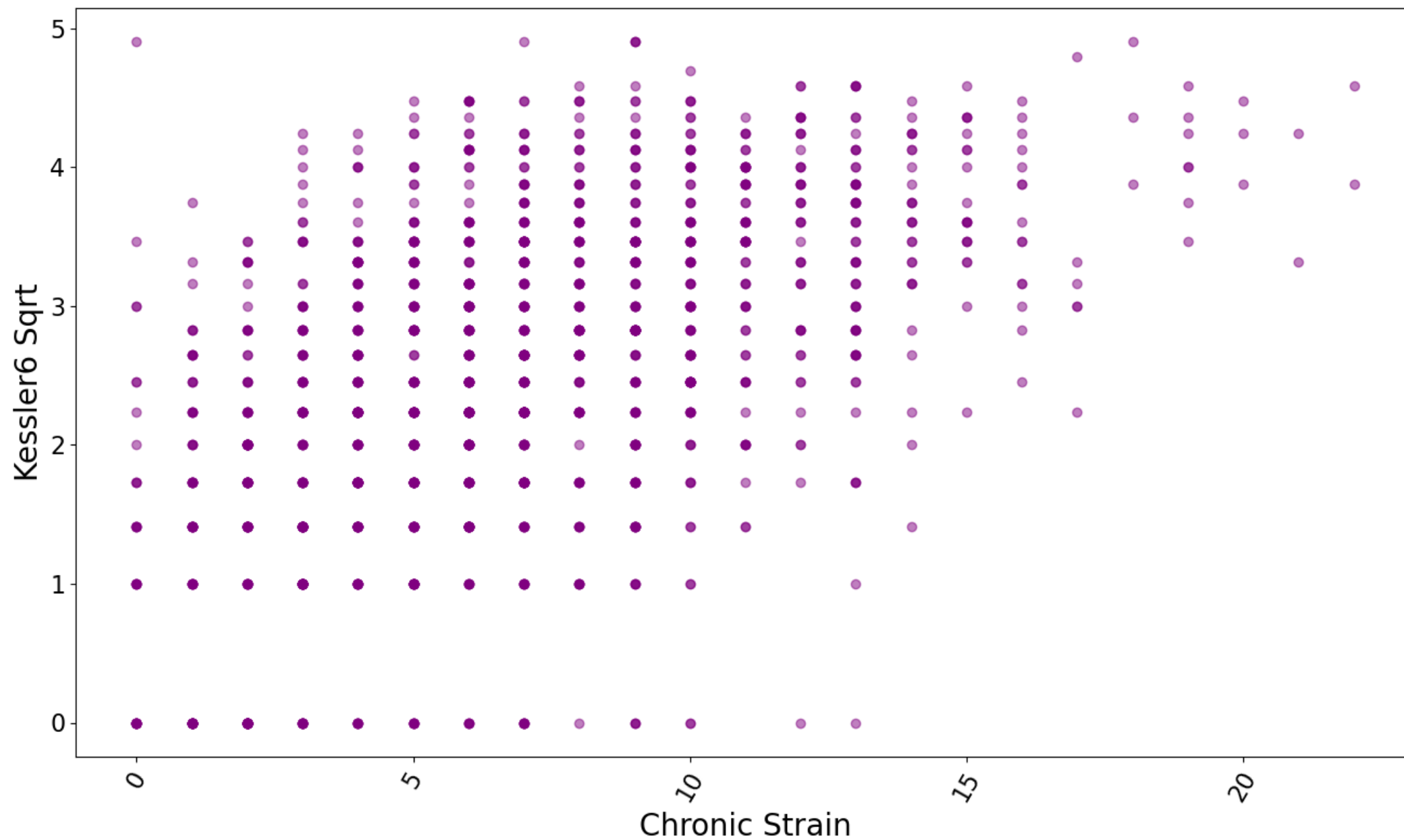- Felt stigma
- Internalized homophobia
- Conversion "therapy"

Distribution of Chronic Strain
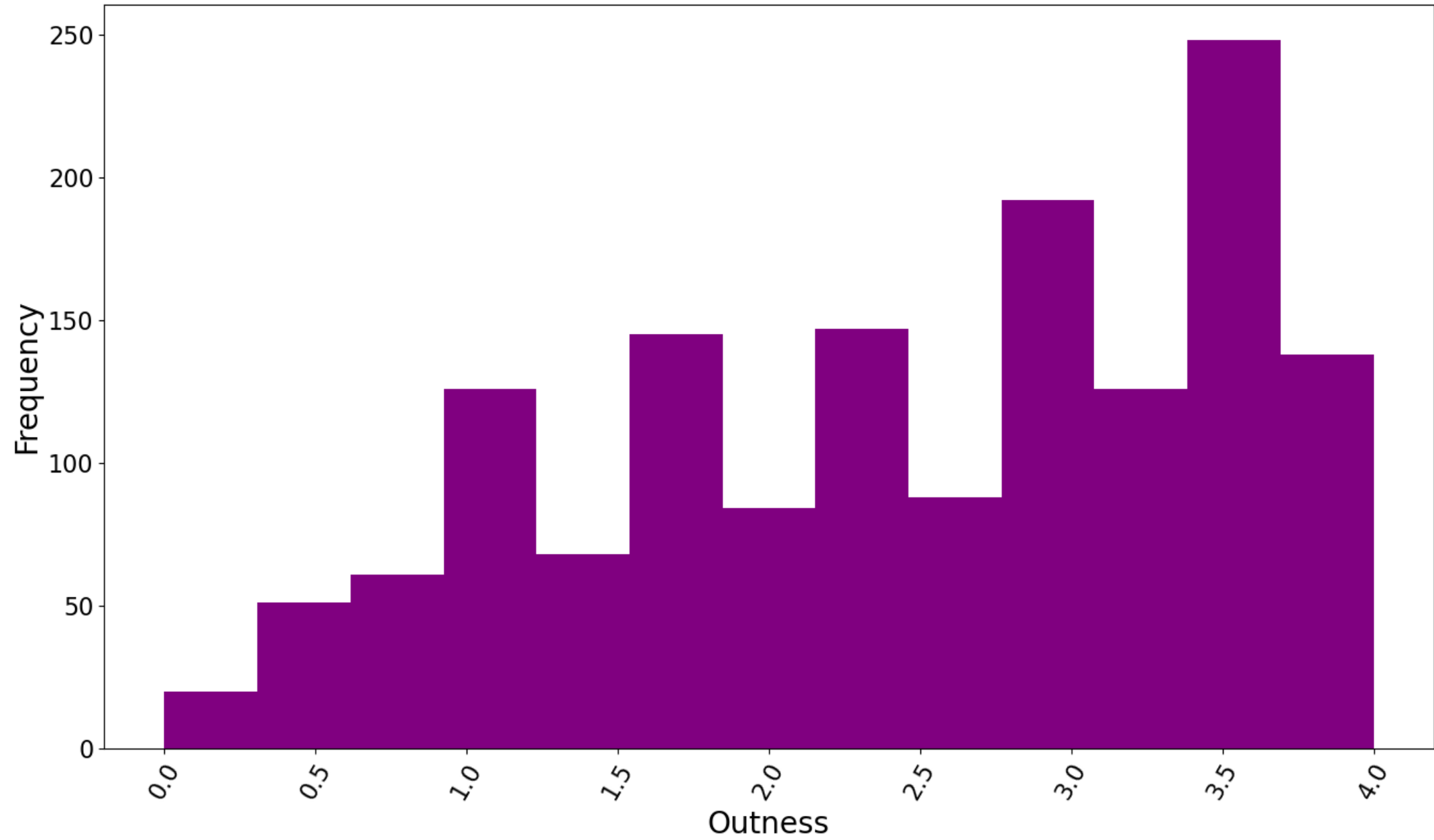
Based on 1494 Observations out of 1494
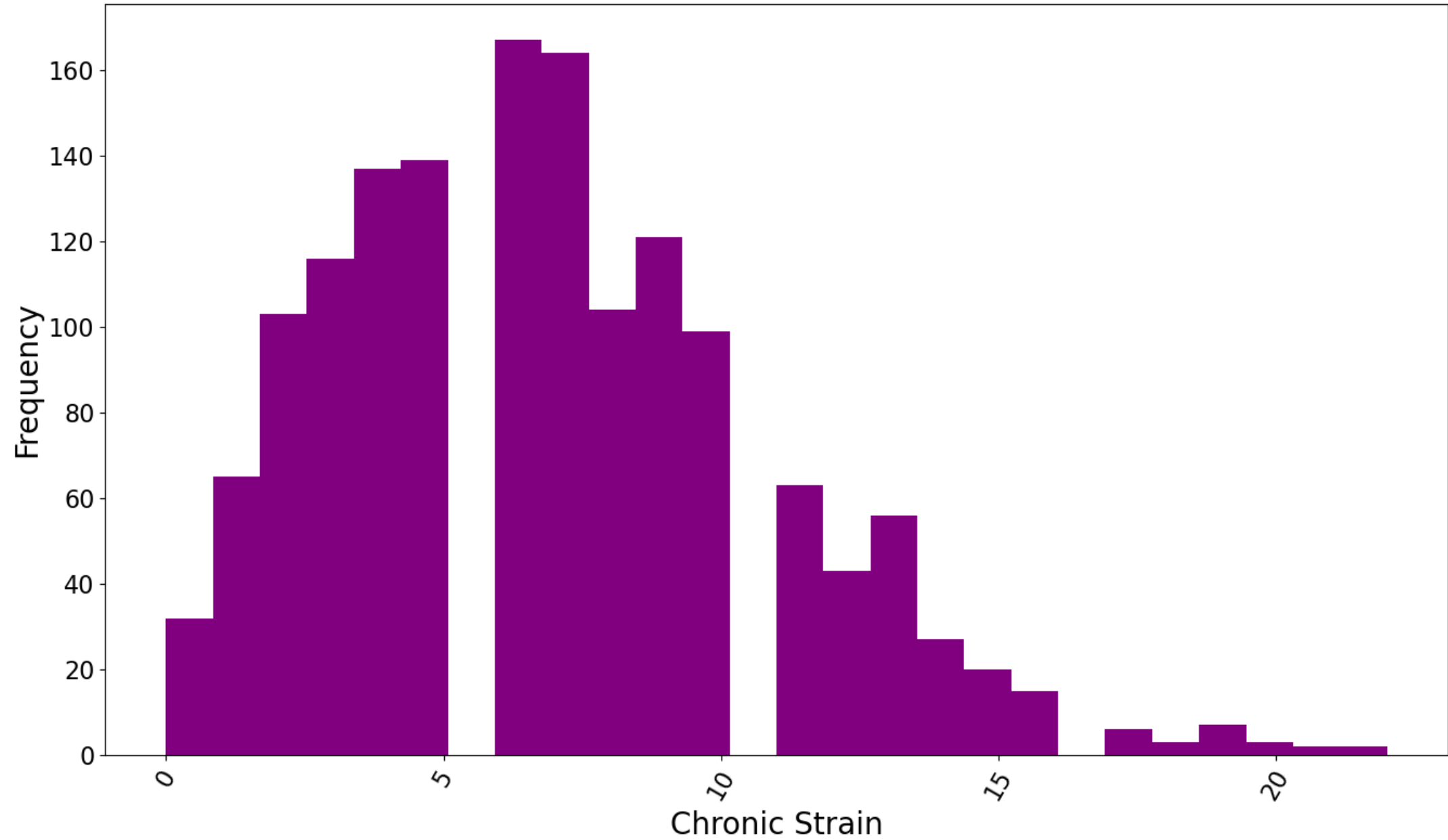
Relationship between Chronic Strain and Kessler6 Sqrt

Based on 1494 Observations out of 1494
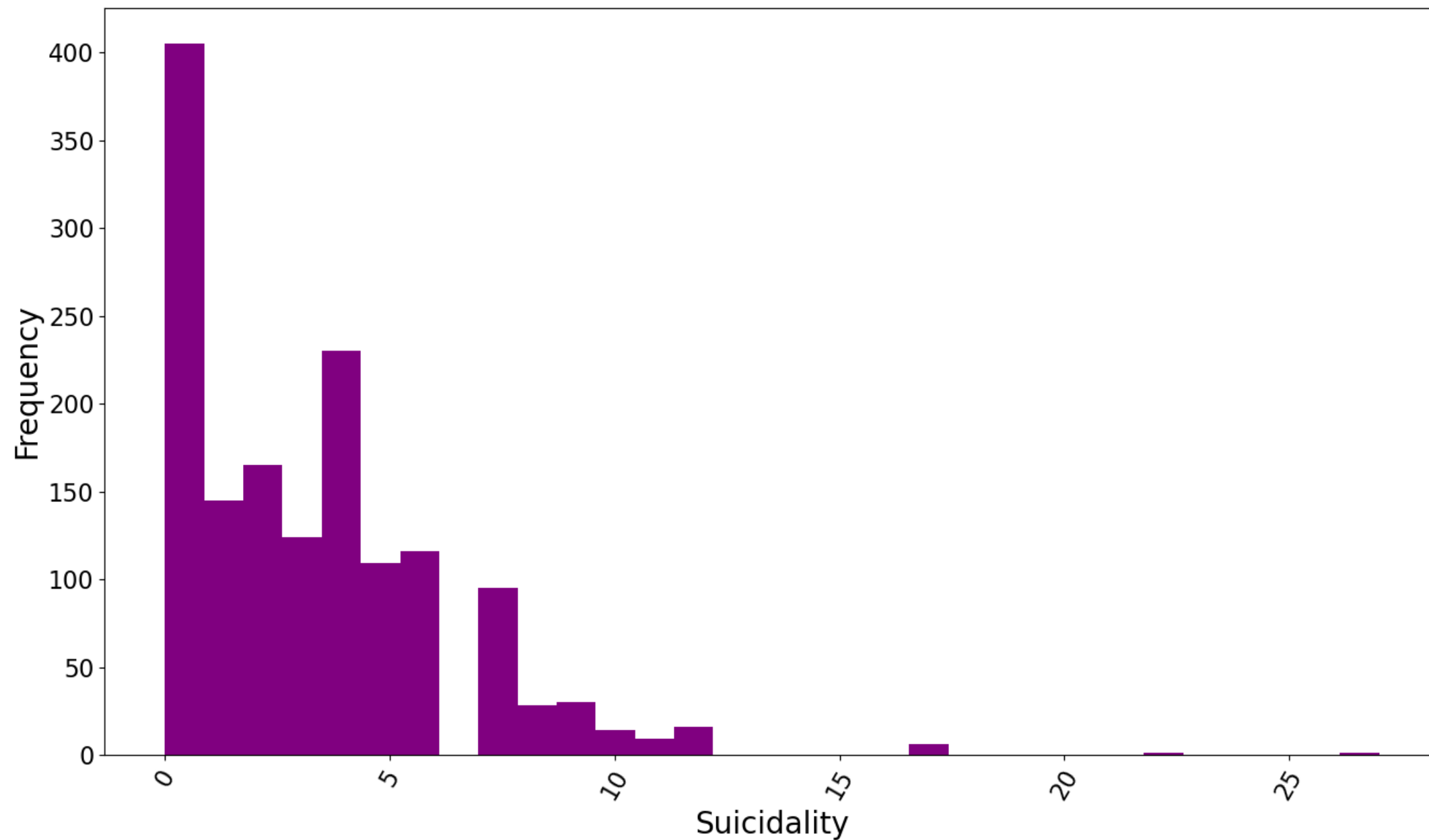
Distribution of Outness
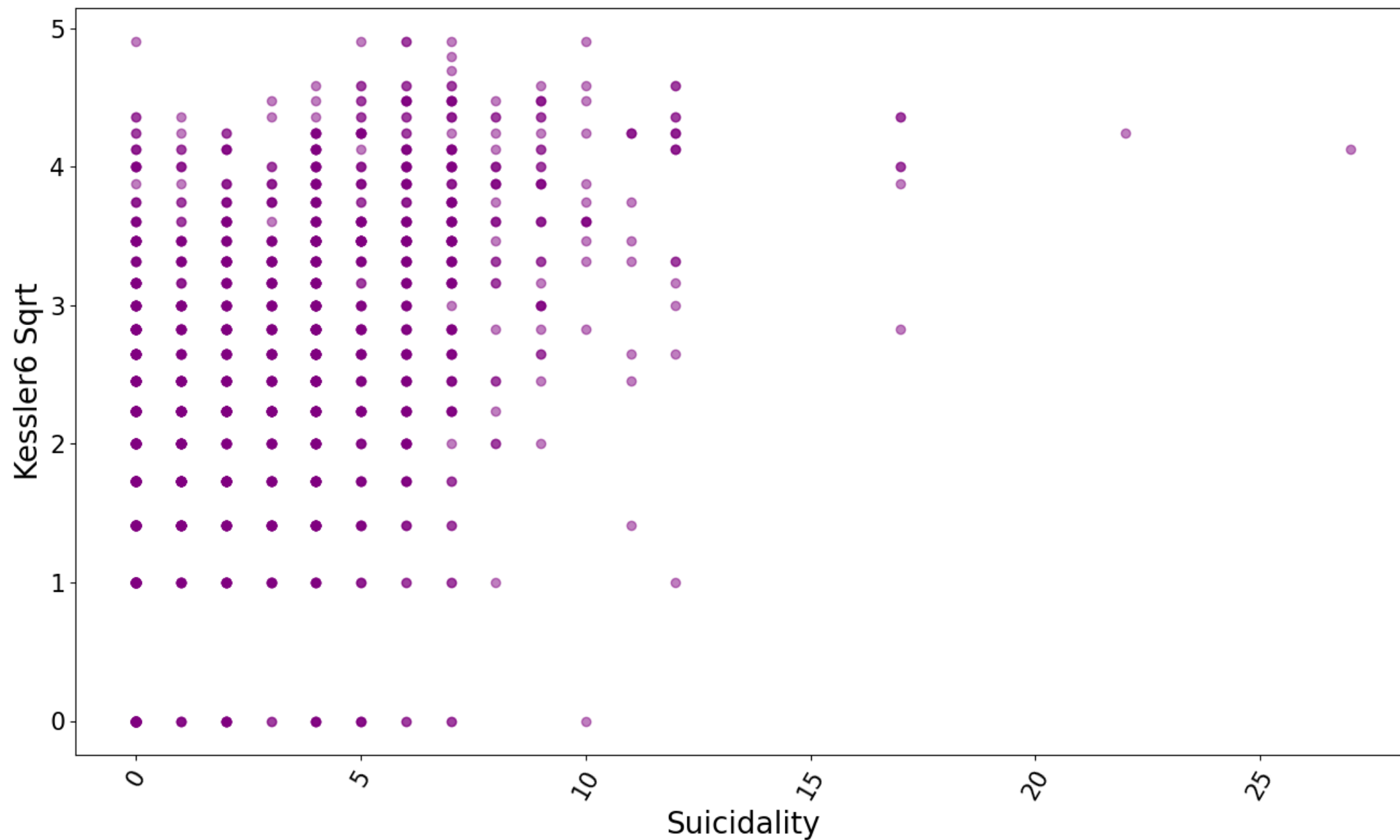
Based on 1494 Observations out of 1494

Distribution of Suicidality

Based on 1494 Observations out of 1494

Relationship between Suicidality and Kessler6 Sqrt

Based on 1494 Observations out of 1494

Model

Covariates

- Age
- Life satisfaction
- Income & poverty
- General happiness
- Mental health*
- Born/raised in USA
- Being retired
- Religiosity

General Predictors

- Chronic strain (stress)
- Racial ID centrality
- Suicidality
- Alcohol or drug (ab)use
- Everyday discrimination
- Denial of housing
- Social support/well-being
- Lifetime HIV or other STIs

Queer Predictors

- Community connection
- Conversion "therapy"
- Felt stigma
- Sexual ID centrality
- Internalized homophobia
- Outness in school (as teen)
- Presence / length of romantic relationship

Model Results

This model explained ~60% of the variance in SQRT Kessler scores.
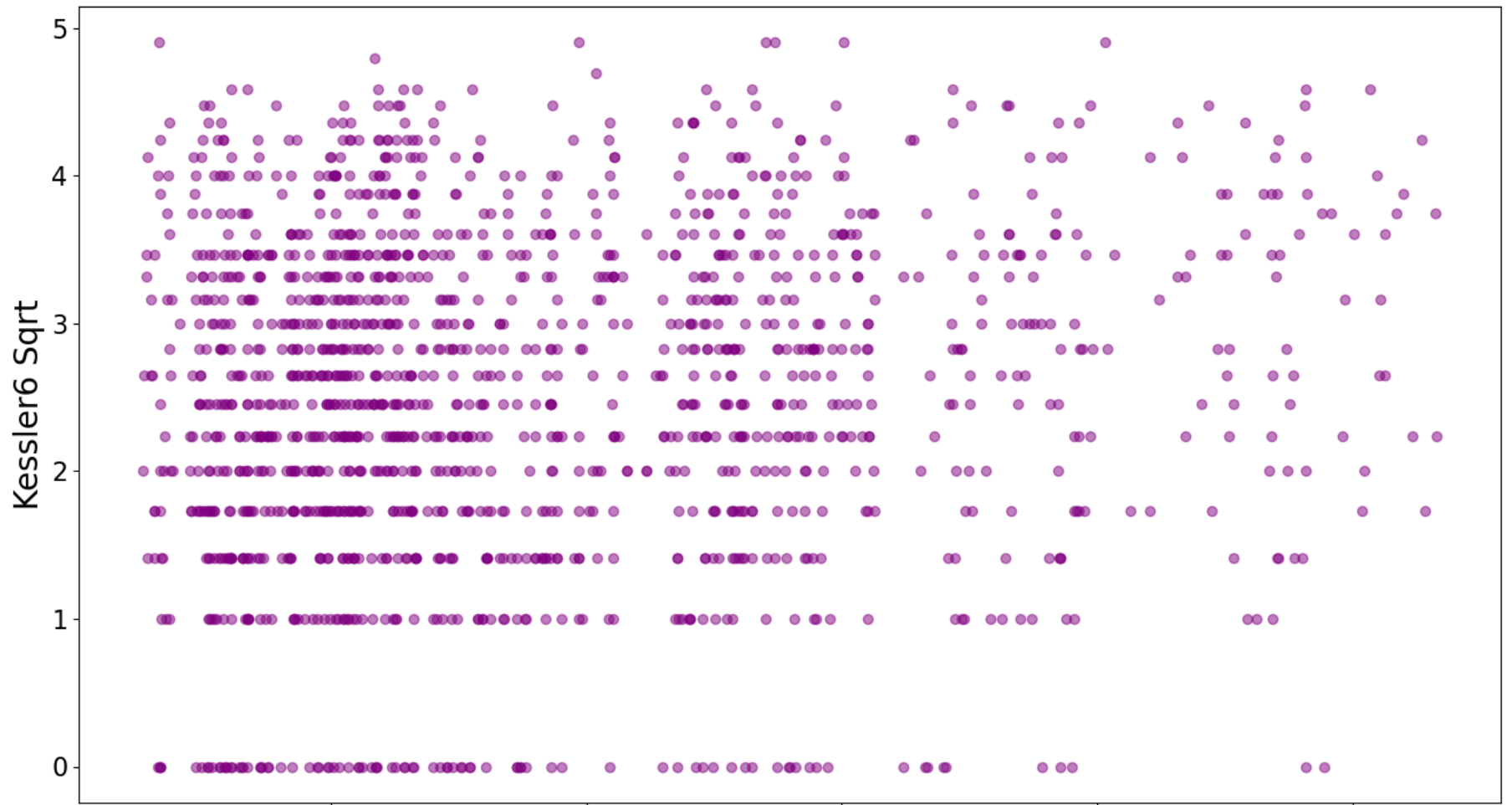
Model Results

Predictions vs. SQRT Kessler

- R^2: 0.59

- MSE: 0.42

- RMSE: 0.65

- MAE: 0.50

Squared Predictions vs. Kessler

- R^2: 0.59 (same)

- MSE: 9.70

- RMSE: 3.11

- MAE: 2.37

Model Coefficients

5 Largest

- Routine discrimination (0.17)
- Social well-being (-0.10)
- General happiness (0.10)
- Raised in US (-0.09)
- Being retired (-0.07)

5 Smallest

- Length of relationship (0.003)
- Drug (ab)use (0.006)
- Alcohol (ab)use (0.007)
- Religiosity (-0.009)
- Outness as a teen (0.011)

Of Interest

- Felt stigma (-0.01)
- Internalized homophobia (0.05)
- Community connection (0.04)
- Sexual ID centrality (0.03)
- Conversion "therapy" (0.03)

Limitations

- The data is from 2016: pre-pandemic, early-Trump era

- Lots of imputation

- Limited time for feature selection and engineering

- Not all assumptions for linear modeling are met

- Cross-sectional survey data cannot establish causality

Recommendations

For society

- Stop discriminating!

- Personal well-being > relationship status

- Be better to immigrants and working people

- End the war on drugs

For me

- Finesse these features

- Explore other features

- Stress-test the imputations

- Test other y variables

- Get newer data

Conclusion

▶ I replicated the broad strokes of prior research, but…

▶ My first model has some odd results, likely due to colinearity.

▶ I want to keep trying to improve the model, generate more useful insights, and make the world better.

Thank you, and happy pride month!

I will now take questions.