

Socioeconomic factors moderate the effects prenatal maternal stress from the COVID-19 pandemic on maternal postpartum anxiety: The Australian BITTOC study



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Objective

To determine the extent to which socioeconomic status moderates the association between objective hardship and subjective distress from the COVID-19 pandemic during pregnancy and postpartum anxiety.

Background: What do we know?

- Socioeconomic factors can predict maternal mental health, such as postpartum depression and anxiety.¹
- Low socioeconomic status can predict postpartum anxiety.²
- A known risk factor for postpartum anxiety is exposure to hardship and distress from population-level disasters.³
- Many people have experienced stress during the COVID-19 pandemic.⁴

How do we measure stress?

- Objective hardship: the degree to which women were affected by the COVID-19 pandemic, according to society wide measures. (e.g. level of financial loss, amount of change in pregnancy care).
- Subjective distress: the subjective impact of the pandemic according to the women (e.g. distress due to disruption of routine; stress in change of pregnancy care).

Hypothesis

The lower the SES, the stronger the association will be between objective and subjective stress from COVID during the pregnancy (as assessed at 2 months postpartum), and maternal mental health at 2 months postpartum when controlling for any pre-pregnancy psychiatric diagnoses, parity, and timing in pregnancy of the recruitment questionnaire.

Methods

- N= 421 pregnant women recruited during the pandemic in Australia and re-assessed at 2 months post-partum.
- Moderators: SEIFA, Income, Education
- IV: Objective hardship, Subjective distress
- Outcome: Anxiety at 2 months postpartum

Description of the sample

Socio-Economic Indexes for Areas (SEIFA)

Most disadvantaged: 8.1%
Q2: 15.9%
Q3: 21.4%
Q4: 23.3%
Most advantaged: 30.4%

Education

Unskilled: 7.1%
Skilled: 20%
Undergrad: 38%
Grad school: 34.9%

Income:

Less than \$ 40,000: 1.4%
\$ 40,000 - \$ 59,999: 3.6%
\$ 60,000 - \$ 79,999: 6.7%
\$ 80,000 - \$ 99,999: 12.6%
More than \$100,000: 71.5%
Prefer not to answer: 4.3%

Income - Dichotomized

< \$100,000: 24.2%
> \$100,000: 71.5%
(4.3% missing)

Analysis

- Conducted a correlation matrix among key variables and covariates.
- Used multiple hierarchical regression with interaction terms to look for possible moderating effect of socioeconomic status.
- The order of entry being: Independent variables, moderators, interaction terms, control variables.

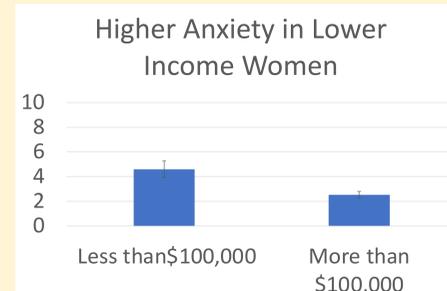
Models of the interaction terms

- Objective * income
- Subjective * income
- Objective * education
- Subjective * education
- Objective * SEIFA
- Subjective * SEIFA

Results: main effects on anxiety

- Income ($r = -0.144^*$)
- Objective hardship ($r = 0.208^{**}$)
- Subjective distress ($r = 0.244^{**}$)
- Education ($r = -0.253^{**}$)
- No effect for SEIFA

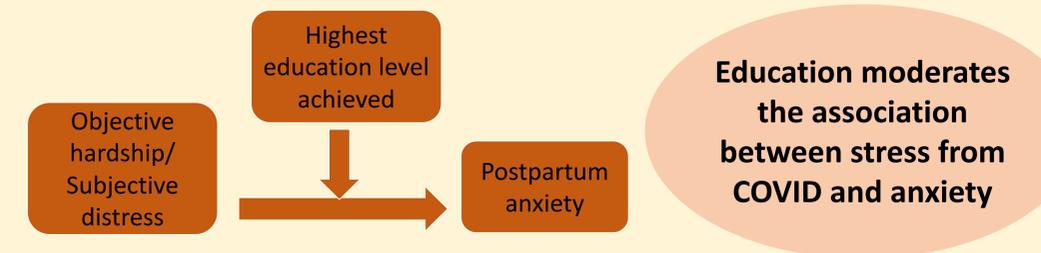
Higher postpartum anxiety in lower income women



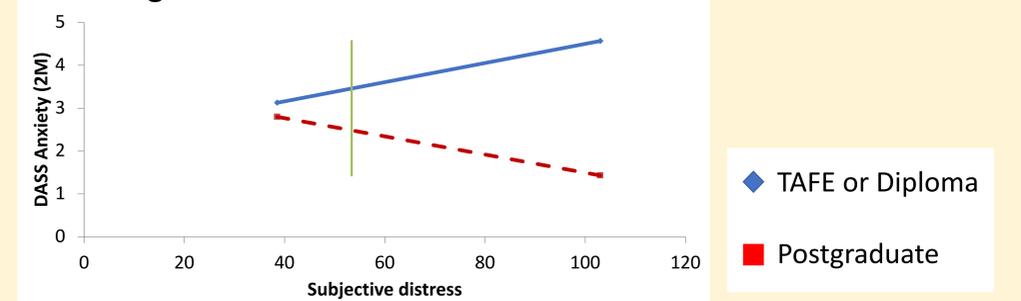
Significant interaction effect for education

SEIFA		EDUCATION		INCOME	
OBJECTIVE	SUBJECTIVE	OBJECTIVE	SUBJECTIVE	OBJECTIVE	SUBJECTIVE
(No)*	No	YES	YES	No	No

➤ Suggests higher education protects against objective hardship and subjective distress.



Association between subjective distress and postpartum anxiety is greatest for those with low SES



Discussion

- A step towards improving maternal mental health would be to identify women of lower SES in screening during pregnancy, as our results show they can be more vulnerable.
- Future questions to explore:
 - What is it about education, as a measure for SES, that makes it unique as a protective factor?
 - How could birth outcomes be affected by SES and COVID stress?

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