

# Analysis of Prenatal Depression and Anxiety during Covid-19\*

Boxuan Yi

24 March 2024

## Table of contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Data</b>	<b>1</b>
<b>3</b>	<b>Model</b>	<b>2</b>
<b>4</b>	<b>Results</b>	<b>2</b>
<b>5</b>	<b>Discussions</b>	<b>2</b>
<b>6</b>	<b>Appendix</b>	<b>2</b>

## 1 Introduction

## 2 Data

Table 1: Levels of Depression and Anxiety Among Different Income Groups

Household Income in 2019	Average Level of Depression	Average Level of Anxiety
Less than \$20,000	0.4229167	0.5991071
\$20,000 - \$39,999	0.3798851	0.5529557
\$40,000 - \$69,999	0.3691692	0.5566710
\$70,000 - \$99,999	0.3593583	0.5570665
\$100,000 - \$124,999	0.3325216	0.5404653
\$125,000 - \$149,999	0.3279547	0.5312102
\$150,000 - \$174,999	0.3020882	0.5067285
\$175,000 - \$199,999	0.2916340	0.4944538
\$200,000+	0.3000794	0.5143537

Table 2: Levels of Depression and Anxiety Among Different Age Groups

Age Group	Survey Language	Average Level of Depression	Average Level of Anxiety
Under 27	English	0.4057530	0.5982596
Under 27	French	0.3243386	0.5260771
27 to 34	English	0.3348181	0.5398982

\*Code and data in this analysis is available at: [https://github.com/ElaineYi1/Prenatal\\_Mental\\_Health](https://github.com/ElaineYi1/Prenatal_Mental_Health)

Table 2: Levels of Depression and Anxiety Among Different Age Groups

Age Group	Survey Language	Average Level of Depression	Average Level of Anxiety
27 to 34	French	0.2850746	0.4836887
35 to 39	English	0.3235478	0.5215243
35 to 39	French	0.3063492	0.5065760
40 and above	English	0.3325758	0.5294372
40 and above	French	0.2727273	0.5324675

### 3 Model

### 4 Results

### 5 Discussions

### 6 Appendix

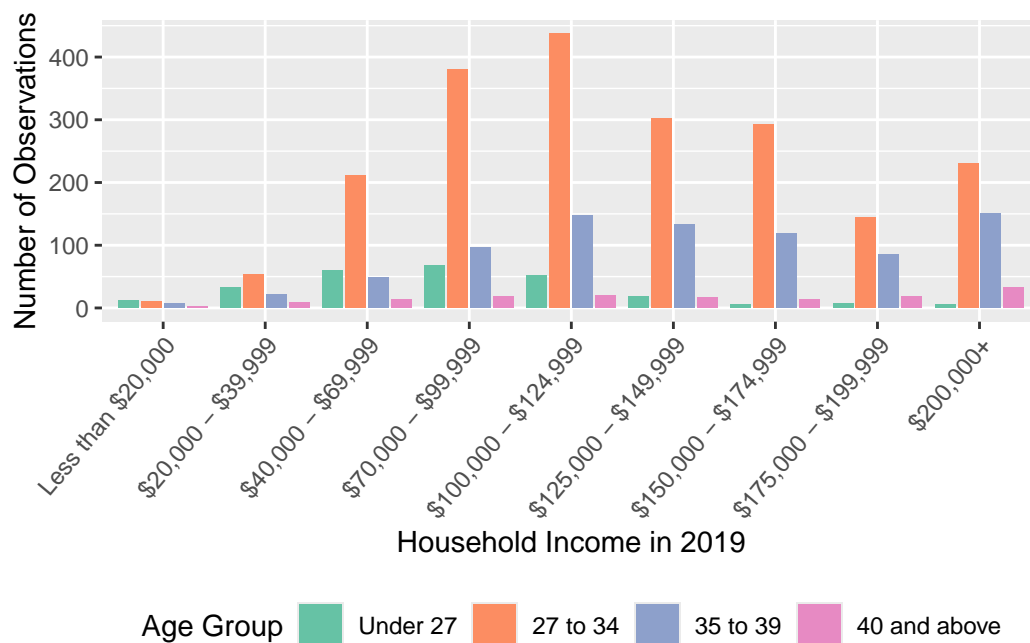
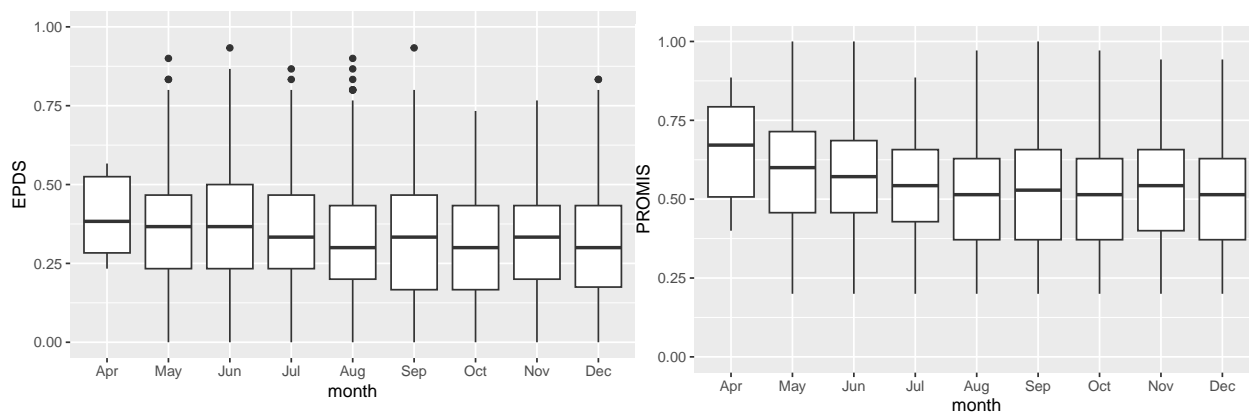


Figure 1: The Distribution of Age Groups and Household Income for Pregnant Participants



(a) Distribution of Edinburgh Postnatal Depression Scale Scores by Month

(b) Distribution of Promis Anxiety Scores by Months

Figure 2: Distribution of Levels of Depression and Anxiety by Month

Table 3: Estimating Prenatal Depression given Age, Household Income, Month of Delivery and Choice of Language

	Level of Depression
(Intercept)	−11.200
age_group35 to 39	−0.334
age_group40 and above	−2.817
age_groupUnder 27	−1.615
household_income\$125,000 - \$149,999	−0.070
household_income\$150,000 - \$174,999	0.032
household_income\$175,000 - \$199,999	−0.888
household_income\$20,000 - \$39,999	−2.803
household_income\$200,000+	−0.140
household_income\$40,000 - \$69,999	−0.634
household_income\$70,000 - \$99,999	0.012
household_incomeLess than \$20,000	−10.139
languageFrench	−1.033
monthAug	0.671
monthDec	−0.146
monthJul	0.537
monthJun	0.418
monthMay	−0.905
monthNov	0.095
monthOct	0.392
monthSep	0.580

Table 4: Estimating Prenatal Anxiety given Age Group, Household Income, Month of Delivery and Choice of Language.

	Level of Anxiety
(Intercept)	−8.973
age_group35 to 39	−0.477
age_group40 and above	−4.816
age_groupUnder 27	−0.062
household_income\$125,000 - \$149,999	−2.008
household_income\$150,000 - \$174,999	−2.126
household_income\$175,000 - \$199,999	−2.863
household_income\$20,000 - \$39,999	1.605
household_income\$200,000+	0.392
household_income\$40,000 - \$69,999	−2.379
household_income\$70,000 - \$99,999	1.327
household_incomeLess than \$20,000	−11.530
languageFrench	−2.748
monthAug	−0.622
monthDec	−1.228
monthJul	−0.712
monthJun	3.751
monthMay	2.793
monthNov	−1.074
monthOct	−0.668
monthSep	2.066

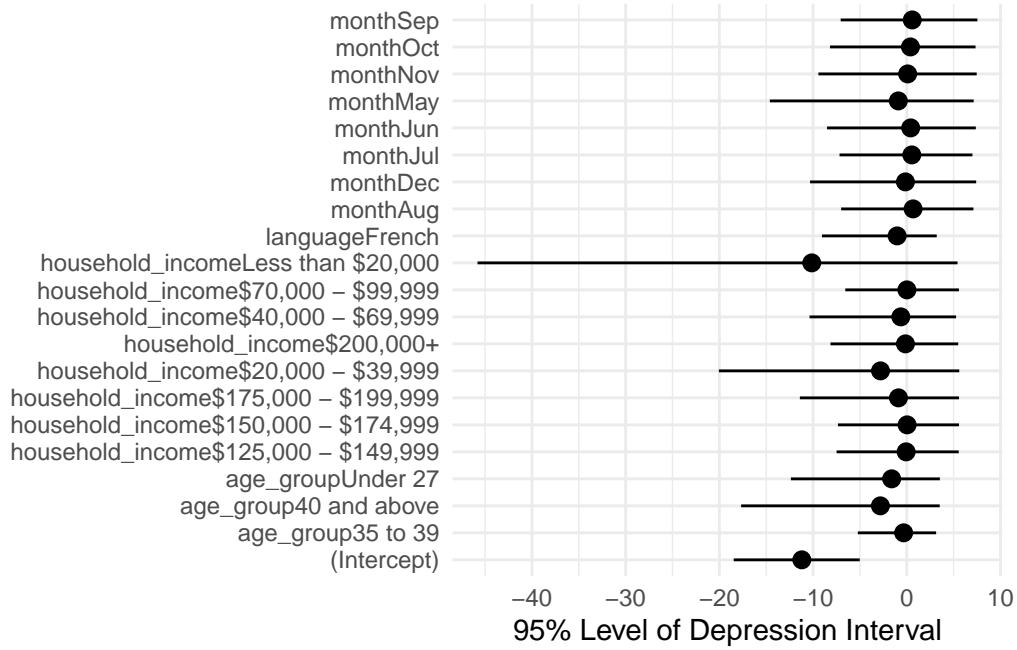


Figure 3: The Coefficients and Confidence Interval in the Depression Model

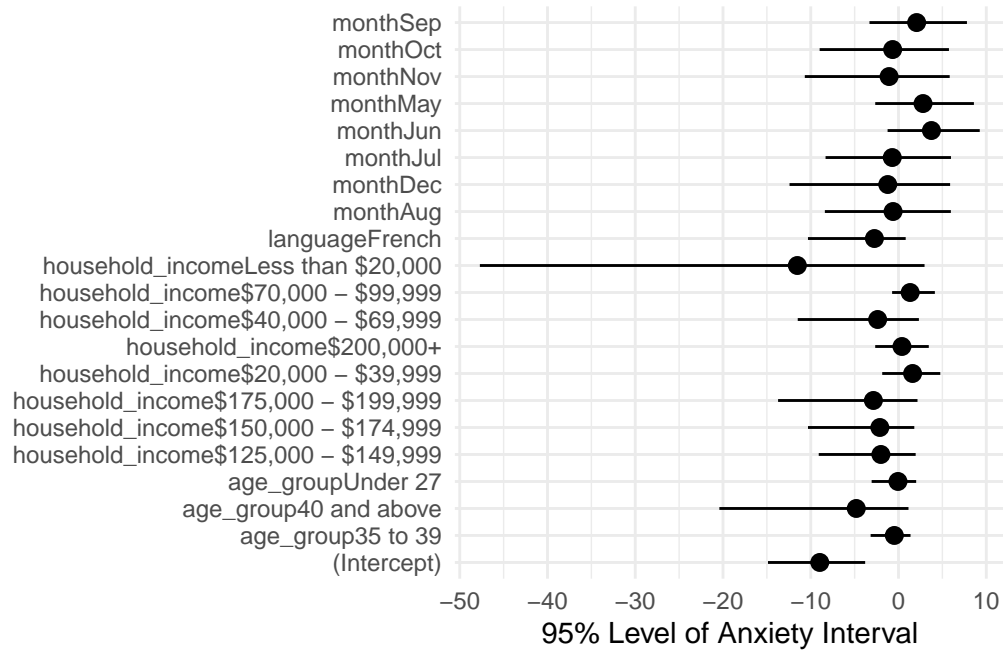


Figure 4: The Coefficients and Confidence Interval in the Anxiety Model

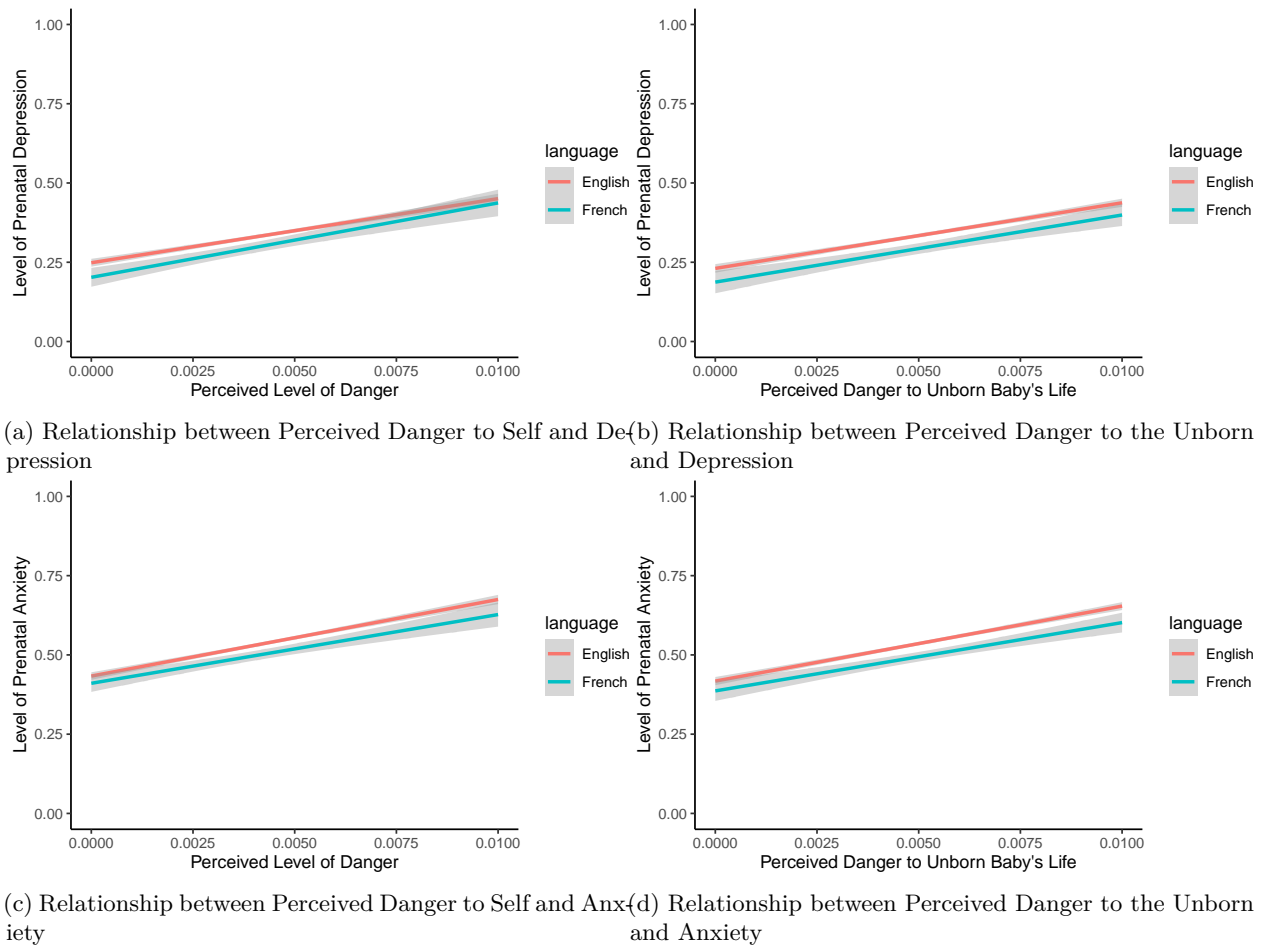


Figure 5: Association between Perceived Level of Danger and Prenatal Mental Health

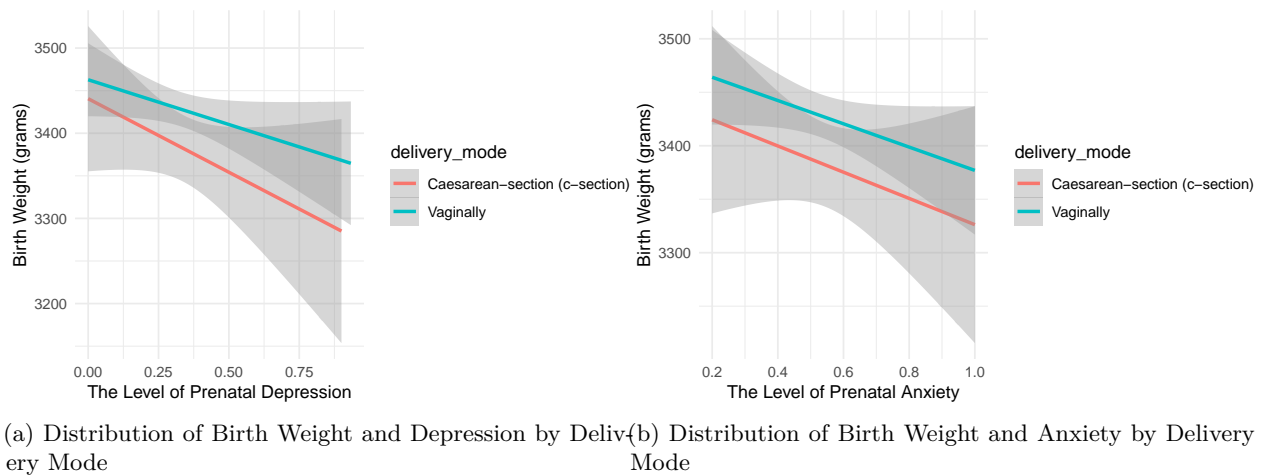


Figure 6: Distribution of Birth Weight and Prenatal Mental Health by Delivery Mode

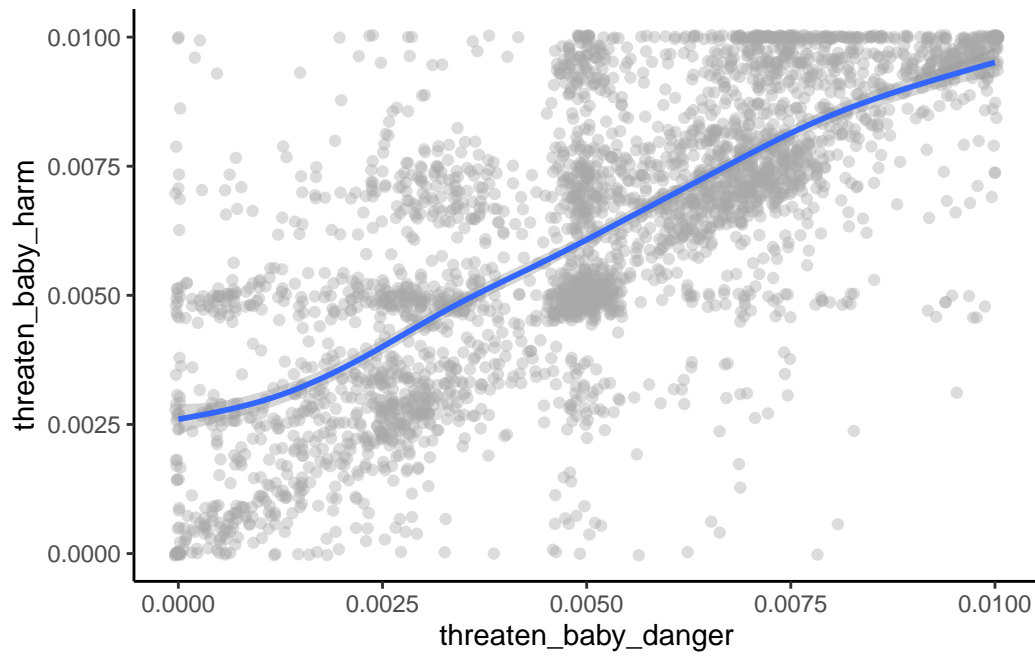


Figure 7: Distribution of the Preceived Danger to Baby and Preceived Potential Harm to Baby

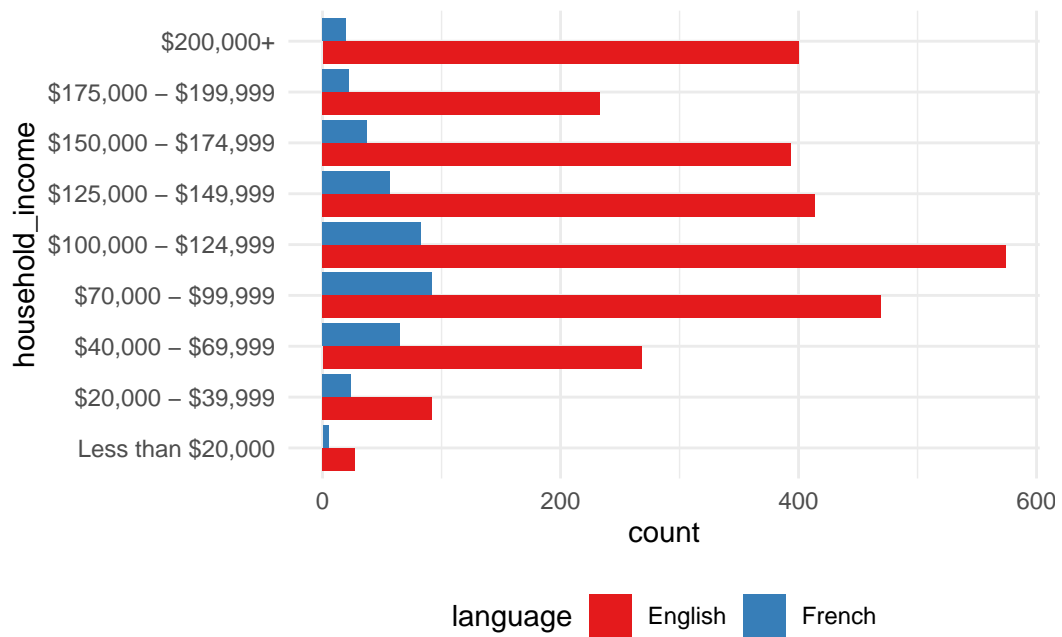


Figure 8: Income Group Distribution Based on the Choice of Survey Language