

Job stressors, perceived job stress and childbearing

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Job stressors

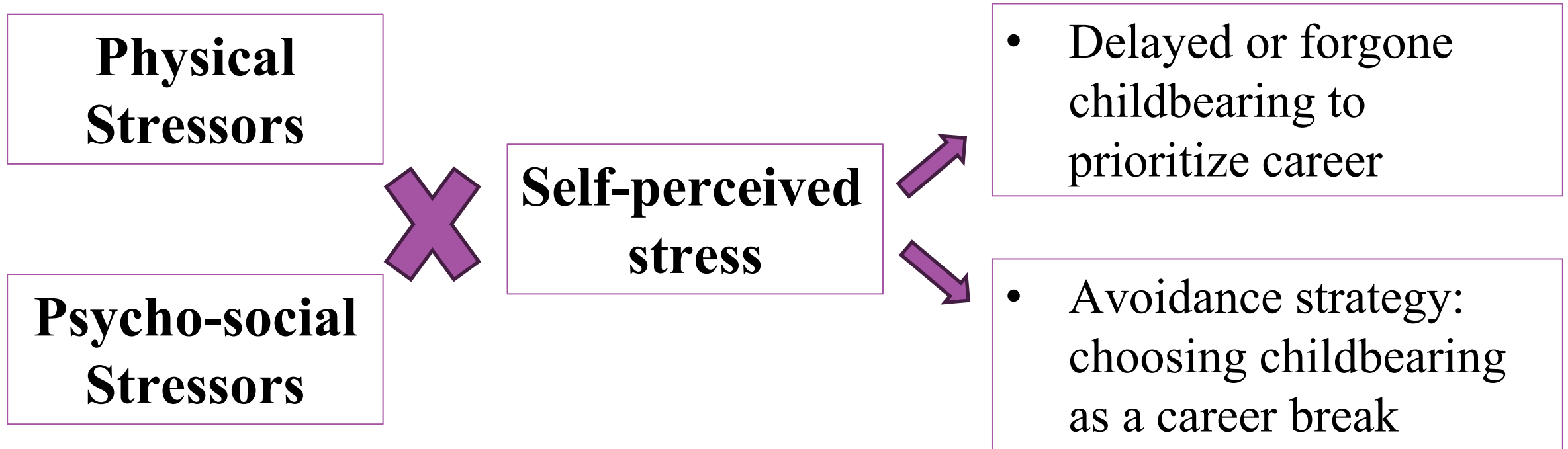
Psycho-social Stressors

- **Temporal & Scheduling:** Shift work, time pressure, limited breaks
- **Work Intensity:** Fast pace, strict targets, high demands
- **Social & Organizational:** Low autonomy, emotional strain, weak support

Physical Stressors

- **Physical & Environmental:** Heavy lifting, noise, hazards, poor conditions

Job stressors, self-perceived stress & childbearing



Childbearing Decisions by Parity

- **First Birth**

- Limited knowledge and experience with childbearing
- Anticipation of a new life stage as a mother (role transition)
- Job burden and resulting burnout or fatigue may motivate women to withdraw from paid work, potentially increasing the appeal of childbearing as an alternative life strategy

- **Higher-Order Births**

- The arrival of the first child affect mother's wellbeing and work–family reconciliation
- Working mothers may experience a higher baseline level of stress due to the combined demands of family and paid work
- Mothers' decisions often influenced by experience from the first birth

Hypotheses

- **H1a (Escaping Effect).**
Among childless women, those exposed to intensive physical/psychosocial job stressors and higher levels of self-perceived stress are more likely to become pregnant in the following year.
- **H1b (Postponement Effect).**
Among childless women, those exposed to intensive physical/psychosocial job stressors and higher levels of self-perceived stress are less likely to become pregnant in the following year.

Hypotheses

- **H2.** For mothers, those exposed to intensive physical/psychosocial job stressors and higher levels of self-perceived stress are less likely to become pregnant in the following year.

Data & Method

- German Family Panel (Pairfam) Wave 3 ~ Wave 14
 - Sample: working women born between 1971~1973; 1981~1983; 1991~1993; 2001~2003



4082



903

- Number of observations = 18,230
- Method: mixed effect logistic regression with individual random intercept
- Controls: self-rated health, migration background, household income, partner's activity, age group, education, East vs. West Germany, part-/full-time job, and occupational level fertility intention, all lagged by one year

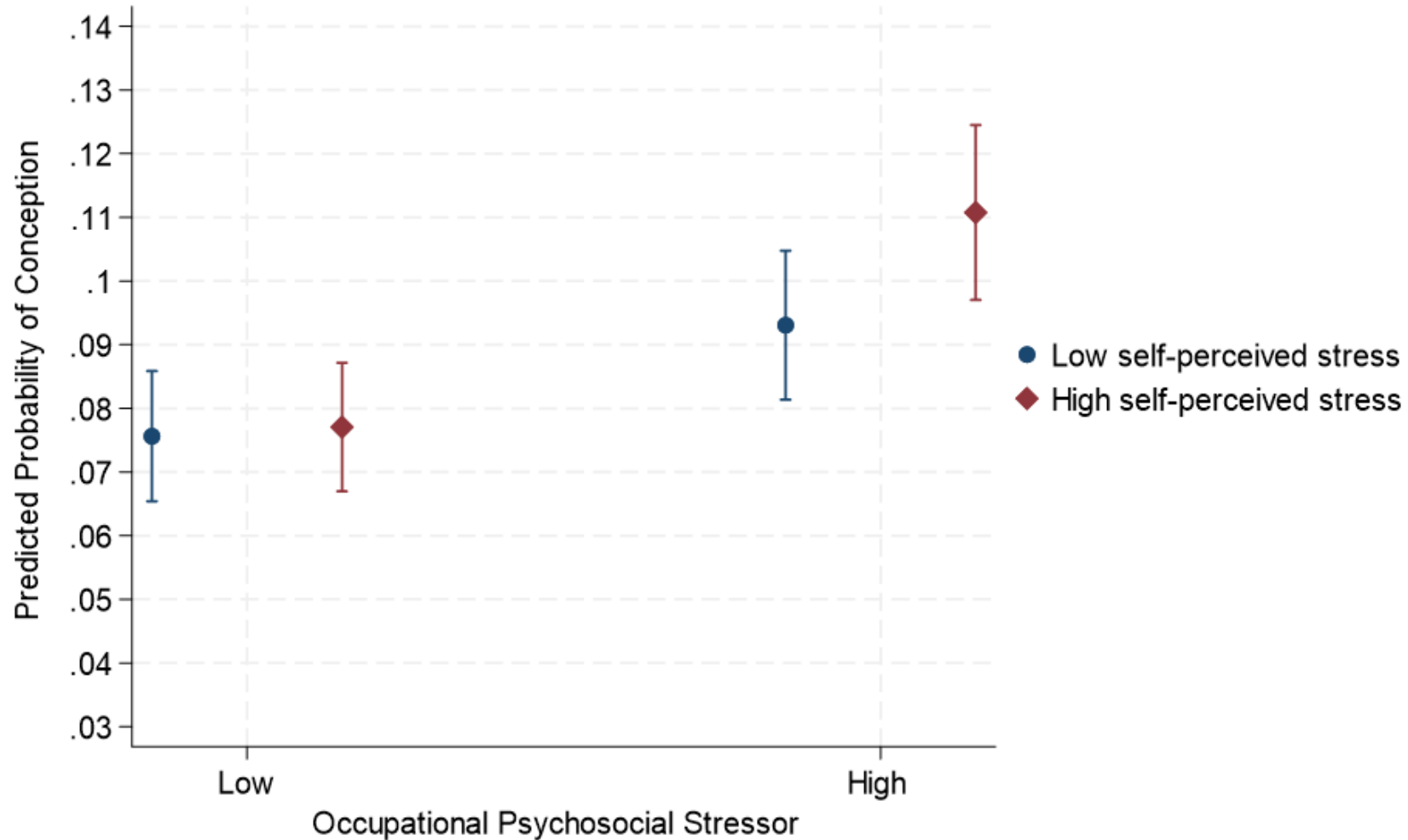
Measuring Job Stressors

- **Data source: BIBB/BAuA Employment Survey (2012)**
 - Representative survey of ~20,000 employed persons in Germany
 - Aged 15+, working ≥ 10 hours per week
- **Physical job stressors**
 - Ergonomic factors: standing, lifting, awkward postures
 - Environmental factors
- **Psycho-social stressors**
 - Mental workload
 - Social stress
 - Temporal load

Measuring Job Stressors

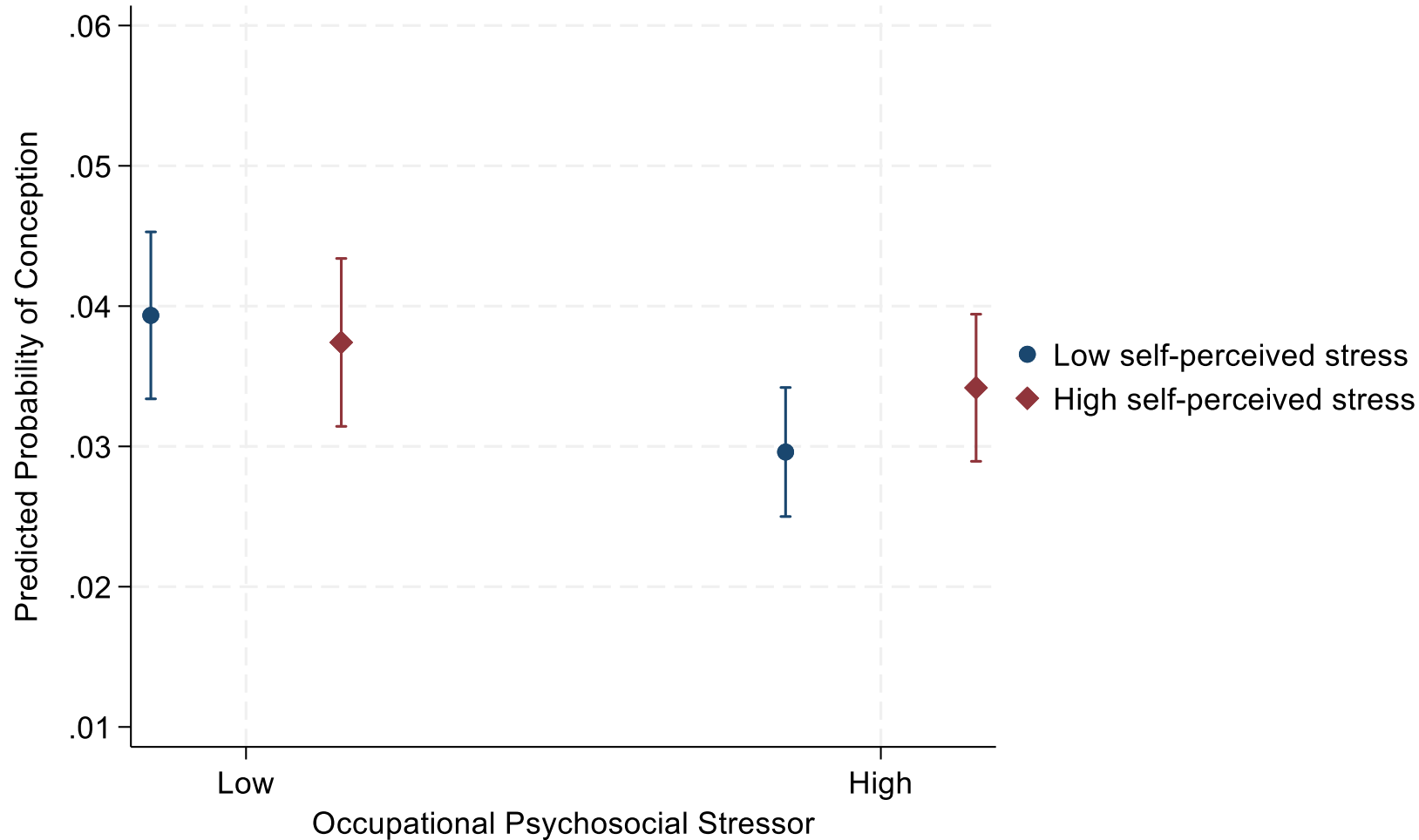
- **Aggregation Strategy**
 - Occupation-level indicators based on Kroll (2011)
 - Derived from random intercepts of a 4-level hierarchical model
 - Controlling for age, gender, working hours, and tenure

Psychosocial stressors, self-perceived stress and first birth



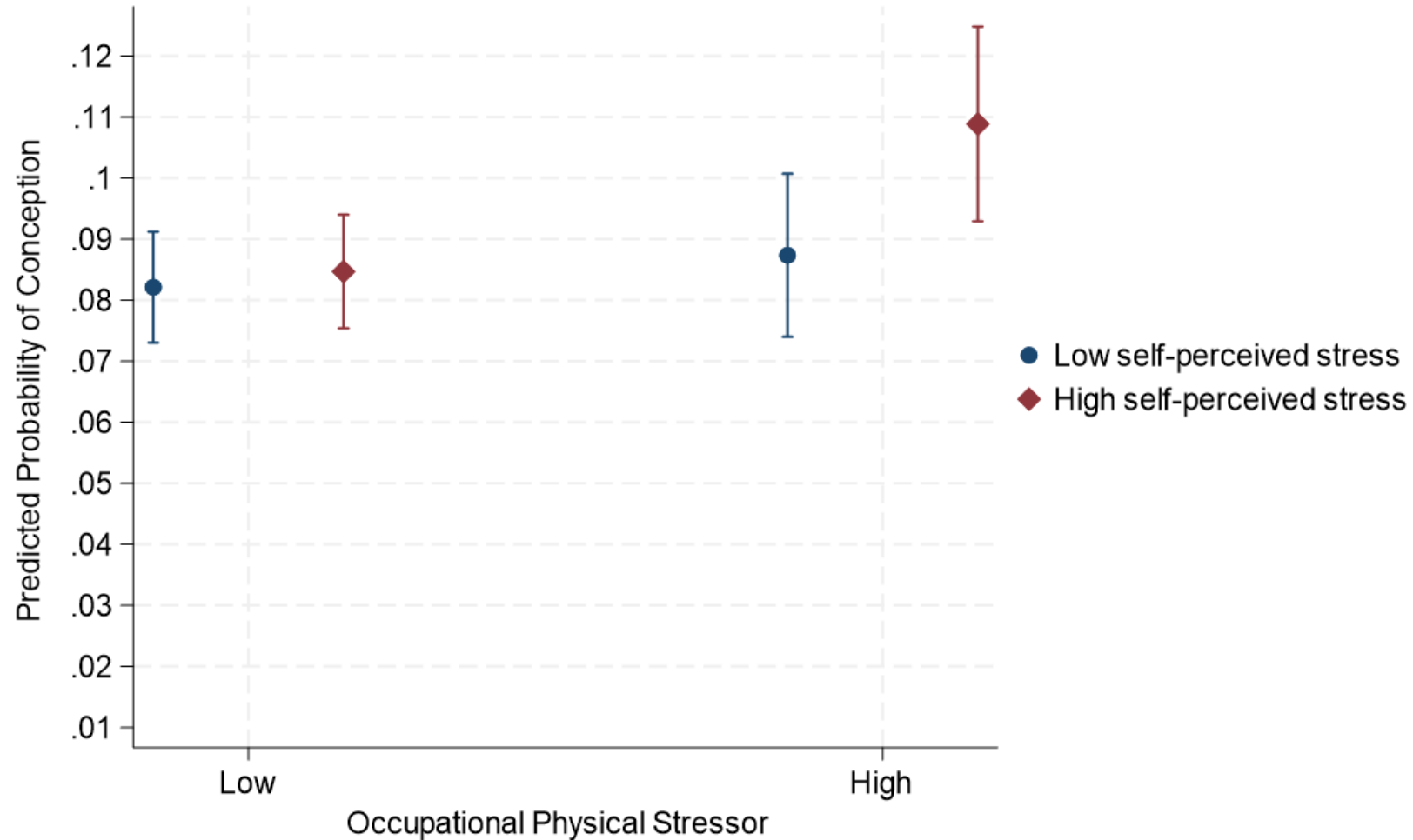
No. births = 529

Psychosocial stressors, self-perceived stress and higher-order birth



No. births = 370

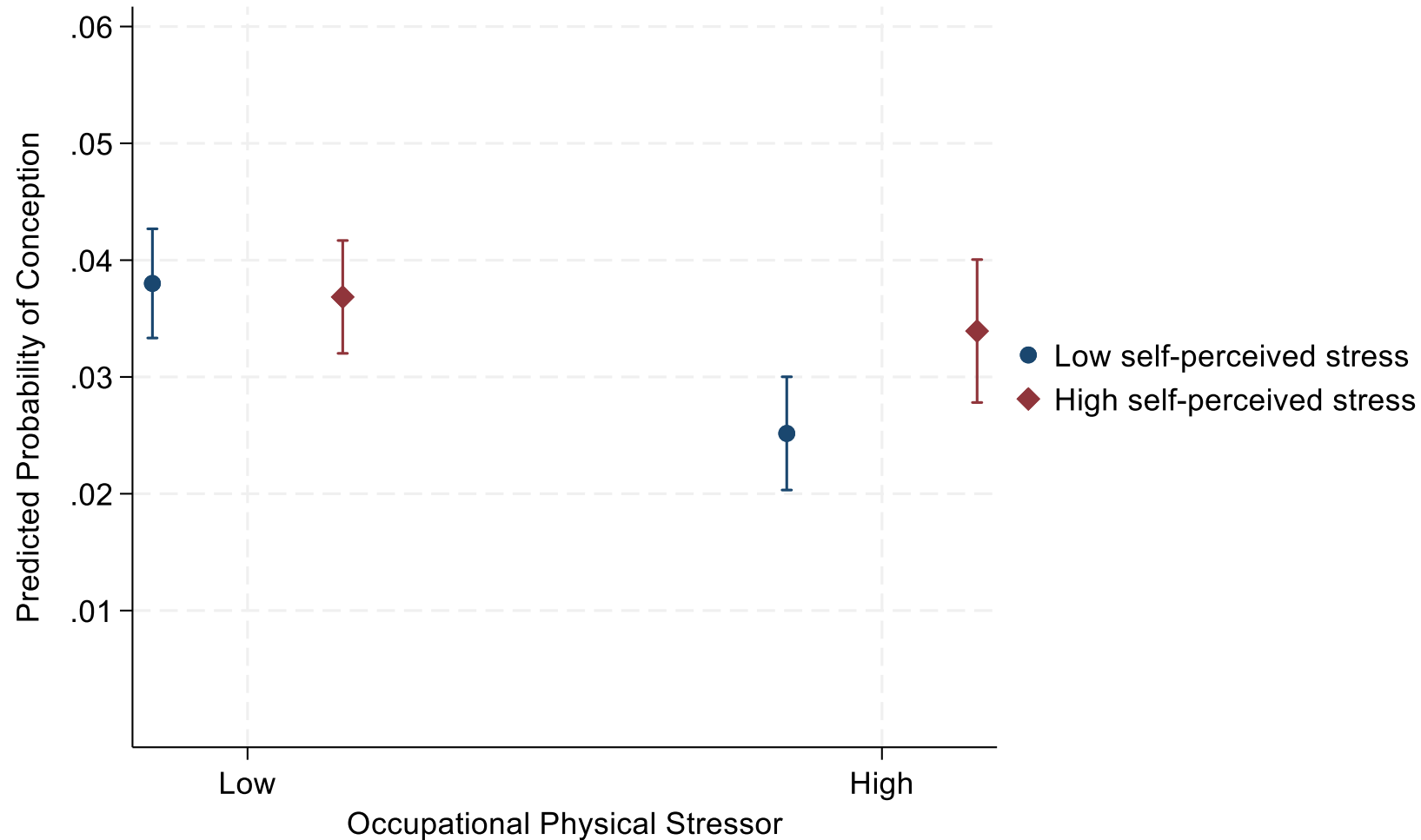
Physical stressors, self-perceived stress and first birth



No. births = 529

Physical stressors, self-perceived stress and higher-order birth

No. births = 370



Conclusions & Discussion

- Job stressors and self-perceived stress are associated with the probability of childbearing among working women.
 - Among women without children, those in jobs with high psychosocial or physical demands and who report high self-perceived stress are more likely to conceive their first child in the following year. This suggests that childbearing may serve as a coping or avoidance strategy in response to job stress.

Conclusions & Discussion

- Job stressors and self-perceived stress are associated with the probability of childbearing among working women.
 - In contrast, among working mothers, high job stressors, particularly physical demands are associated with a lower likelihood of progressing to higher-order births. In the German context, where mothers carry the majority of childrearing responsibilities, childbearing is unlikely to function as an avoidance strategy once they already have children. Consequently, the negative effects of physical job demands may become more pronounced, as there is no potential positive “escape” effect to offset them.

Thank you!

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Job stressor & Childbearing

Physical Stressors



- Disruption of circadian regulation (Gamble et al., 2013)
- Altered hormonal balance and endocrine functioning (Mahoney, 2010)
- Increased mental and physical fatigue (Mozurkewich et al., 2000)



- Reduced conception rates
- Increased risk of miscarriage, stillbirth, and birth complications
- Lower success rates in infertility treatment

Job stressor & Childbearing

Psycho-social Stressors



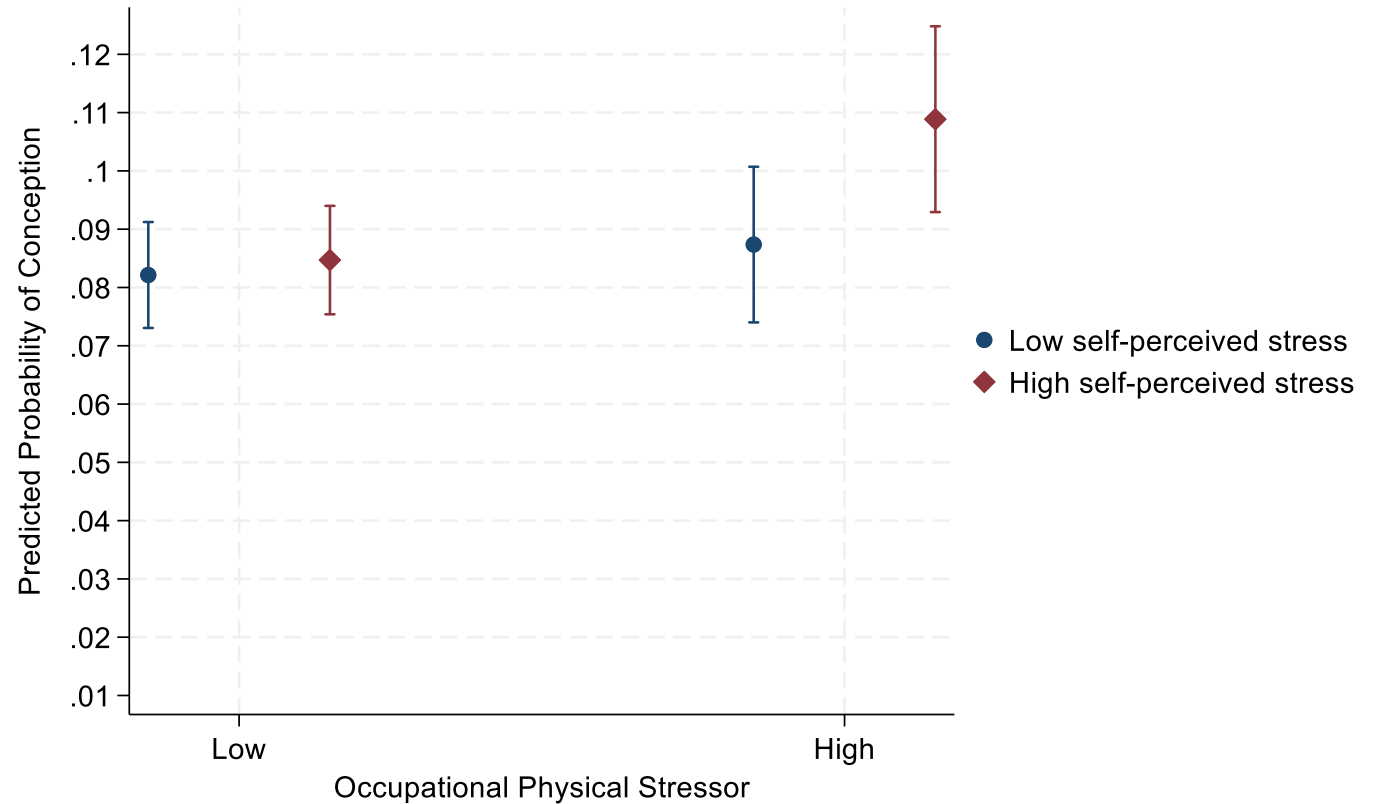
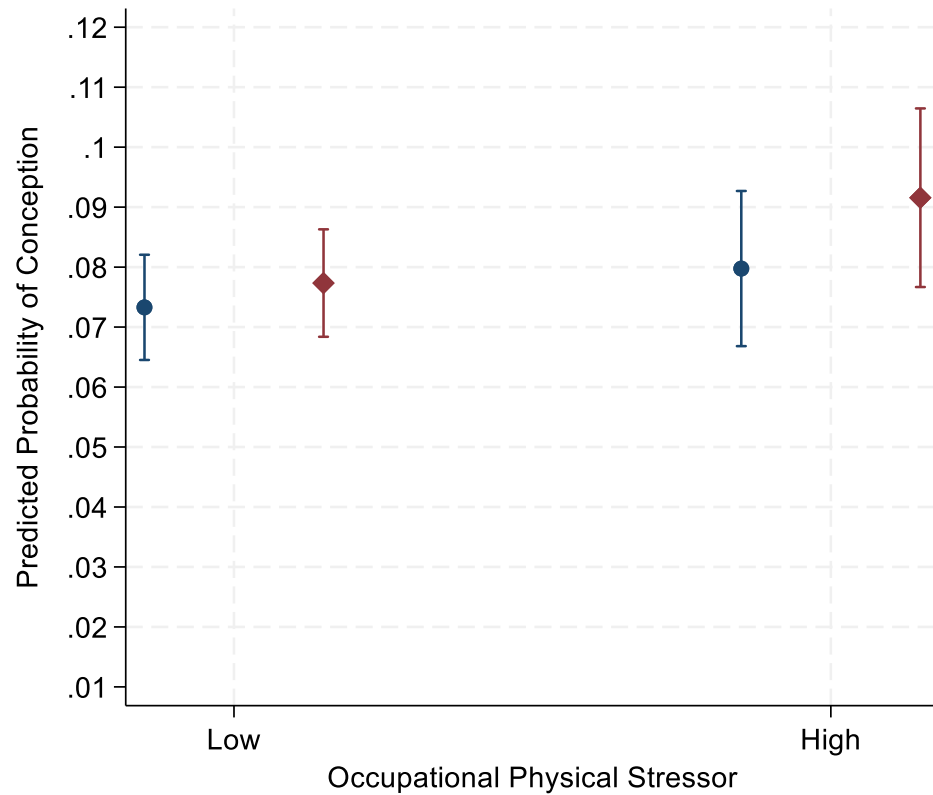
- Increased mental workload (Ceballos-Vásquez et al., 2015)
- Greater concerns about future job-related stress (Begall & Mills, 2011)
- Higher prevalence of psychological distress among women (Caserta et al., 2011)

- Greater challenges in combining paid work and family responsibilities
- Lower fertility intentions
- Postponement of childbearing

Constructing a Job stressors Index

- **Survey Data:** Workers report exposure to different work stressors (psychosocial, physical, ergonomic, etc.).
- **Individual Factors:** Age, sex, working hours, tenure included as controls.
- **Mixed-Effects Regression:**
 - **Dependent variable:** Exposure score for each stressor.
 - **Independent variable:** Occupation (random effect).
- **Random Intercepts:** Each occupation's intercept captures the **average exposure**, adjusted for individual factors.
- **JEM Score:** These intercepts are used as the occupation-level **exposure score**.
- The JEM converts individual survey responses into standardized **occupation-specific exposure scores**.

Physical stressors vs self-perceived stress



Stressors by occupation

		Physical stressors	
		Low	High
Psychosocial stressors	Low	Science and Engineering Professionals; Legal, Social and cultural professionals; Business and Administration Associate professionals; General and Keyboard Clerks; Numerical and Material Recording Clerks	Science and Engineering Associate Professionals; Metal, Machinery and Related Trades Workers; Electrical and Electronic Trades Workers; (Refuse Workers and Other Elementary Workers)
	High	Production and Specialized Services Managers; Hospitality, Retail and Other Services Managers; Legal, Social, Cultural and related associate professionals; Sales Workers	Health Associate Professionals; Personal Services Workers (cooks, waiters, hairdressers...); Personal Care Workers; Cleaners and Helpers; Health Professionals

Measuring Job Stressors

- Physical job index:
 - Ergonomic factors: standing, lifting, awkward postures: *“Working in a bent, squatting, kneeling or recumbent position, working overhead”*
 - Environmental factors *“Working exposed to cold, heat, moisture, humidity or draughts”*
- Psycho-social index
 - Mental workload: *“How often does it happen in your occupational activity that even a small mistake or a slight inattentiveness can lead to larger financial losses?”*
 - Social stress: *“How often do you receive help and support for your work from your colleagues if you require it?”*
 - Temporal load: *“Are you on standby duty or on-call duty?”*

Measuring self-perceived stress

- Self-perceived stress (during last 4 weeks)
 - How have you been feeling: Stressed
 - How have you been feeling: Overburdened
 - How have you been feeling: Under pressure

Not at all	1	2	3	4	5	Absolutely
	☐	☐	☐	☐	☐	
<i>Don't know</i>						☐ -1
<i>I don't want to answer that</i>						☐ -2

Measuring Job Stressors

- We use the method developed by Kroll (2011) to aggregate individual survey responses into occupation-level indicators of job stressors.
- The indices are based on the random intercept of a 4-level hierarchical linear regression model, controlling for respondent characteristics such as age, gender, working hours, and tenure of that occupation

Occupational-level fertility intention

- Occupational-level fertility intention constructed using multilevel modeling.
- Random intercepts estimated for each 2-digit occupation (controlling for age and repeated individual observations), capturing average fertility intentions and stabilizing small-sample estimates.
- Occupations classified as low–medium vs. high fertility intention jobs