

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

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## 1 Introduction

## 2 Data

Table 1: 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
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

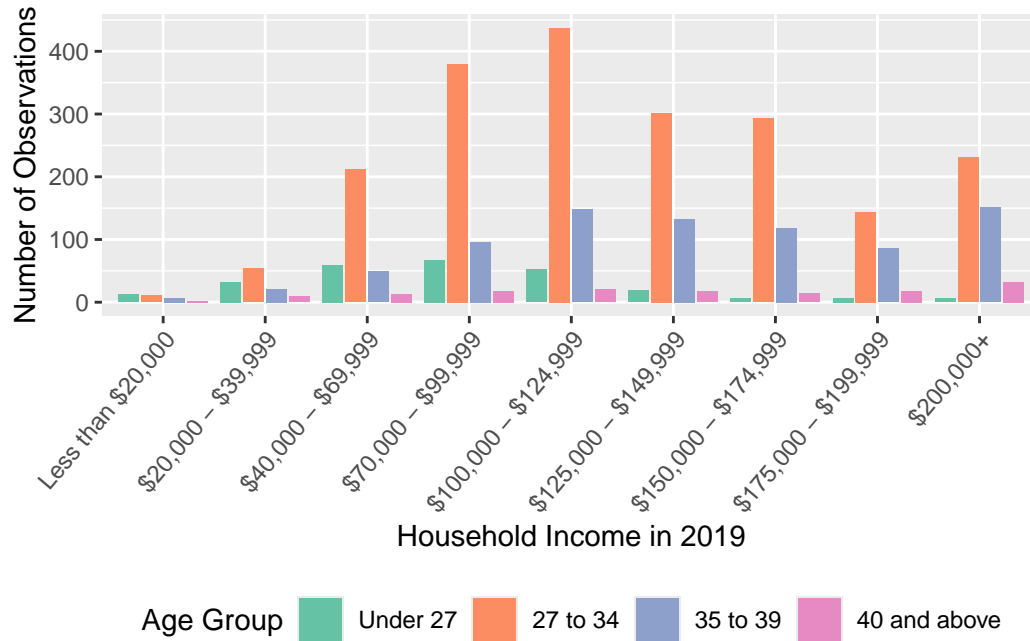


Figure 1: The Distribution of Age Groups and Household Income for Pregnant Participants

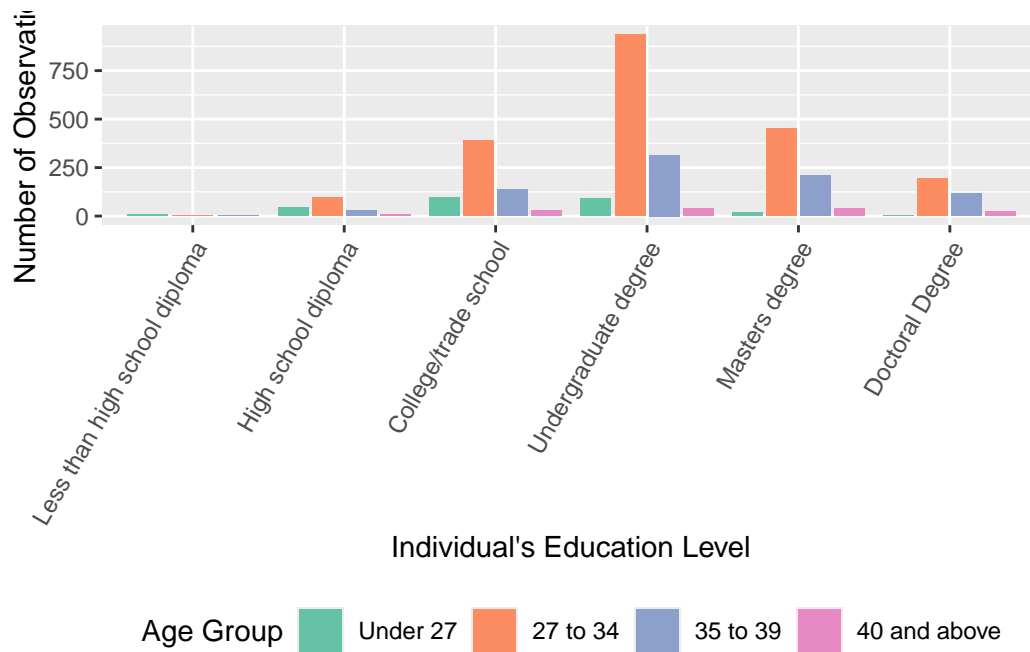
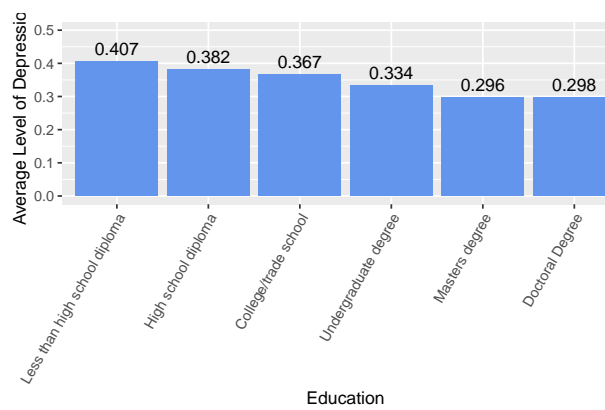
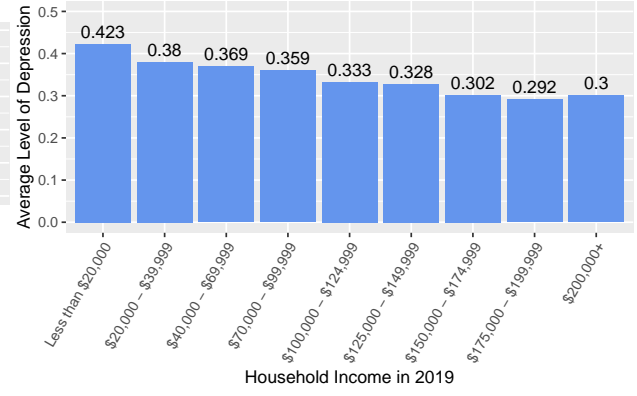


Figure 2: The Distribution of Age Groups and Level of Education for Pregnant Participants

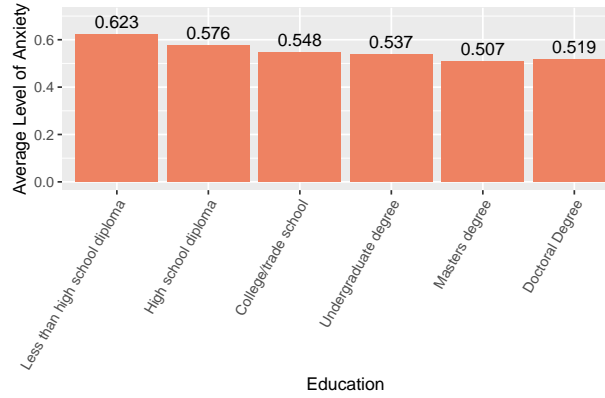


(a) Distribution of Levels of Depression by Education

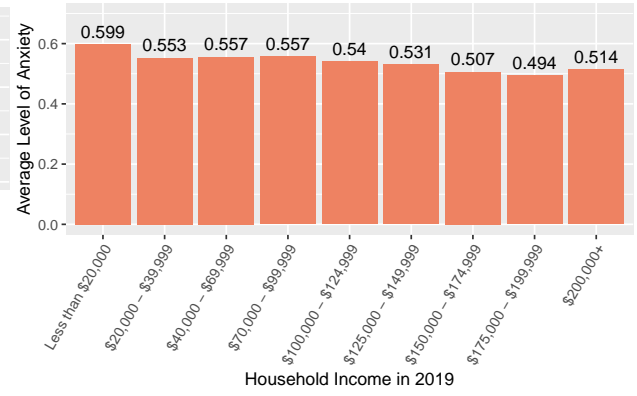


(b) Distribution of Levels of Depression by Household Income

Figure 3: Distribution of Levels of Depression by Education and Household Income

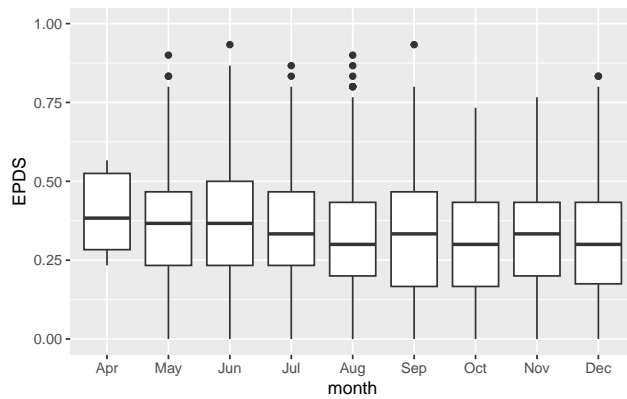


(a) Distribution of Levels of Anxiety by Education

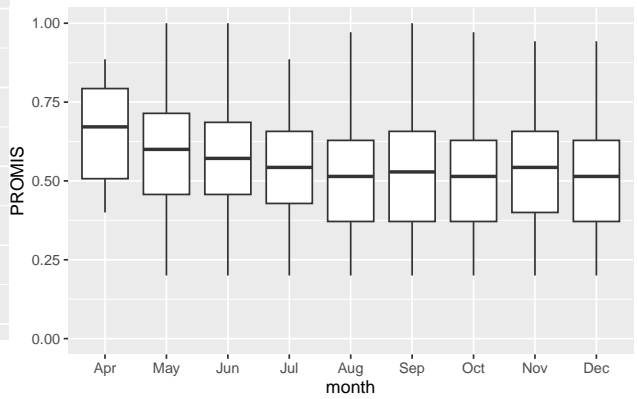


(b) Distribution of Levels of Anxiety by Household Income

Figure 4: Distribution of Levels of Anxiety by Education and Household Income



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



(b) Distribution of Promis Anxiety Scores by Months

Figure 5: Distribution of Levels of Depression and Anxiety by Month

Table 2: Estimating Prenatal Depression given Age, Household Income, Month of Delivery and Choice of Language

	Level of Depression
(Intercept)	−12.324
age_group27 to 34	0.843
age_group35 to 39	0.317
age_group40 and above	−2.622
household_income\$20,000 - \$39,999	−2.687
household_income\$40,000 - \$69,999	−0.218
household_income\$70,000 - \$99,999	0.690
household_income\$100,000 - \$124,999	0.878
household_income\$125,000 - \$149,999	0.470
household_income\$150,000 - \$174,999	0.363
household_income\$175,000 - \$199,999	−0.454
household_income\$200,000+	0.397
languageFrench	−1.004
maternal_educationHigh school diploma	−2.030
maternal_educationCollege/trade school	0.078
maternal_educationUndergraduate degree	0.699
maternal_educationMasters degree	0.151
maternal_educationDoctoral Degree	−0.705

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

	Level of Anxiety
(Intercept)	−9.516
age_group27 to 34	−0.123
age_group35 to 39	−0.552
age_group40 and above	−4.996
household_income\$20,000 - \$39,999	3.160
household_income\$40,000 - \$69,999	−1.664
household_income\$70,000 - \$99,999	2.942
household_income\$100,000 - \$124,999	1.610
household_income\$125,000 - \$149,999	−1.106
household_income\$150,000 - \$174,999	−1.191
household_income\$175,000 - \$199,999	−1.780
household_income\$200,000+	2.265
languageFrench	−3.160
maternal_educationHigh school diploma	−3.907
maternal_educationCollege/trade school	1.427
maternal_educationUndergraduate degree	1.403
maternal_educationMasters degree	0.934
maternal_educationDoctoral Degree	−2.261

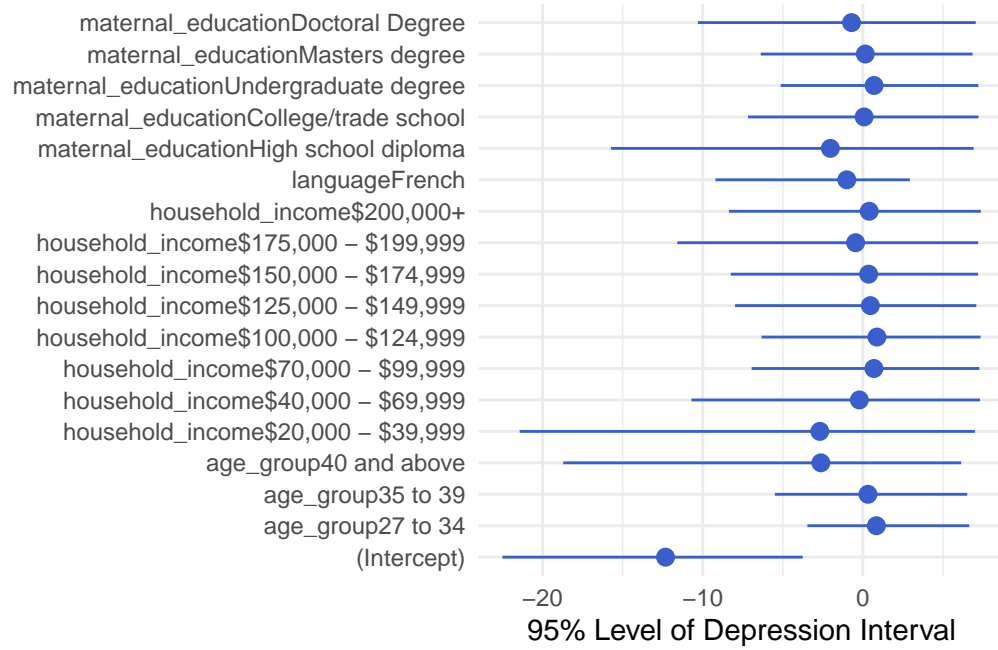


Figure 6: The Coefficients and Confidence Interval in the Depression Model

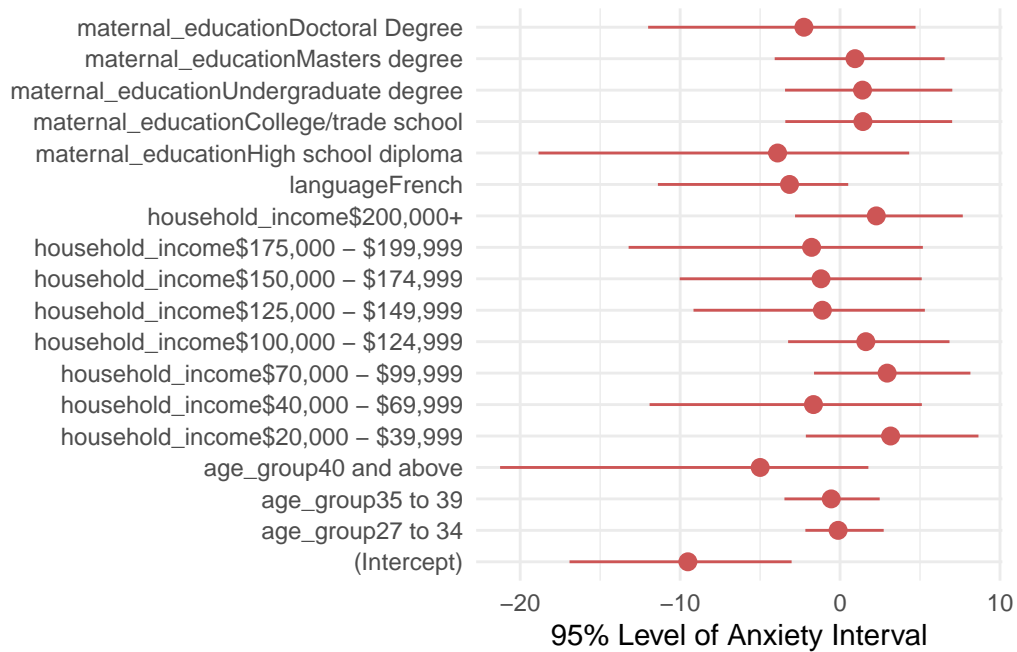
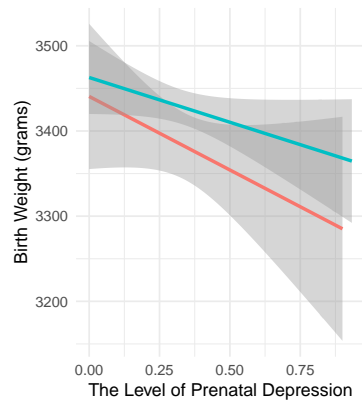
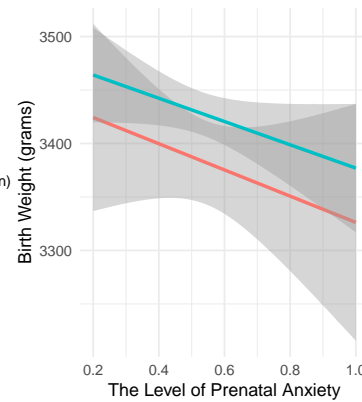


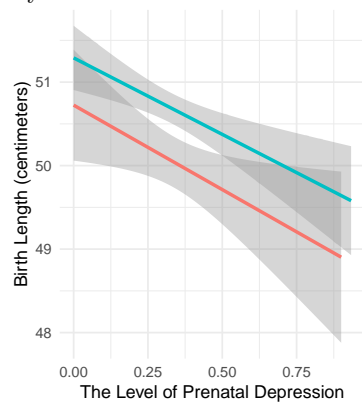
Figure 7: The Coefficients and Confidence Interval in the Anxiety Model



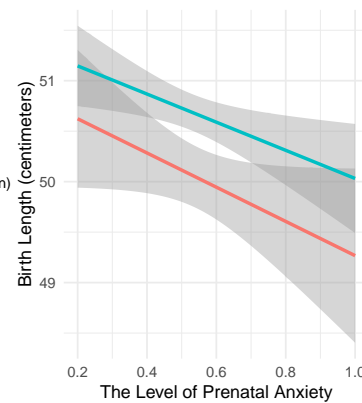
(a) Distribution of Birth Weight and Depression by Delivery Mode



(b) Distribution of Birth Weight and Anxiety by Delivery Mode



(c) Distribution of Birth Length and Depression by Delivery Mode



(d) Distribution of Birth Length and Anxiety by Delivery Mode

Figure 8: Distribution of Birth Weight and Length and Prenatal Mental Health by Delivery Mode

### 3 Model

### 4 Results

### 5 Discussions

### 6 Appendix

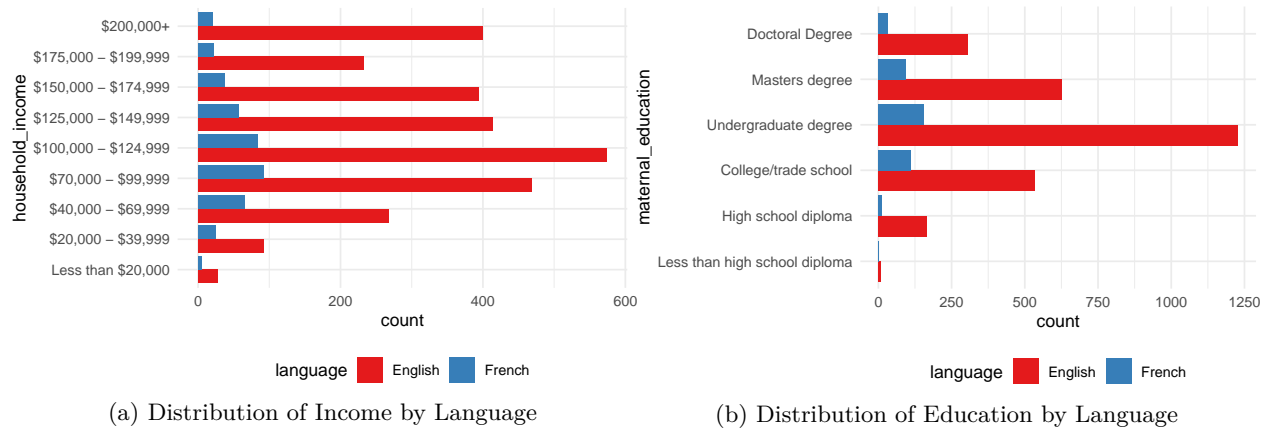


Figure 9: Income and Education Groups Distribution Based on the Choice of Survey Language

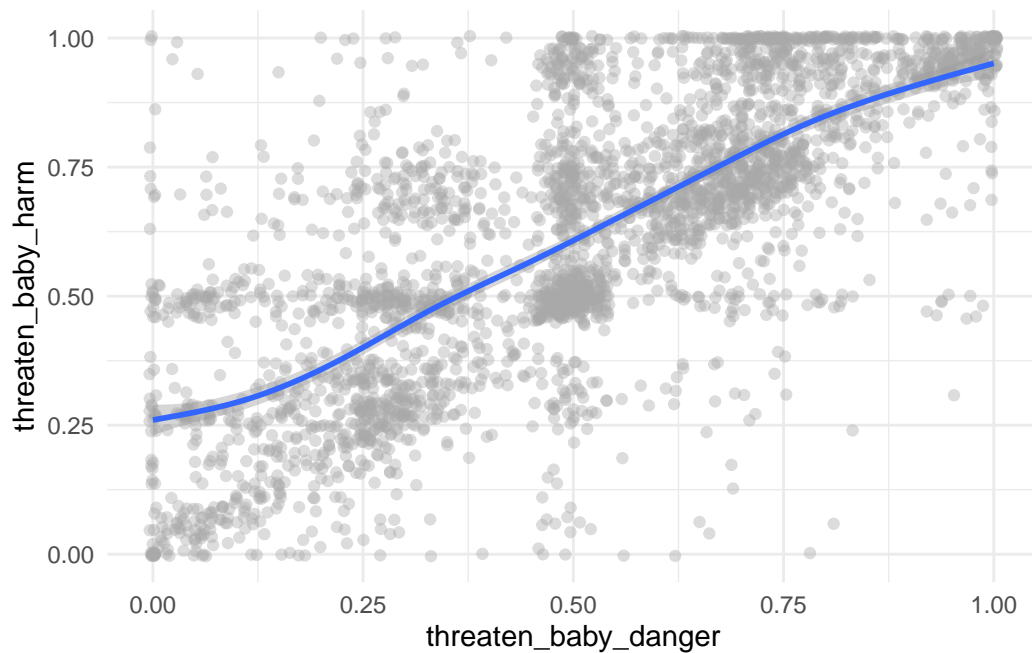
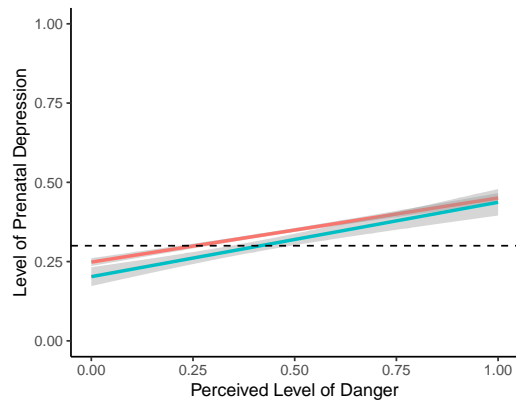
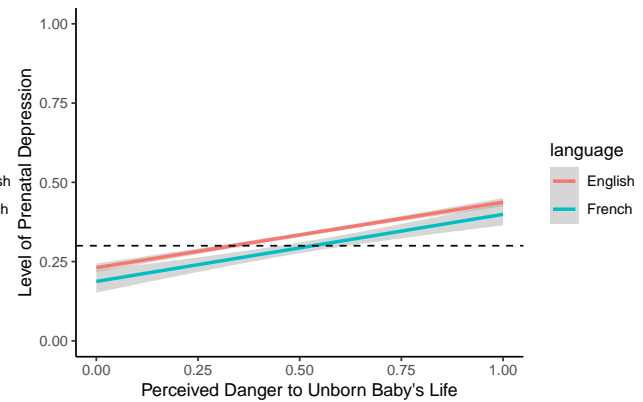


Figure 10: Distribution of the Preceived Danger to Baby and Preceived Potential Harm to Baby

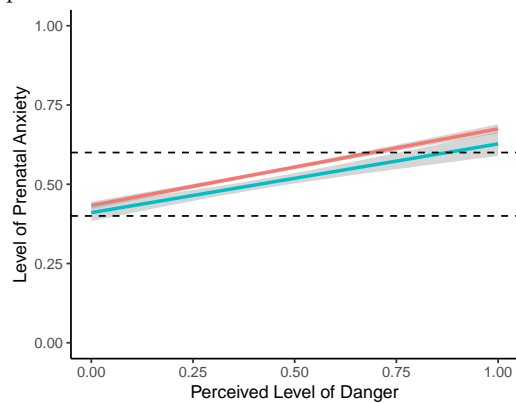
\*Code and data in this analysis is available at: [https://github.com/Elaineyil/Prenatal\\_Mental\\_Health](https://github.com/Elaineyil/Prenatal_Mental_Health)



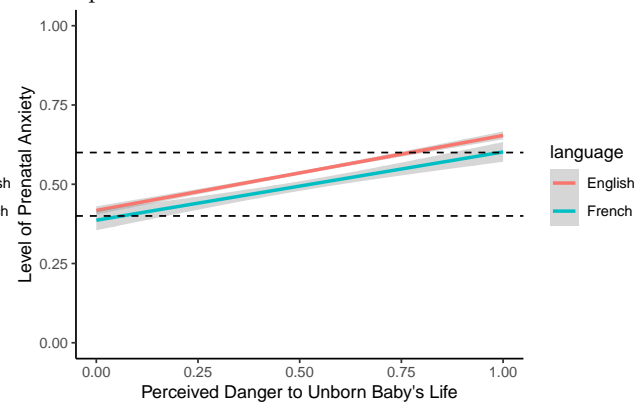
(a) Relationship between Perceived Danger to Self and Depression



(b) Relationship between Perceived Danger to the Unborn and Depression



(c) Relationship between Perceived Danger to Self and Anxiety



(d) Relationship between Perceived Danger to the Unborn and Anxiety

Figure 11: Association between Perceived Level of Danger and Prenatal Mental Health