Analysis of Prenatal Depression and Anxiety during Covid-19*

Boxuan Yi

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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	0.3343954	0.5393596
27 to 34	French	0.2850746	0.4836887
35 to 39	English	0.3236429	0.5212459
35 to 39	French	0.3063492	0.5065760
40 and above	English	0.3325758	0.5294372
40 and above	French	0.2727273	0.5324675
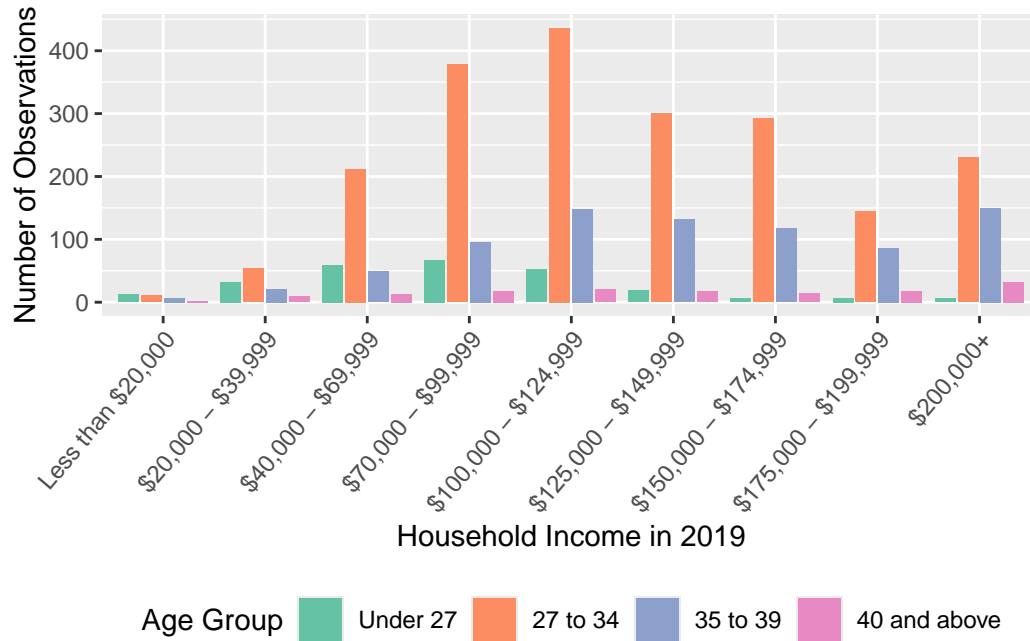
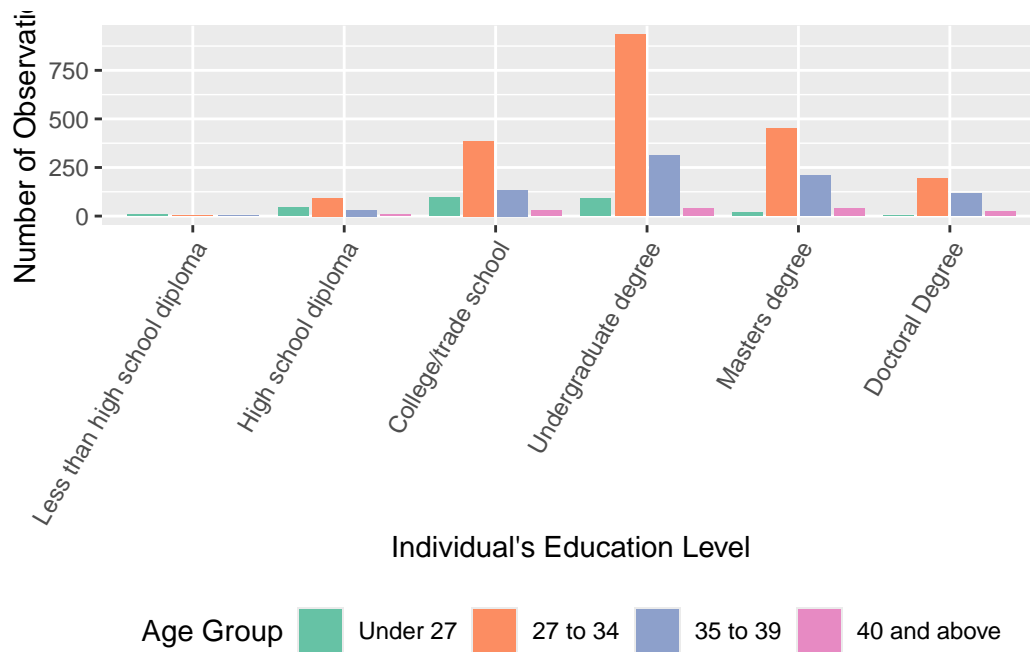Figure 1: The Distribution of Age Groups and Household Income for Pregnant Participants
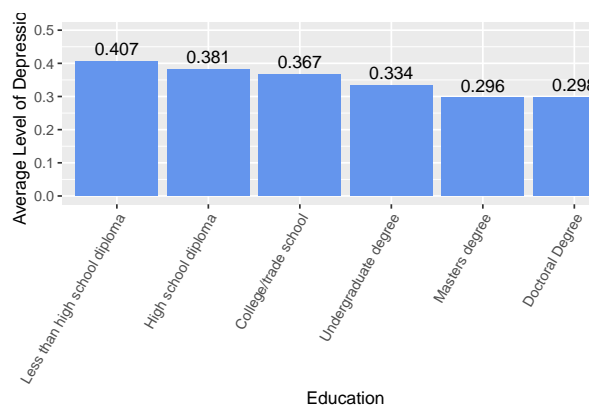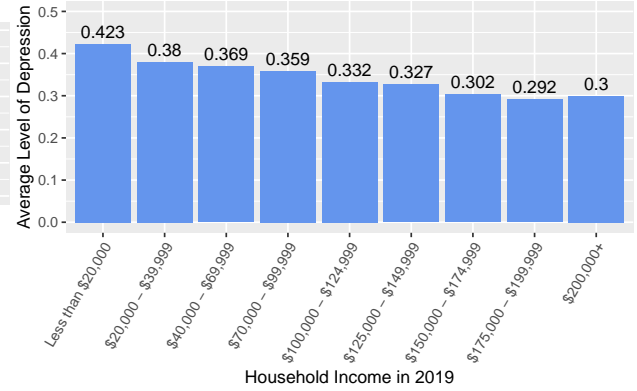

Figure 2: The Distribution of Age Groups and Level of Education for Pregnant Participants
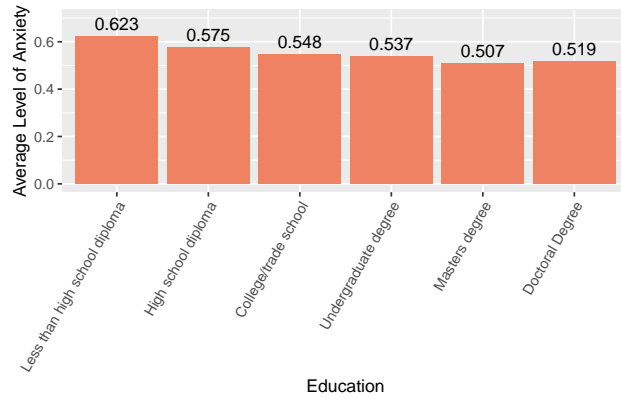
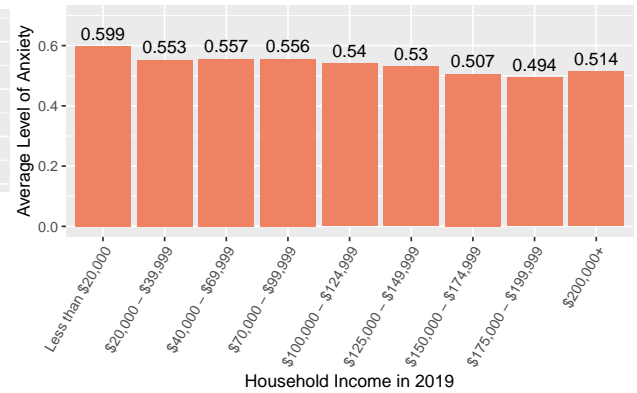(a) Distribution of Levels of Depression by Education

(b) Distribution of Levels of Depression by Household Income

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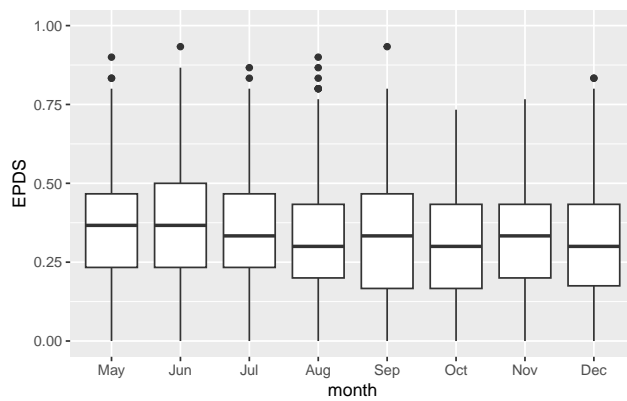

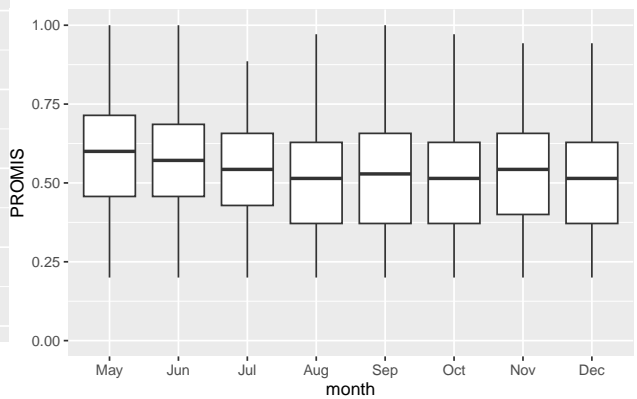(a) Distribution of Levels of Anxiety by Education

(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

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Table 2: Estimating Prenatal Depression given Age, Household Income, Education Level and Choice of Language

	Level of Depression
(Intercept)	−12.770
age_group27 to 34	0.934
age_group35 to 39	0.355
age_group40 and above	−2.416
household_income$20,000 - $39,999	−2.348
household_income$40,000 - $69,999	−0.013
household_income$70,000 - $99,999	0.799
household_income$100,000 - $124,999	0.956
household_income$125,000 - $149,999	0.542
household_income$150,000 - $174,999	0.389
household_income$175,000 - $199,999	−0.588
household_income$200,000+	0.465
languageFrench	−0.975
maternal_educationHigh school diploma	−2.007
maternal_educationCollege/trade school	0.264
maternal_educationUndergraduate degree	1.020
maternal_educationMasters degree	0.467
maternal_educationDoctoral Degree	−0.629

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

|	Level of Anxiety
(Intercept)	−9.324
age_group27 to 34	−0.086
age_group35 to 39	−0.509
age_group40 and above	−4.777
household_income$20,000 - $39,999	2.810
household_income$40,000 - $69,999	−1.715
household_income$70,000 - $99,999	2.724
household_income$100,000 - $124,999	1.402
household_income$125,000 - $149,999	−1.265
household_income$150,000 - $174,999	−1.311
household_income$175,000 - $199,999	−1.966
household_income$200,000+	1.968
languageFrench	−3.065
maternal_educationHigh school diploma	−3.978
maternal_educationCollege/trade school	1.352
maternal_educationUndergraduate degree	1.367
maternal_educationMasters degree	0.788
maternal_educationDoctoral Degree	−2.287
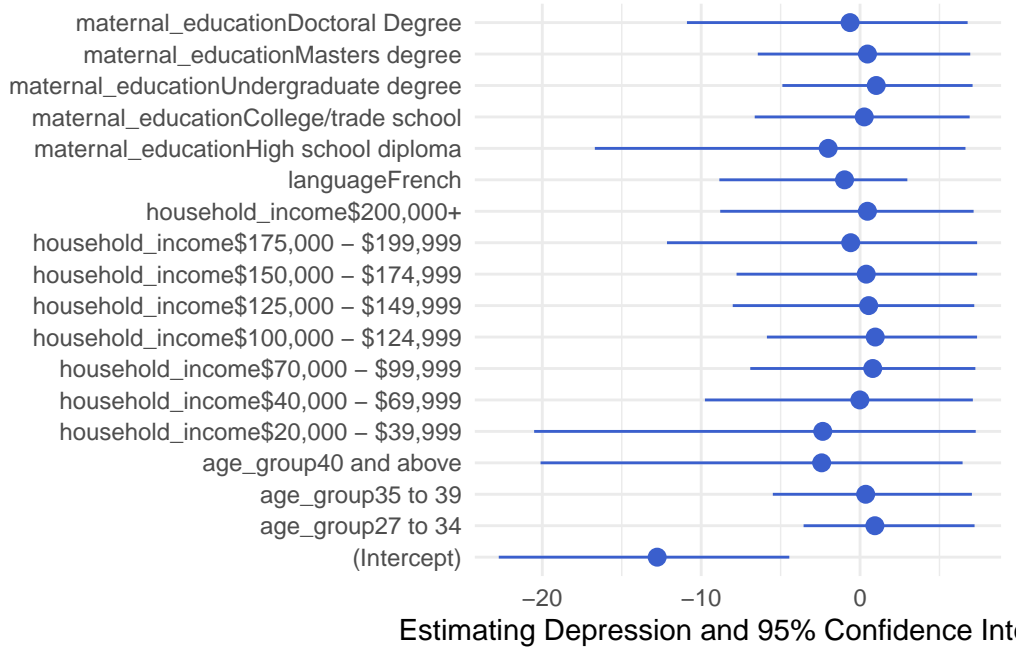
Figure 6: The Coefficients and Confidence Interval in the Depression Model

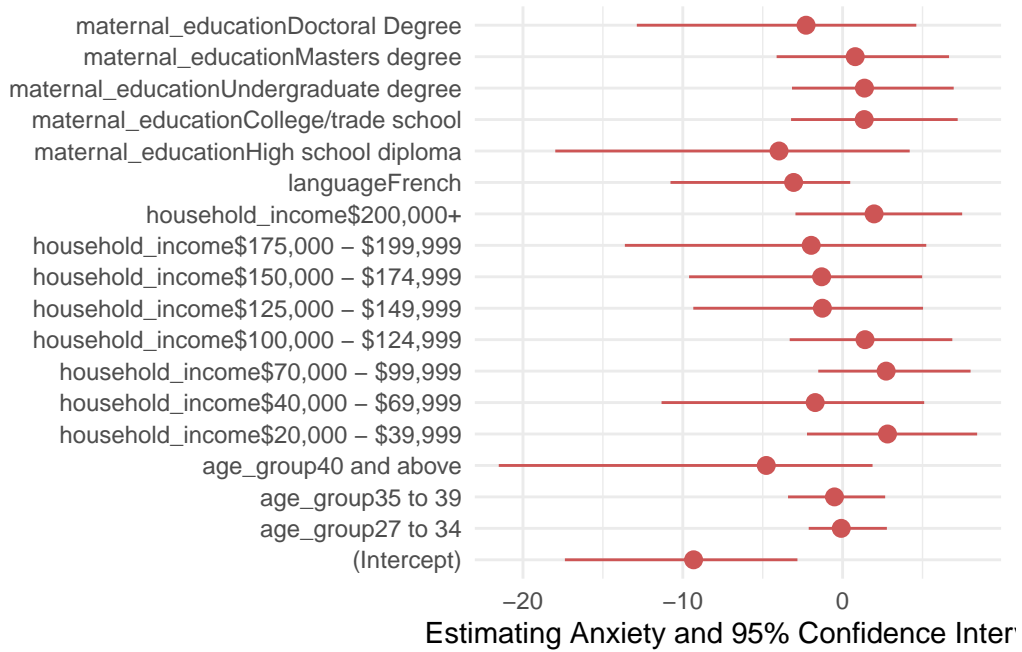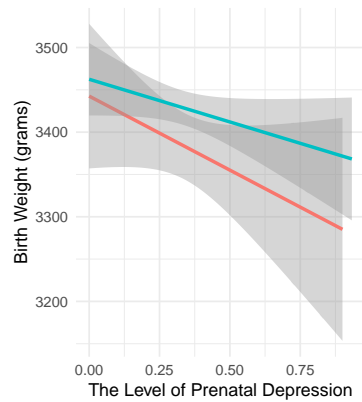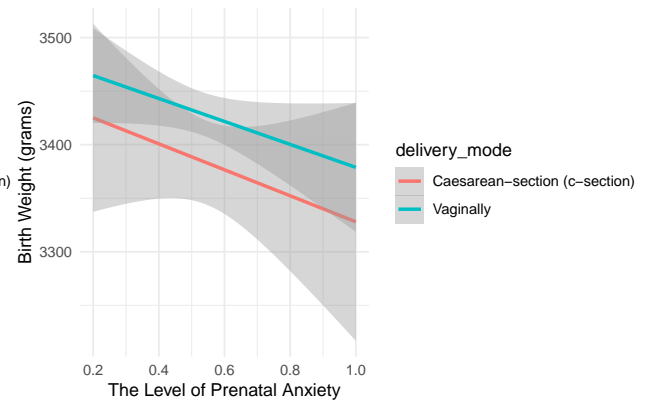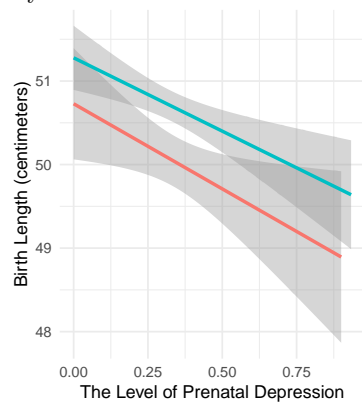

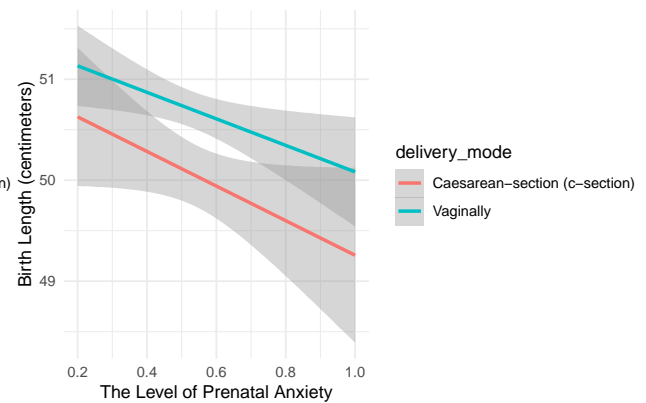Figure 7: The Coefficients and Confidence Interval in the Anxiety Model

(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

(a) Distribution of Income by Language
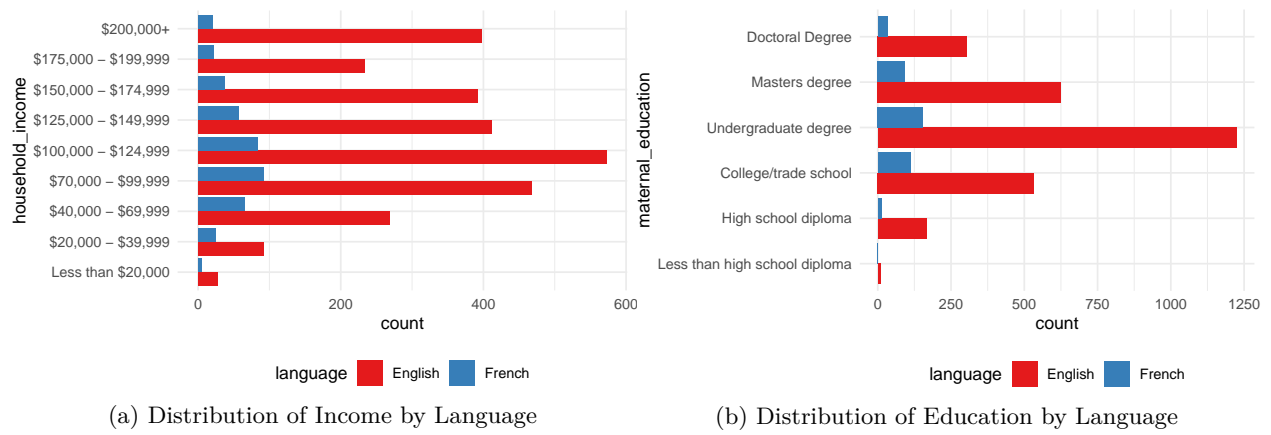
(b) Distribution of Education by Language

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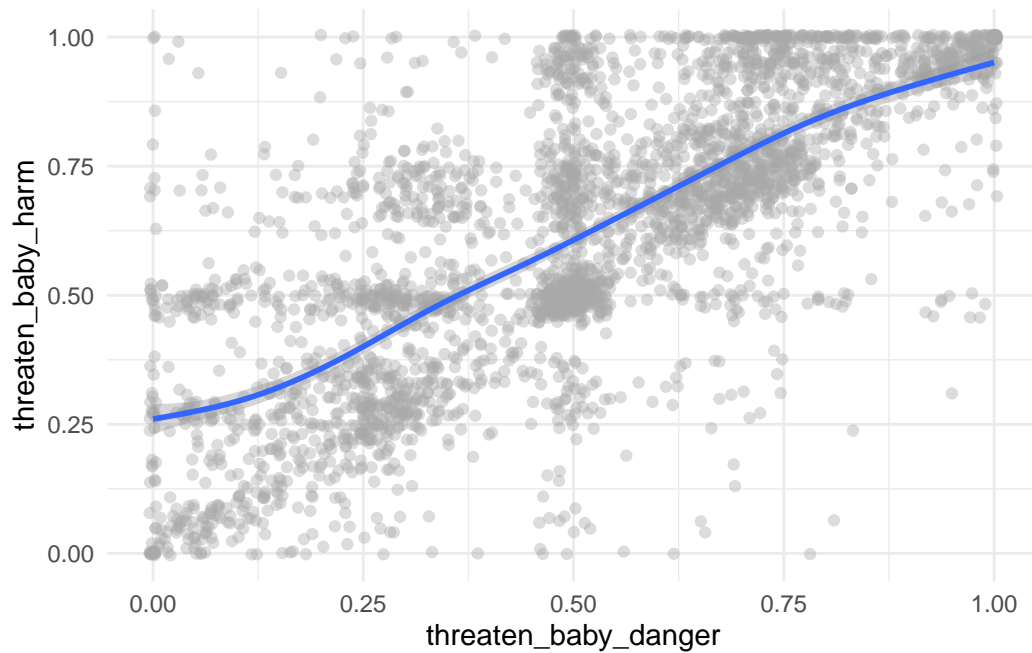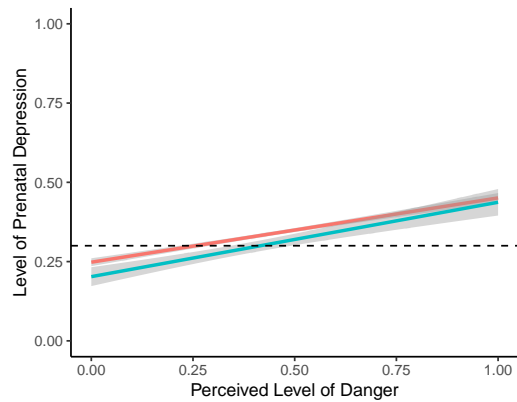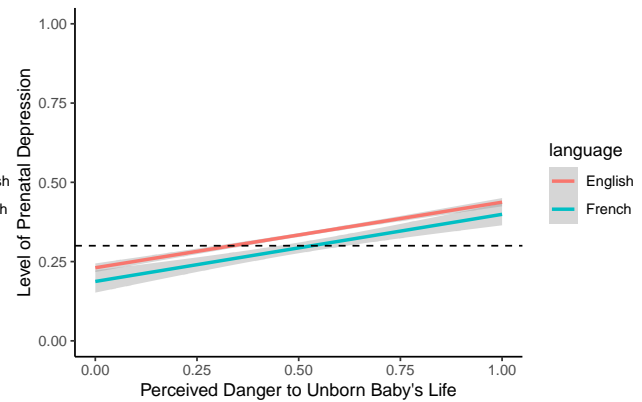

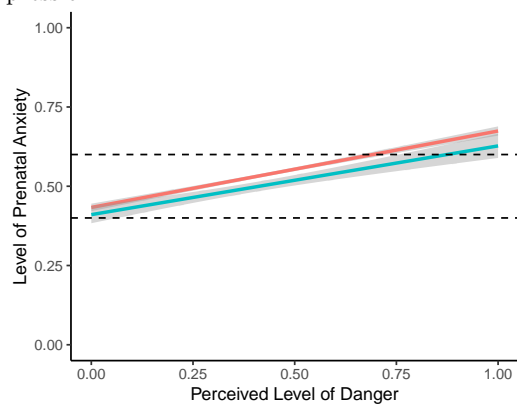Figure 10: Distribution of the Preceived Danger to Baby and Preceived Potential Harm to Baby

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*Code and data in this analysis is available at: https://github.com/Elaineyi1/Prenatal_Mental_Health
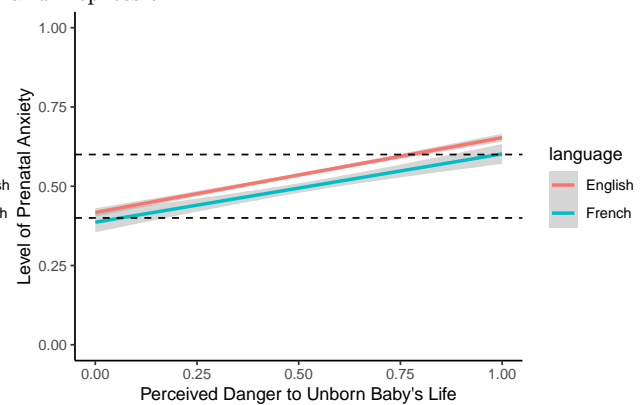
(a) Relationship between Perceived Danger to Self and Depression

(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