

# Chronic illnesses and short-term fertility intentions: partnership and infertility as mediating factors

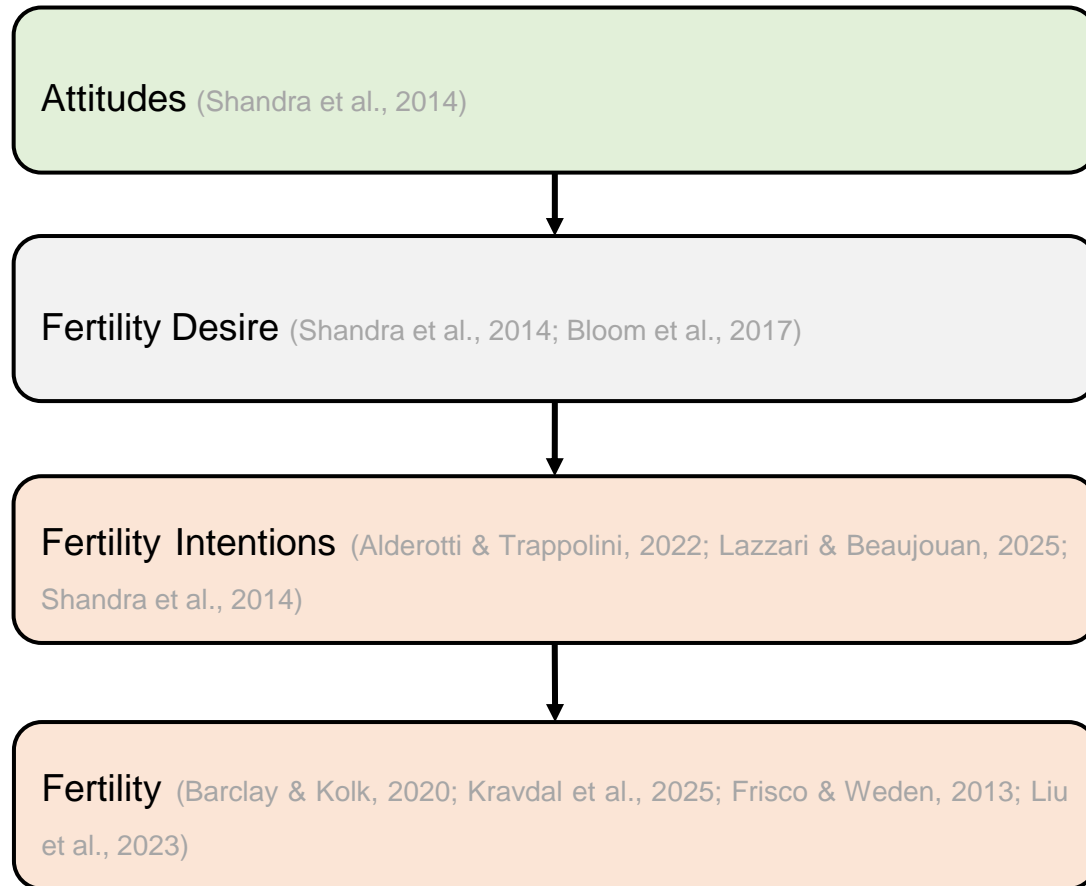
Lukas Gutmorgeth

Doctoral candidate at the University of Vienna, Department of Demography

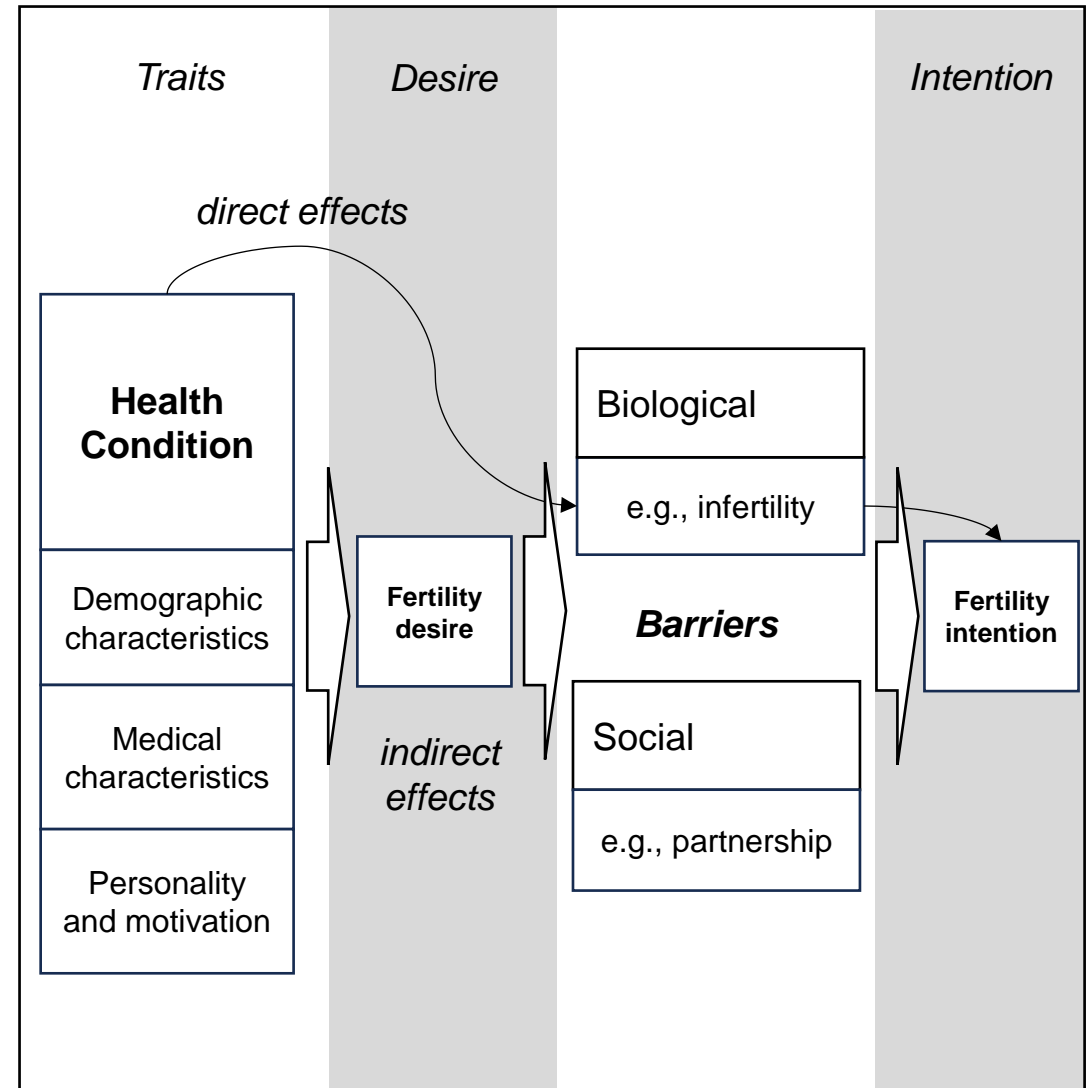
Supervisors: Eva Beaujouan & Ester Lazzari

ESS-SHARE-GGP User Conference on 8 May 2026

# Introduction



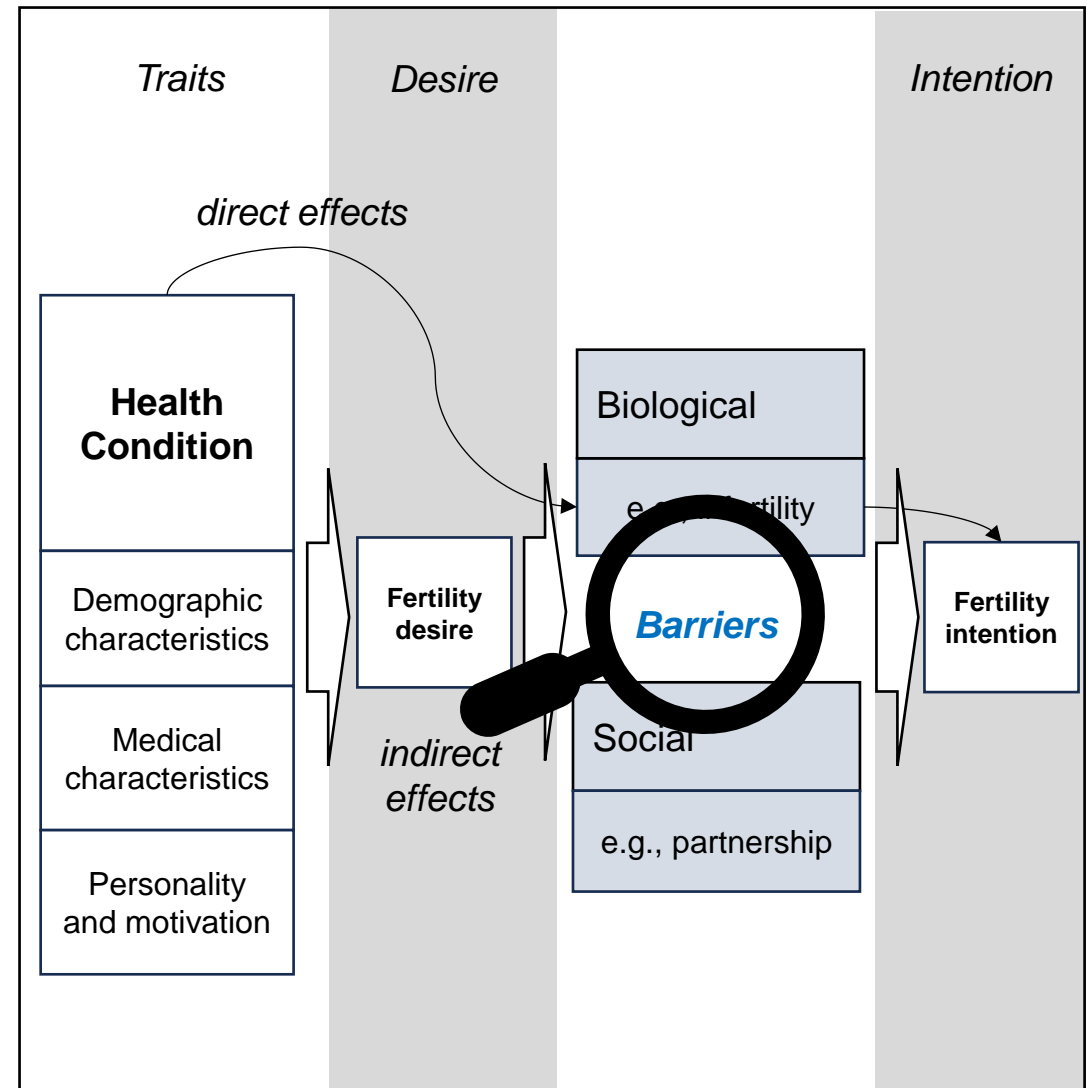
Author's own creation based on the Traits-Desire-Intention-Behaviour Framework by Miller (1994) and Miller et.al., (2004)



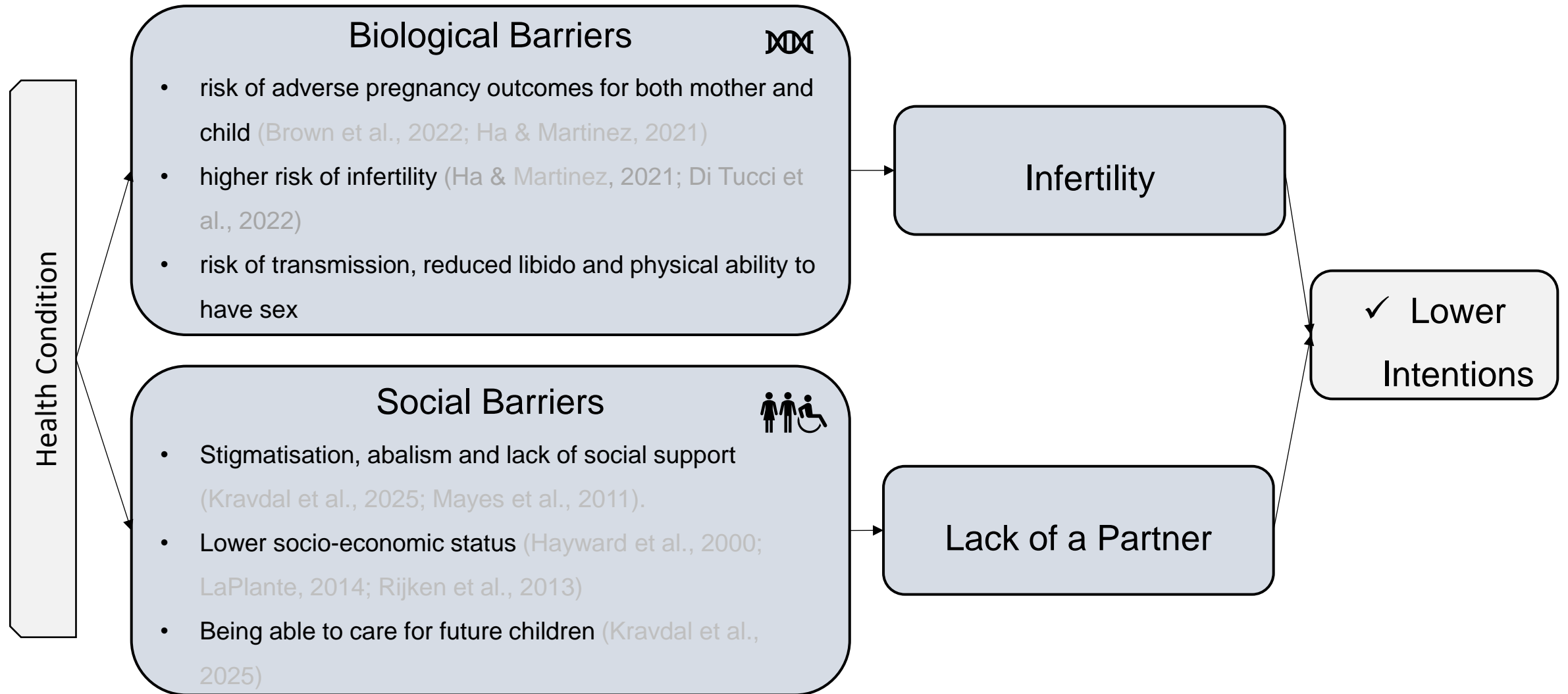
# Introduction



Author's own creation based on the Traits-Desire-Intention-Behaviour Framework by Miller (1994) and Miller et al., (2004)



# Social and Biological Barriers



# Health Condition and Fertility Intentions

Barriers

## Fertility Intentions

- **Lower Fertility Intentions** (Alderotti & Trappolini, 2022; Lazzari & Beaujouan, 2025; Shandra et al., 2014)
- **Fertility Gap:** lower chance of achieving their intentions (Frisco & Weden, 2013)
- **Postponement:** delaying fertility intentions towards later in life (Holton et al., 2011)
- **Uncertainties:** higher uncertainties in their intentions (Shandra et al., 2014).

## Childless with a Condition



- Priority to have at least one child
- Achieving the **minimal target** of having at least one child
- ✓ Equal intentions

## Parents with a Condition



- focusing resources on born children
- Giving up on the **normative target** of having the second child
- ✓ Lower intention

# Research Questions and Hypothesis

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**Research Question 1:** How is the association between (chronic) health conditions and short-term fertility intentions mediated by satisfied partnership and self-reported infertility?

- **Hypothesis 1.1:** The relationship between (chronic) health conditions and lower fertility intentions is partially mediated by self-reported infertility.
- **Hypothesis 1.2:** The relationship between (chronic) health conditions and lower fertility intentions is mediated by satisfied partnership status.

**Research Question 2:** How does the association of (chronic) health conditions on fertility intentions differ by parity?

- **Hypothesis 2.1:** Childless people with (chronic) health conditions have around the same fertility intentions as childless people without such health conditions.
- **Hypothesis 2.2:** Parents with (chronic) health conditions have lower fertility intentions than parents without such health conditions.

# Data, Sampling and Methods

## Data



Pooled **GGG-II** data across ten European countries (AUT, HRV, CZE, DNK, EST, FIN, FRA, DEU, NLD, NOR). Original design weights were applied and rescaled to match the analytical sample size.

## Sampling



- Sample Size: **n = 56,505** (men & women, aged 18–49).
- Cleaning: Excluded missing values in dependent and independent variables.
- Missing Data: Multiple imputation applying Rubin's rules.

## Modeling



A **Structural Equation Model (SEM)** with Weighted Least Squares Means and Variance adjusted (WLSMV) estimator was applied. **Mediation pathways** are identified to quantify the impact of partnership status and infertility on intentions.

# Variables

## Dependent Variable

**Fertility Intentions:** Do you plan to have (another) child in the next three years? Please consider only biological children.

- **Definitely not**
- **Probably not**
- **Not sure**
- **Probably yes**
- **Definitely yes**

## Independent Variables

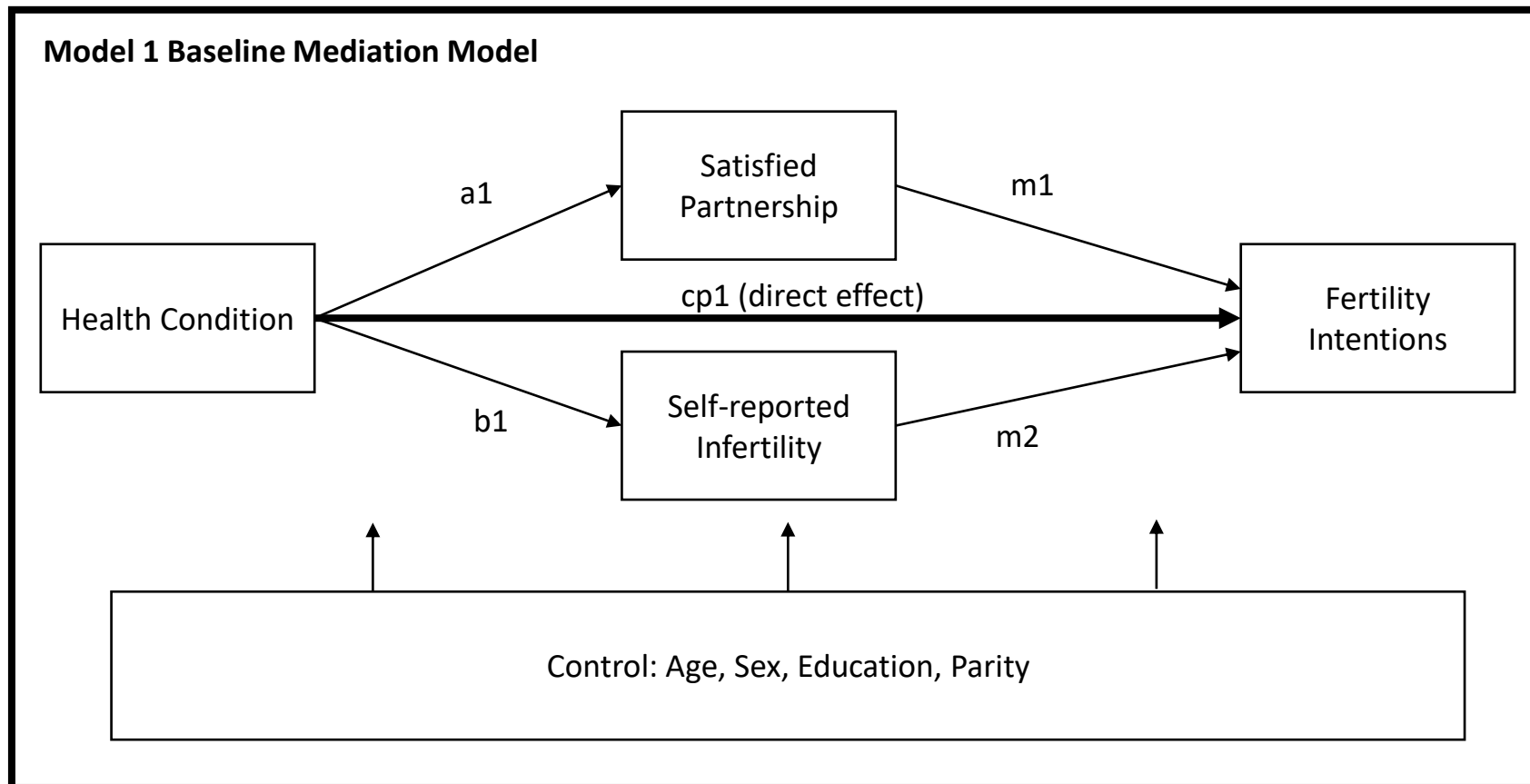
**Current general health status:** (How is your general health? Very Good, Good, Fair, Bad, Very Bad)

**Current disability status** (Have you been restricted in your daily life due to health problems in the last 6 months? Yes, severely restricted, Yes, slightly restricted, No, not restricted)

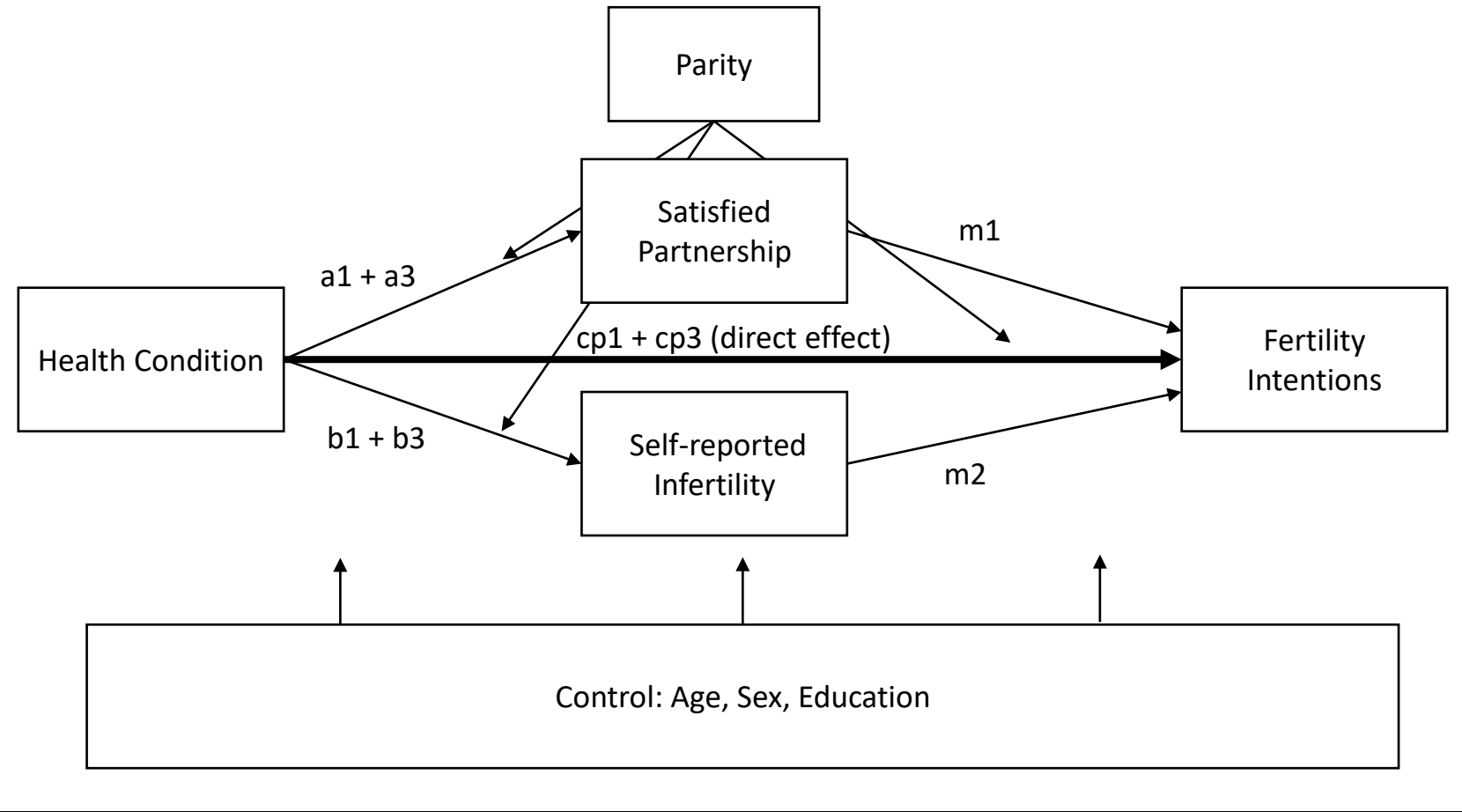
**Ever had a health condition:** Have you ever had one of these conditions, e.g., cancer, stroke, etc.

## Other Variables

- **Satisfied partnership:** (no partnership, not satisfied partnership, satisfied partnership)
- **Self-reported infertility:** (Definitely able to have children, Probably able, Probably not able and Definitely not able)

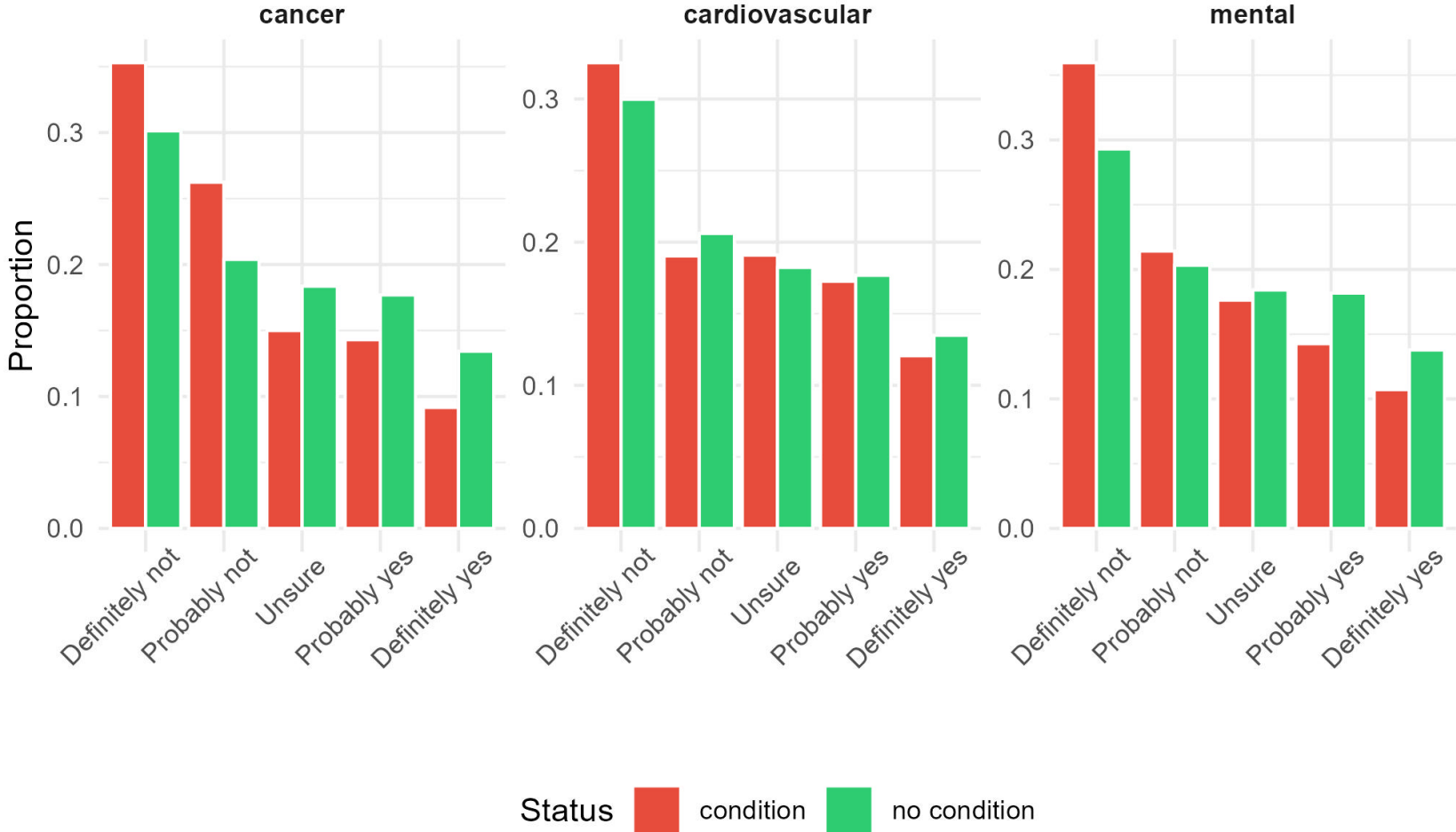


**Model 2: Mediation Model with Parity as a Moderator**



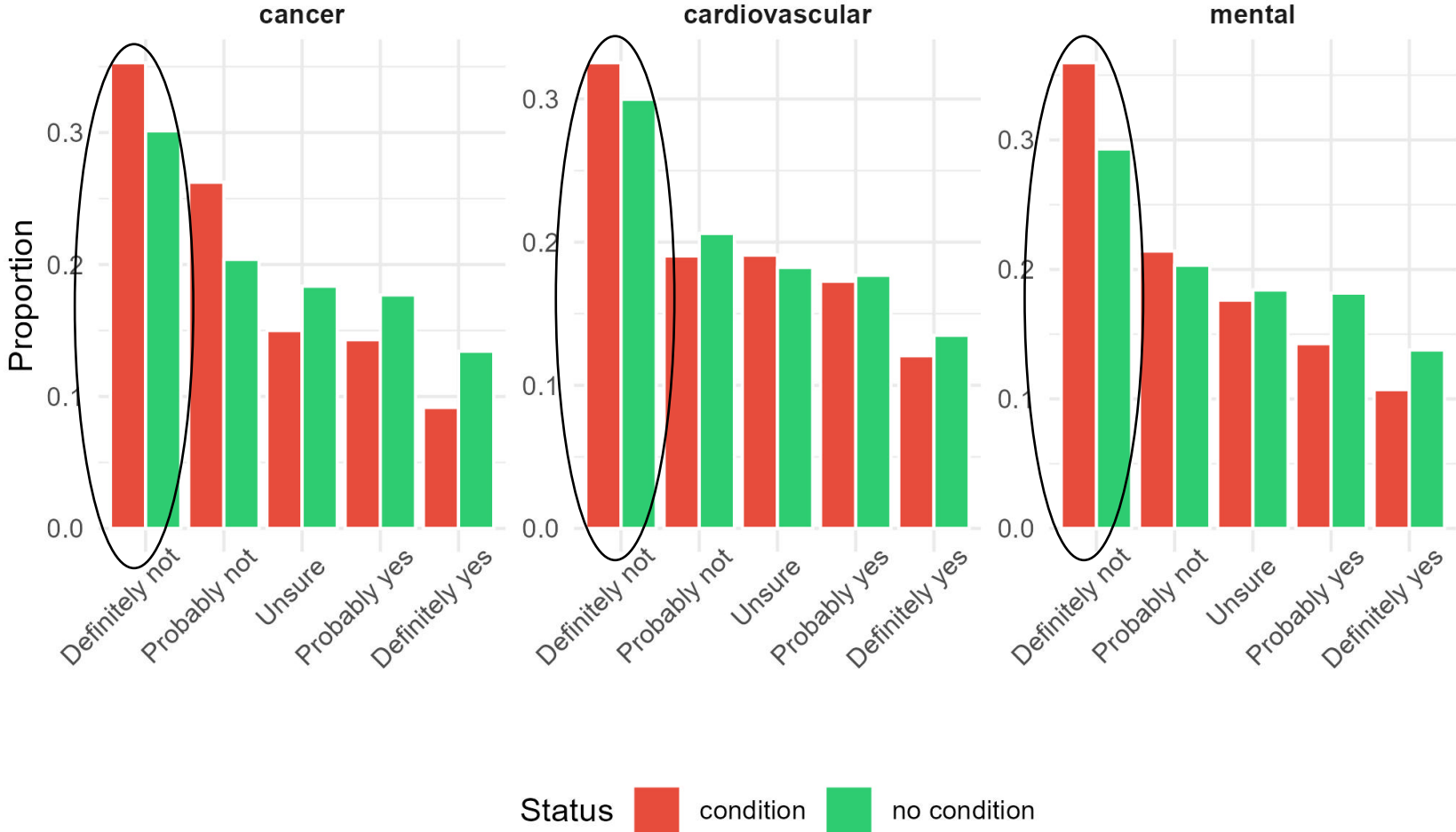
# Descriptive Results

Fertility Intentions: Condition vs. not that Condition  
 Men and women aged 25-40; data from GGS II Wave 1



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# Descriptive Results

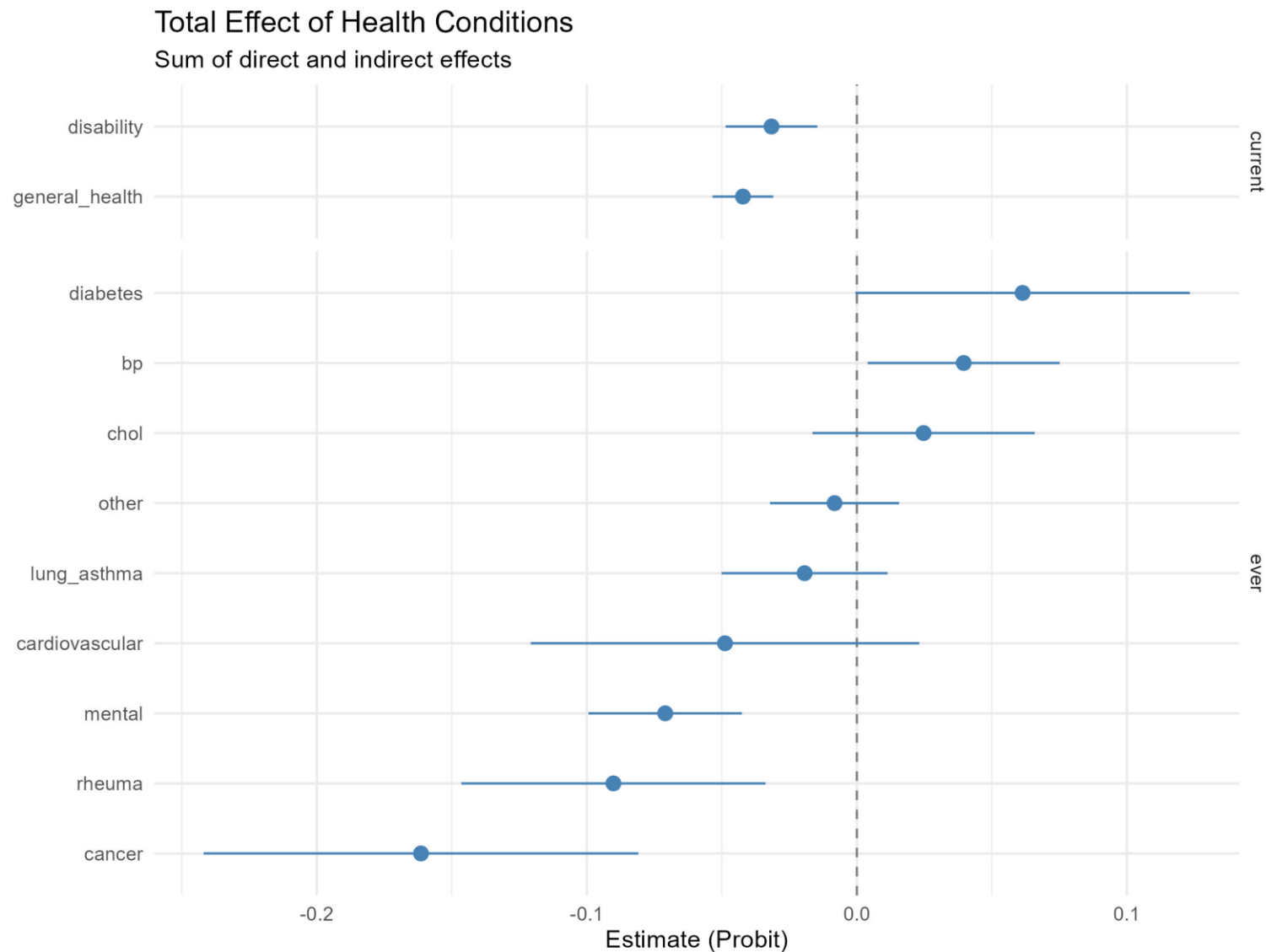
## Fertility Intentions: Condition vs. not that Condition

Men and women aged 25-40; data from GGS II Wave 1

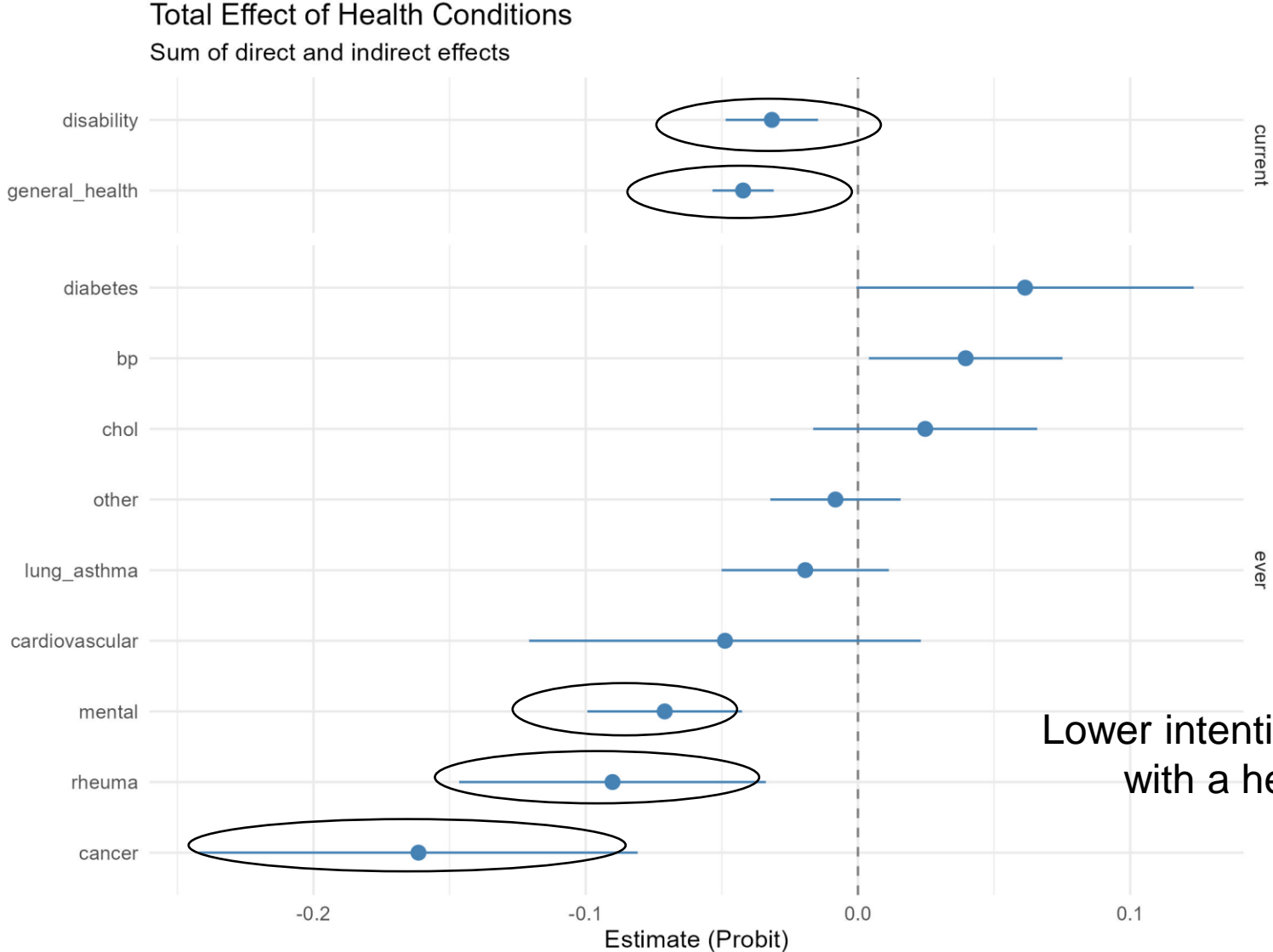


# Model 1: Total Effect

$$\text{Total Effect} = \text{Direct Effect} + (\text{Indirect Effect}_1 + \text{Indirect Effect}_2)$$

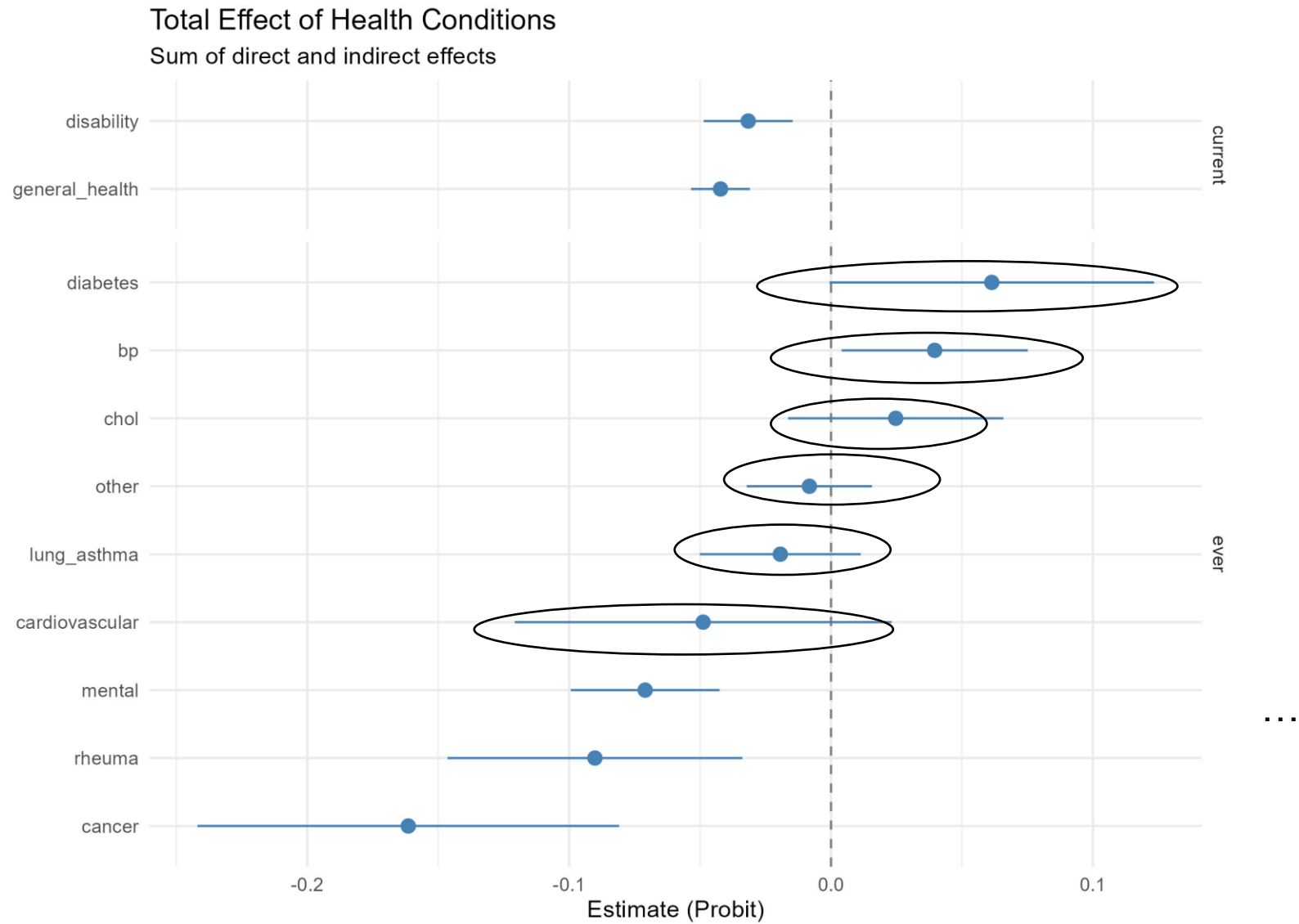


# Model 1: Total Effect

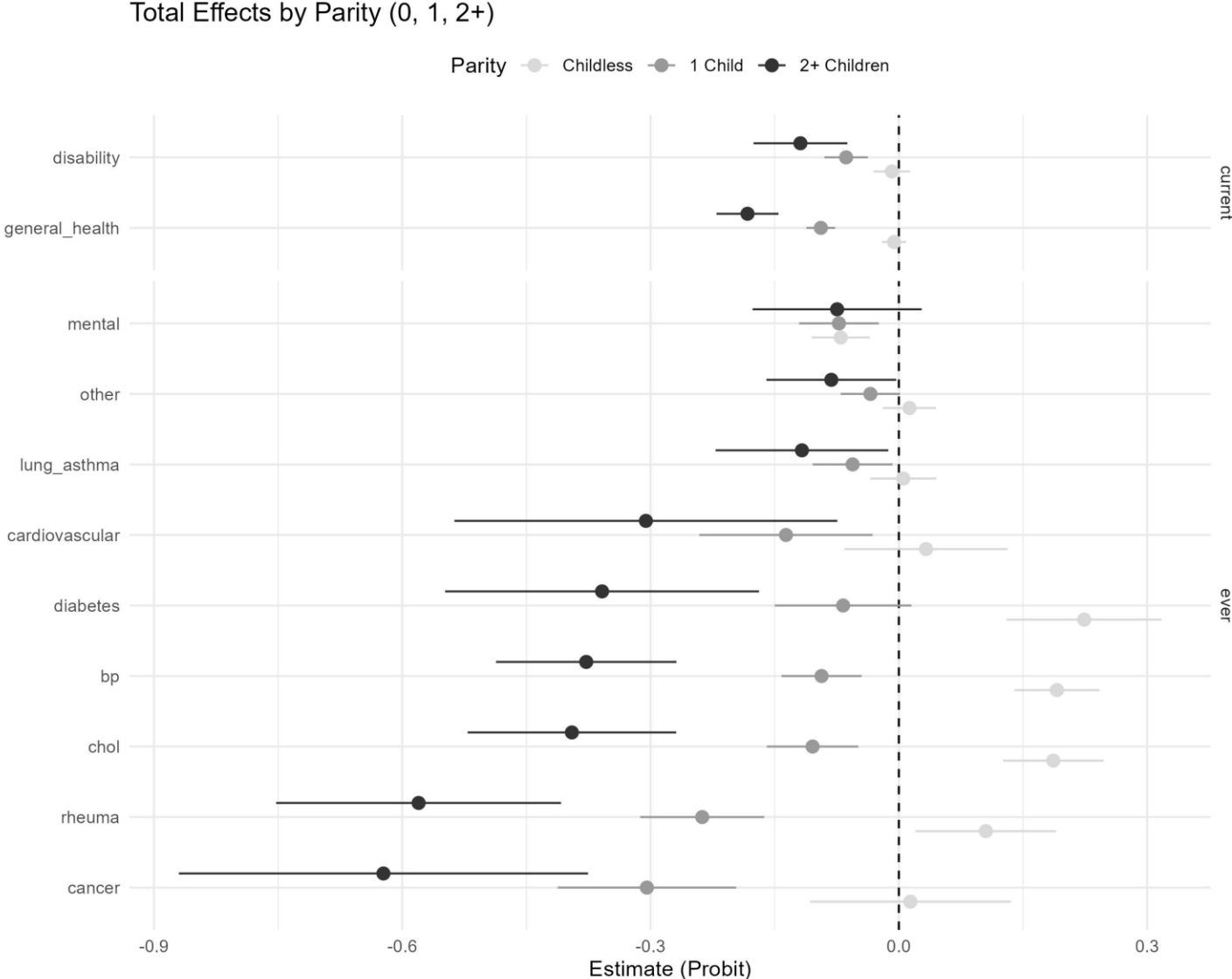


Lower intentions among people with a health condition

# Model 1: Total Effect

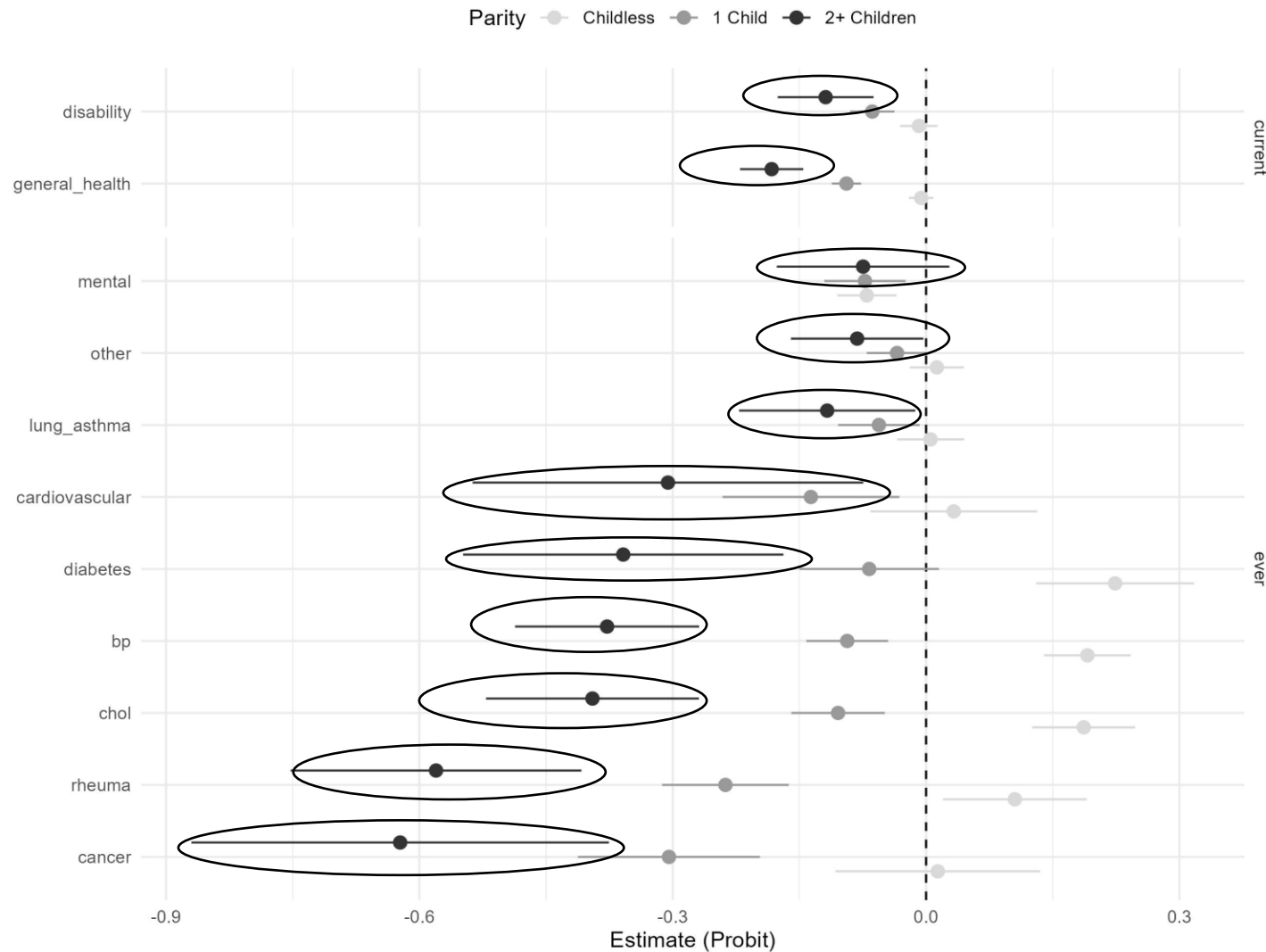


# Model 2: Total Effects by Parity



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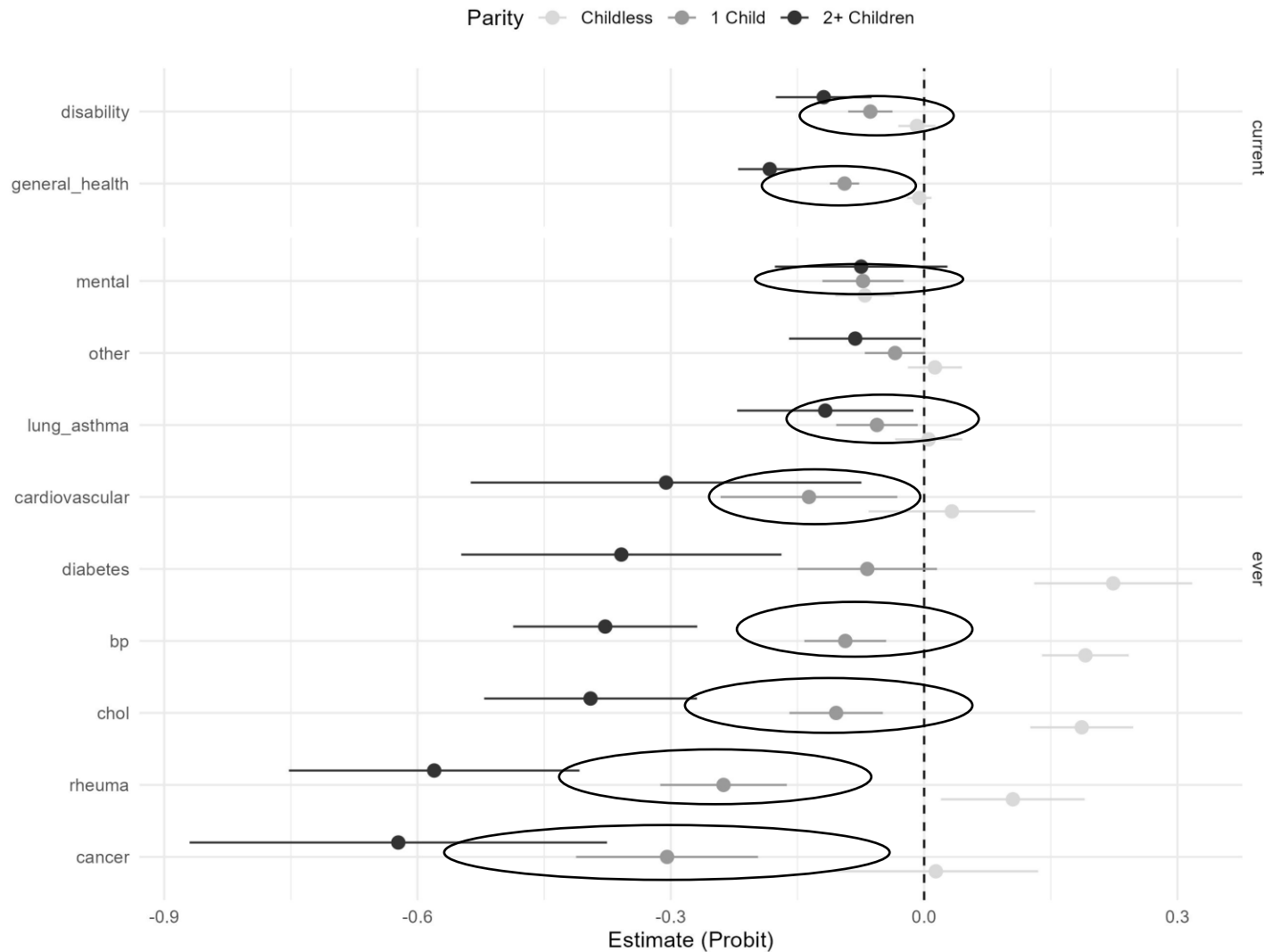
Total Effects by Parity (0, 1, 2+)



Parents with 2+ children and a health condition  
 ↓  
 Lower intentions to have children

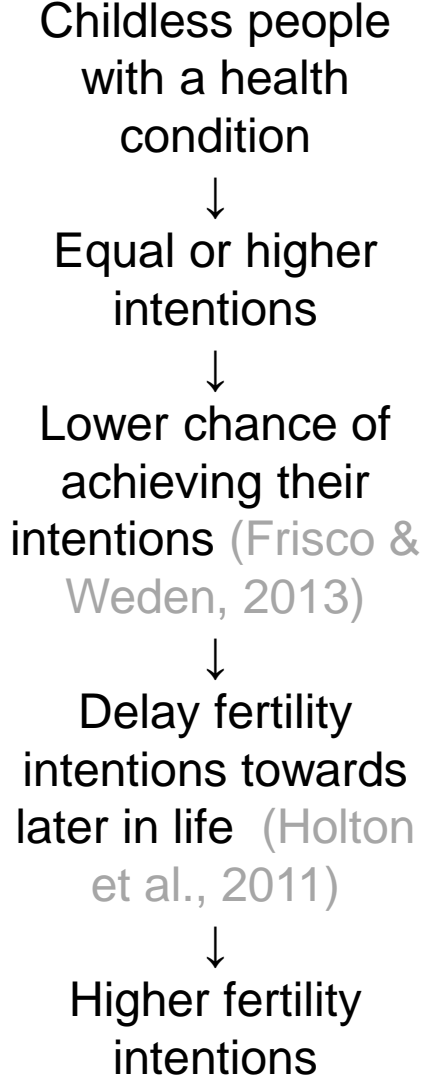
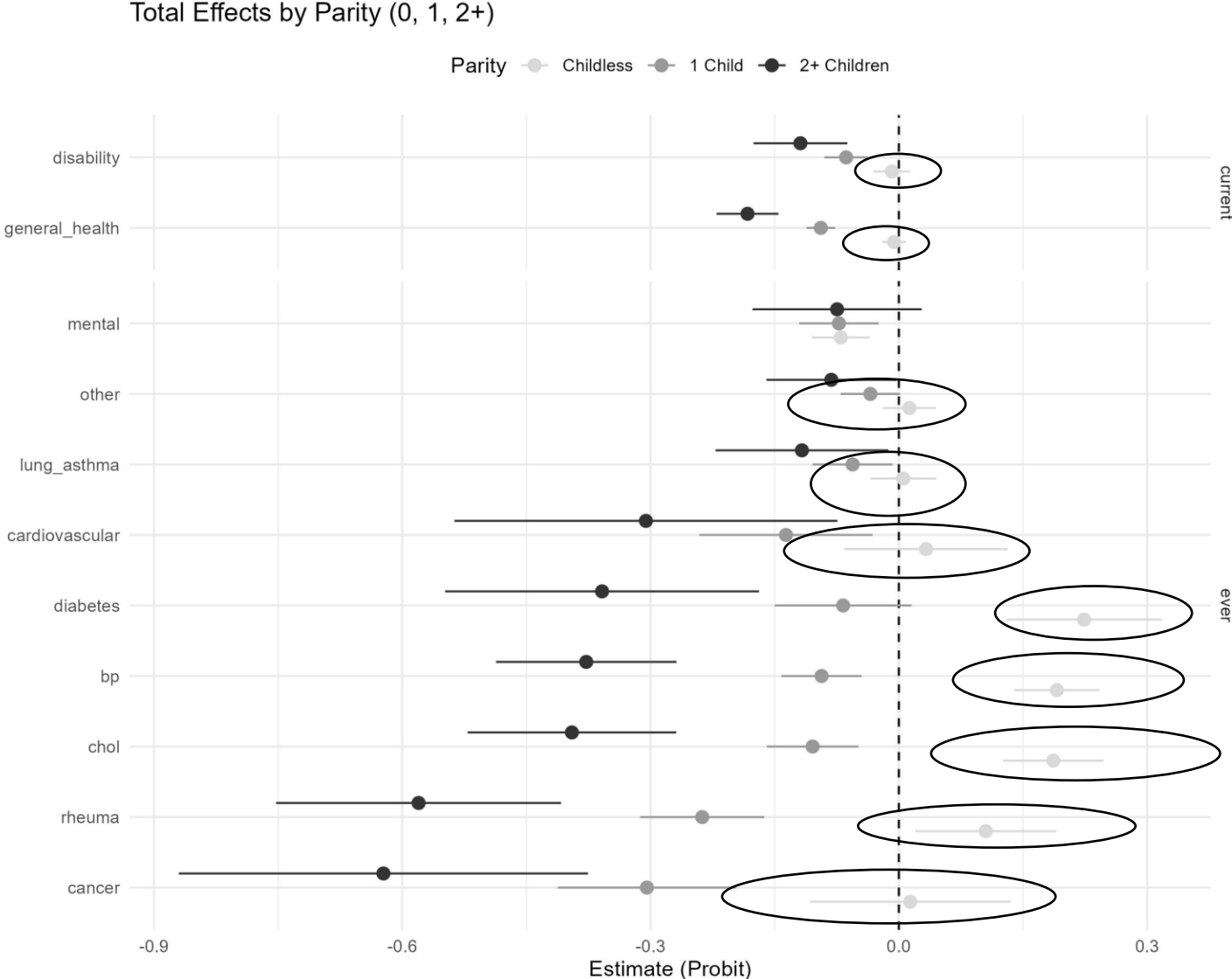
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Total Effects by Parity (0, 1, 2+)

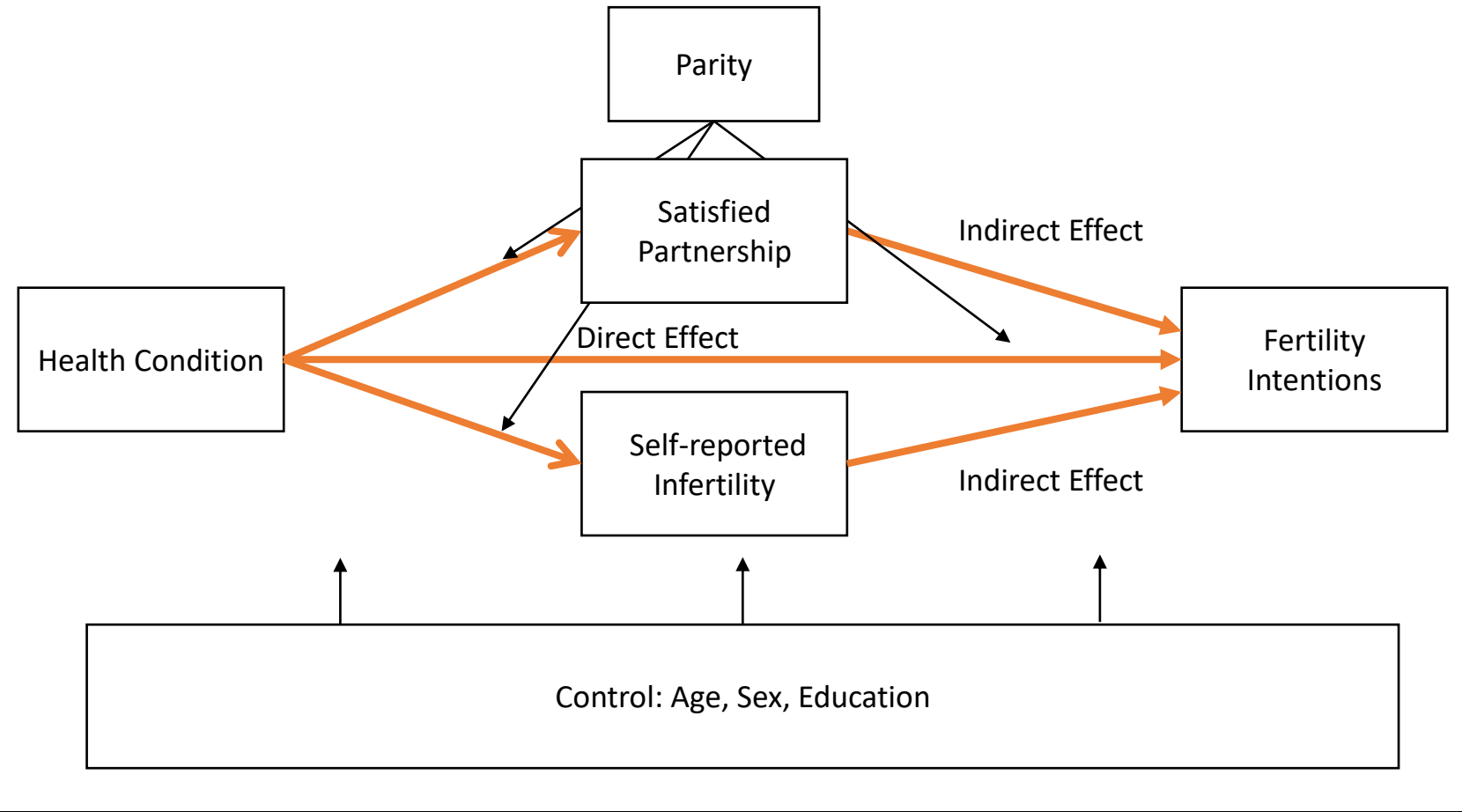


Parents with one child and a health condition  
 ↓  
 Lower intentions to have children

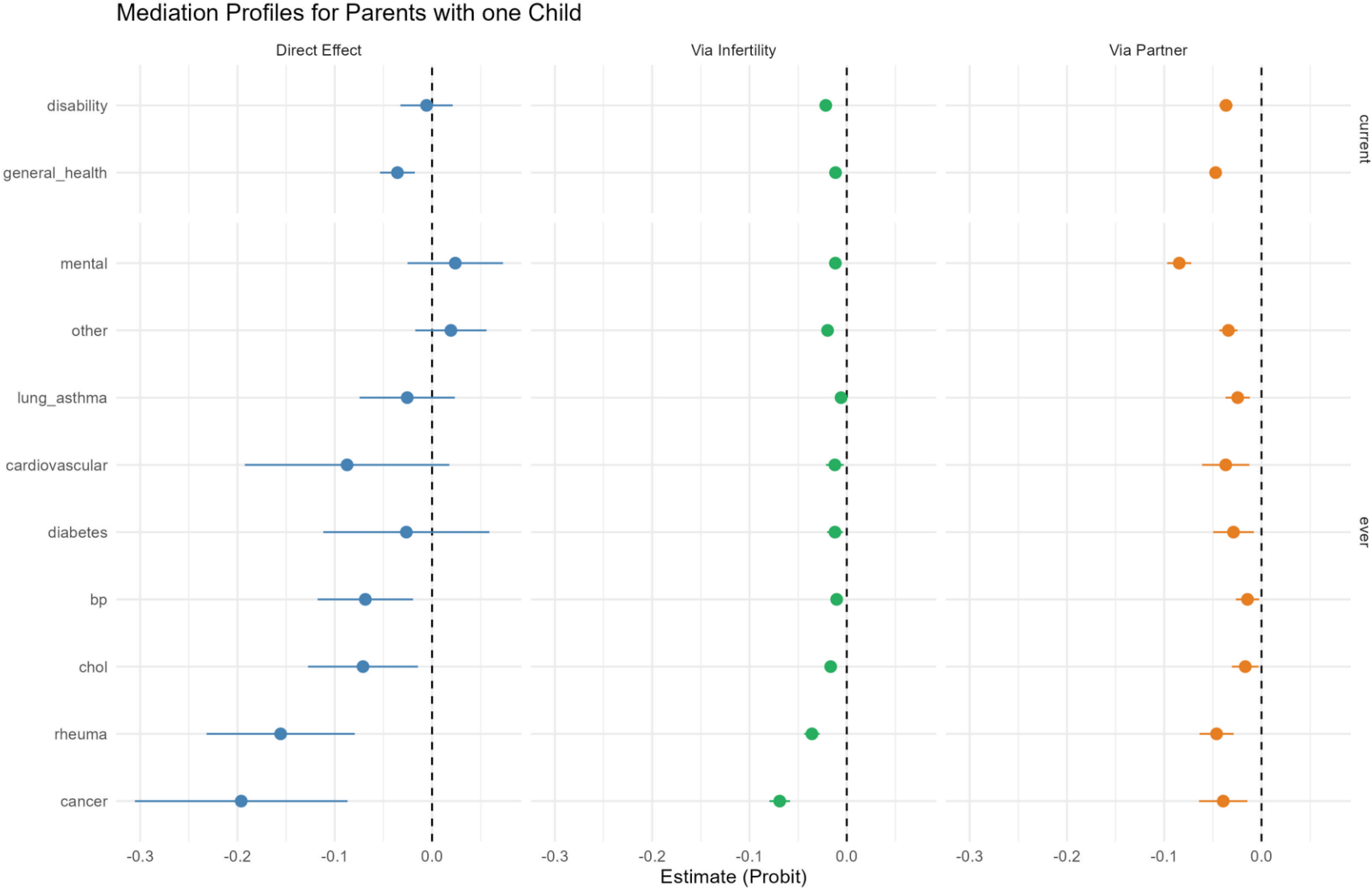
# Model 2: Total Effects by Parity



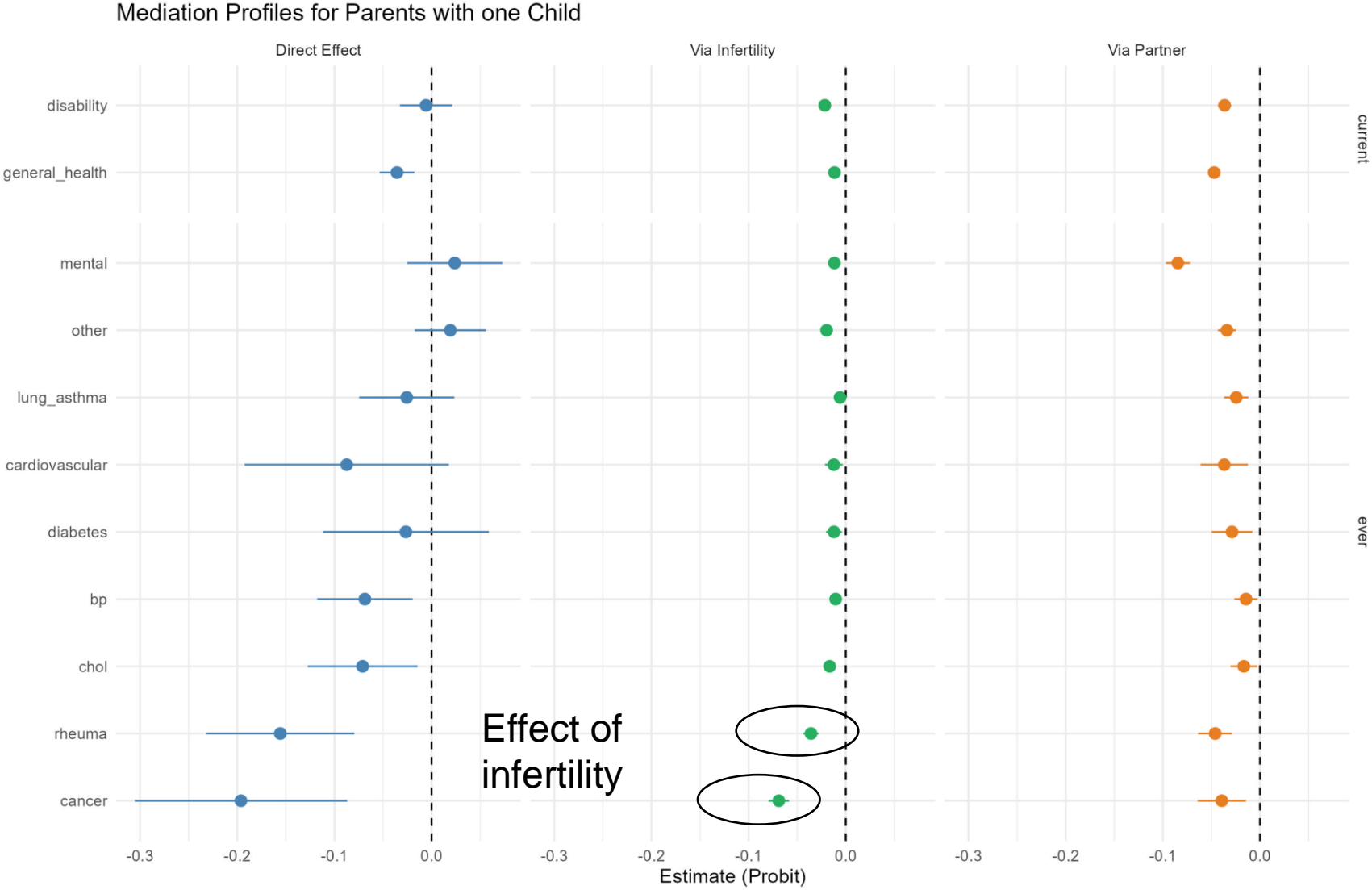
**Model 2: Mediation Model with Parity as a Moderator**



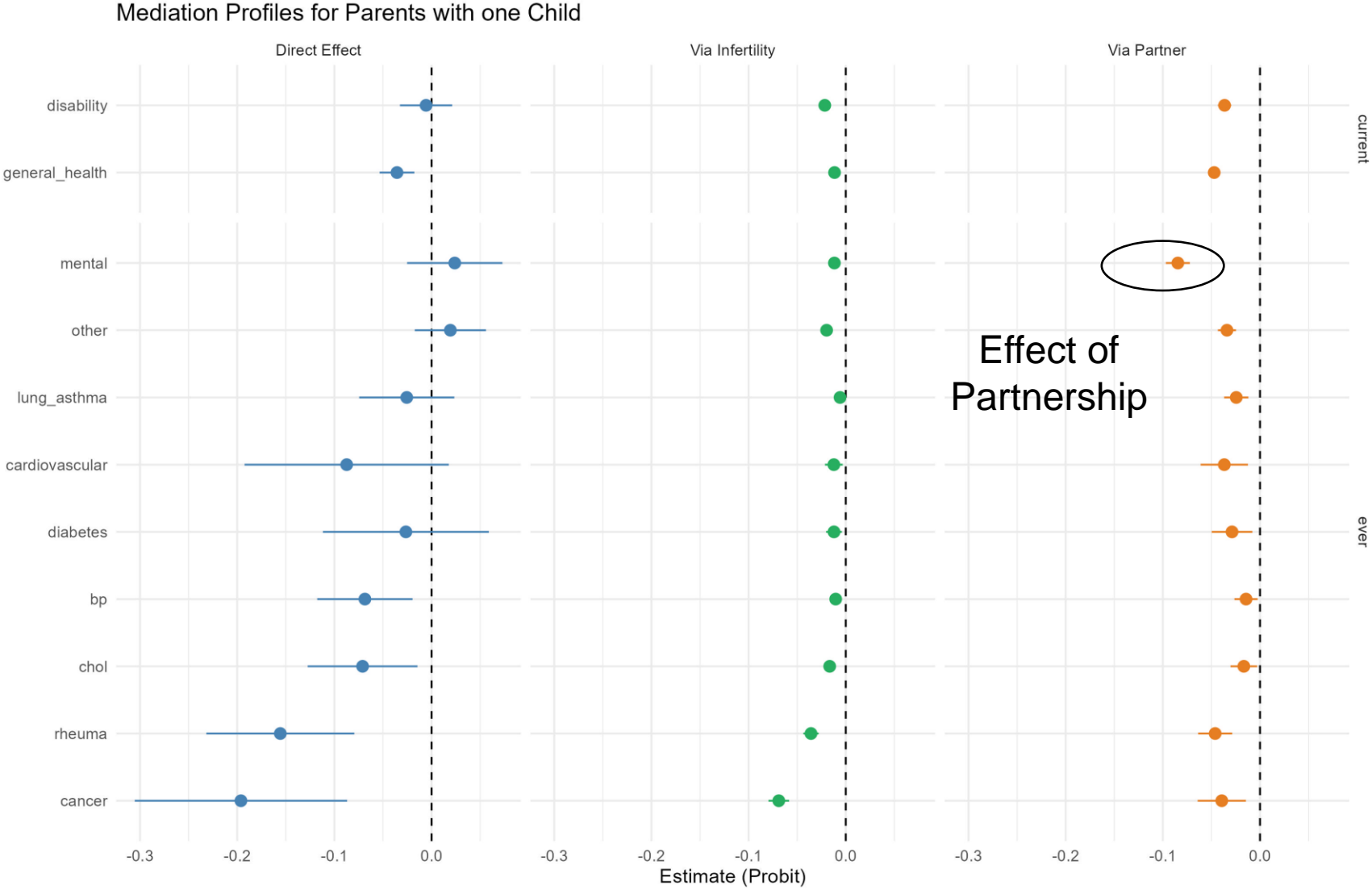
# Model 2: Indirect and Direct Effects (one Child)



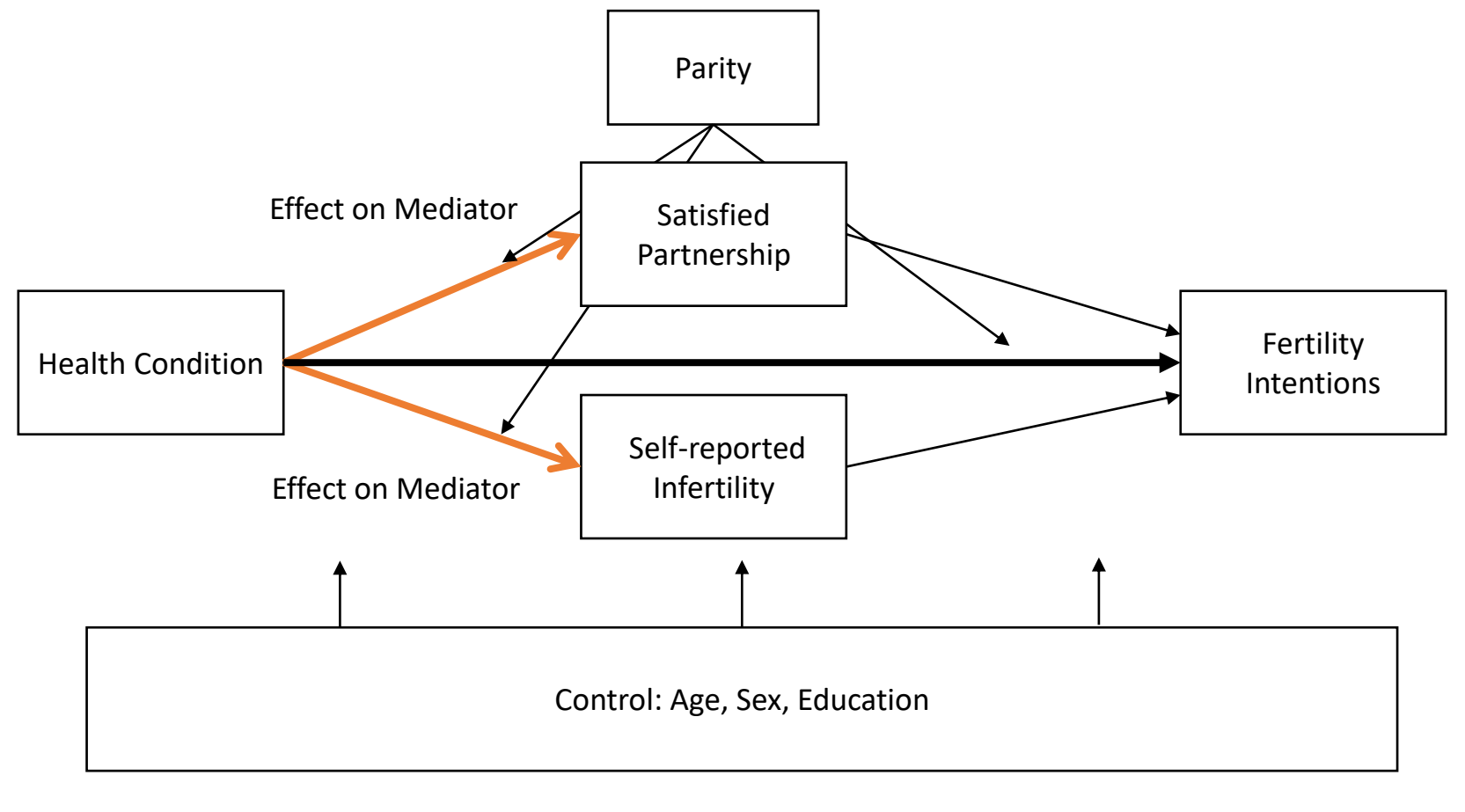
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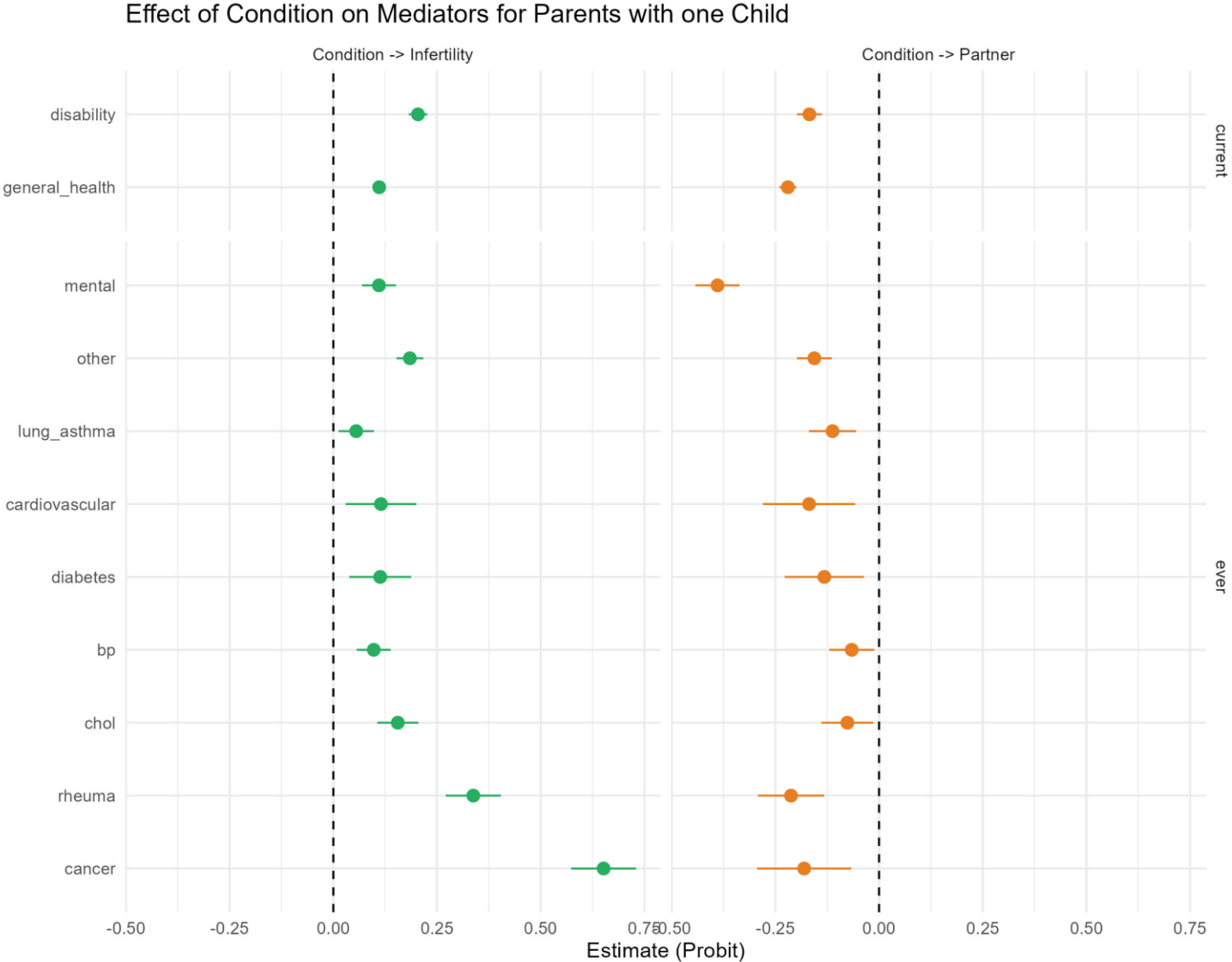
# Model 2: Indirect and Direct Effects (one Child)



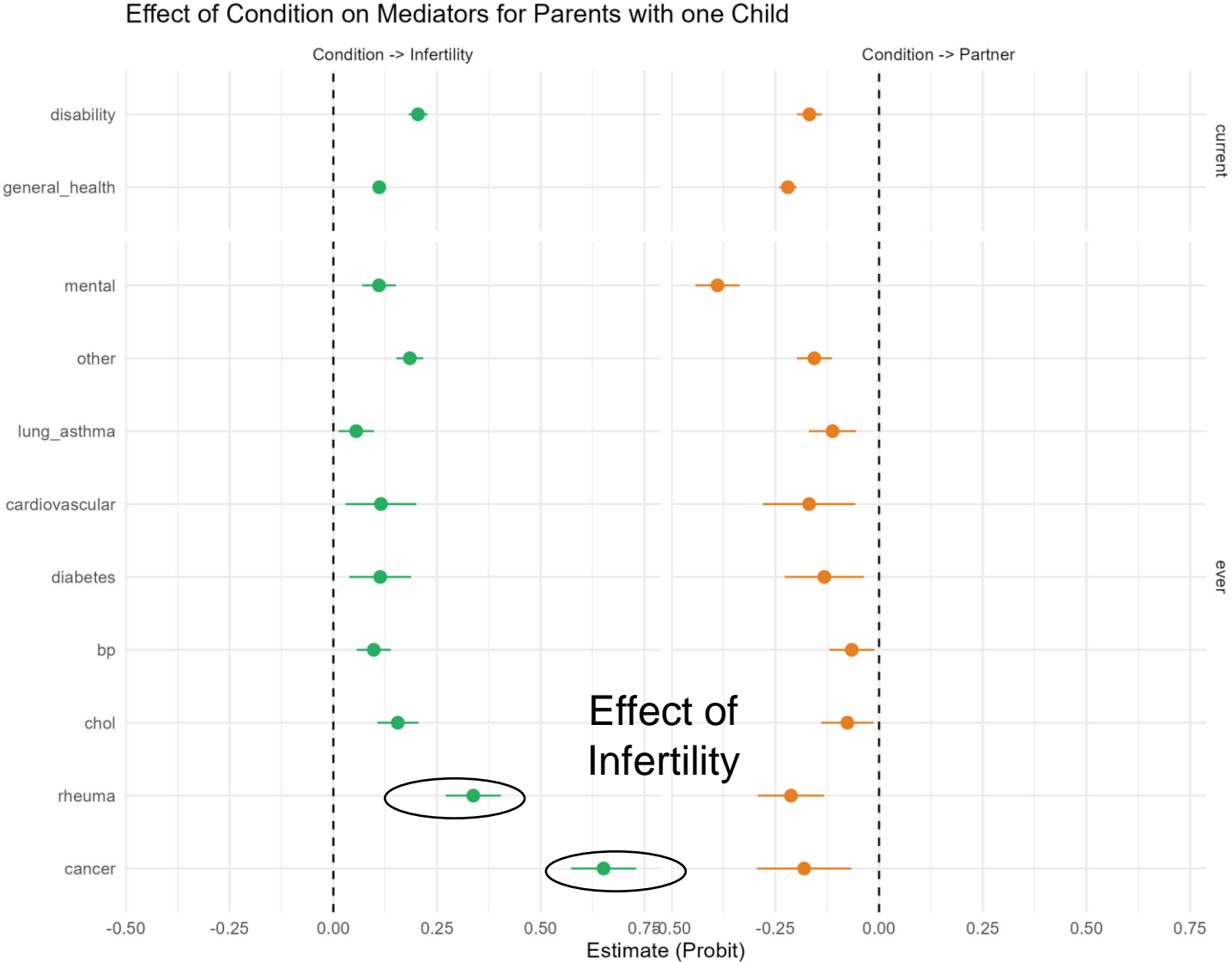
**Model 2: Mediation Model with Parity as a Moderator**



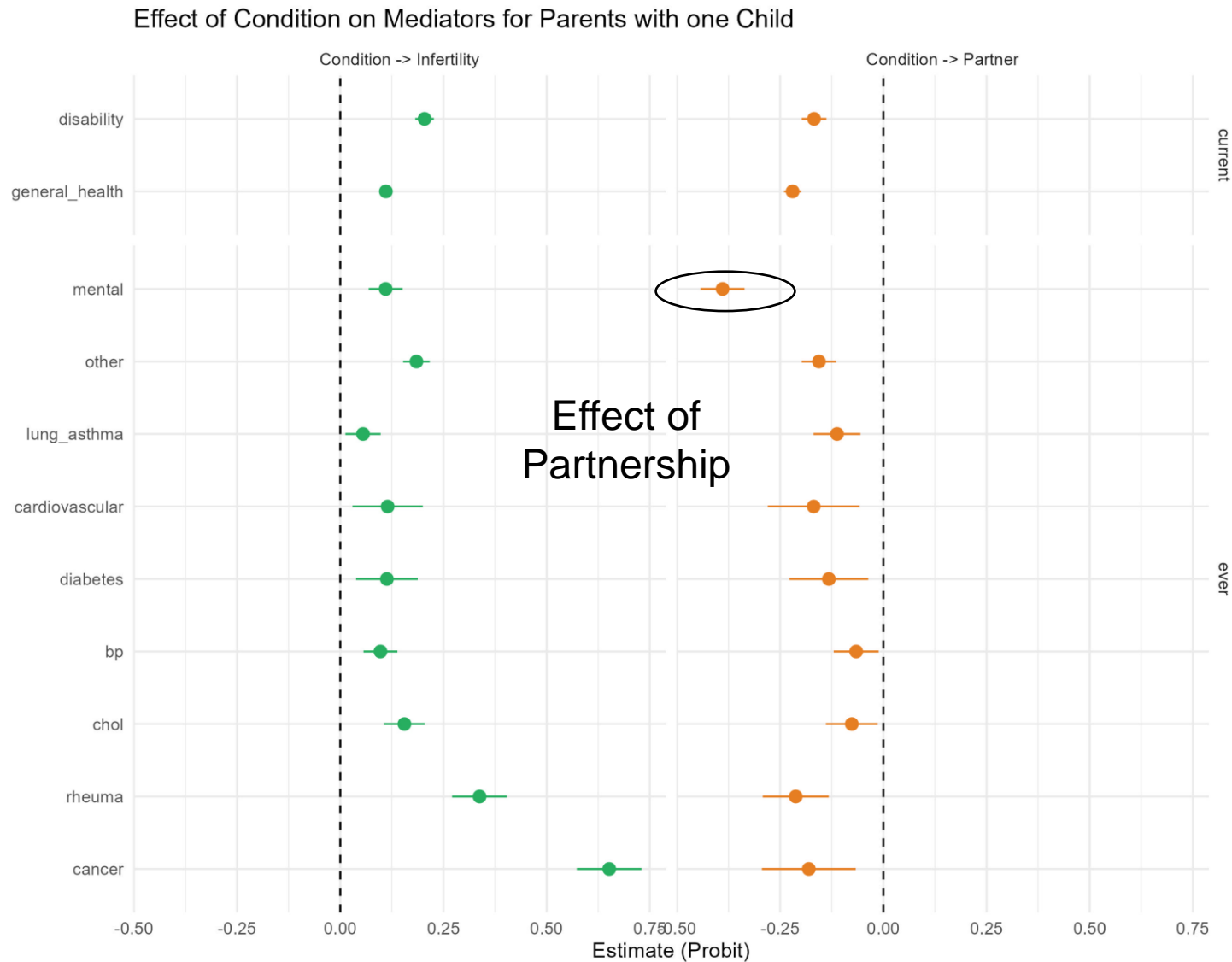
# Model 2: Impact of Condition on Mediators (one Child)



# Model 2: Impact of Condition on Mediators (one Child)



# Model 2: Impact of Condition on Mediators (one Child)



# Limitations and Outlook

## Limitations

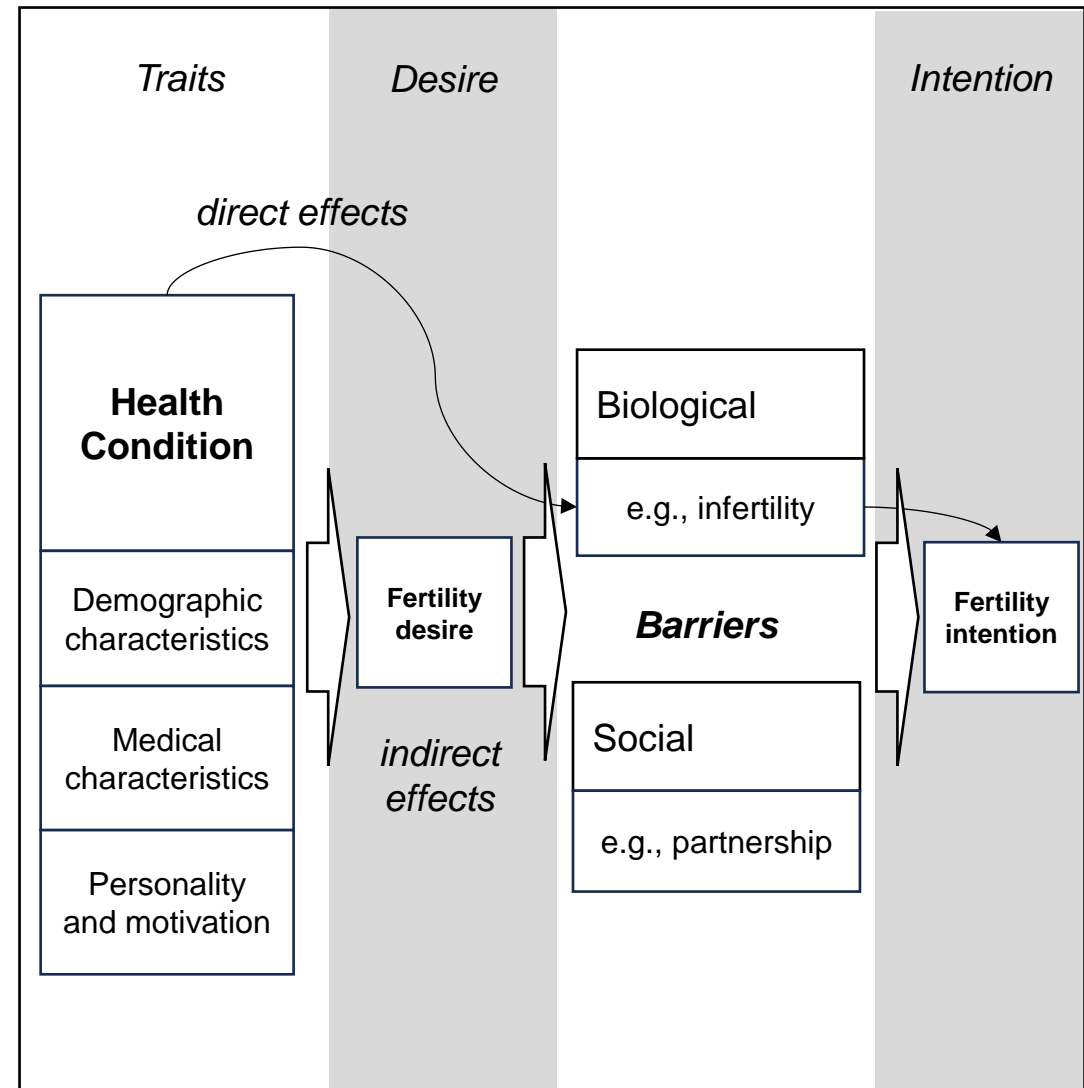
- Reverse causality, e.g., parents have healthier behaviours
- Self-reporting measurement, e.g., infertility
- Missing information on the timing and severity of many health conditions

## Next steps

- Focus on smaller age group -> reduces the impact of delaying intentions
- Sensitivity analysis
- Use other fertility variables, e.g., individual ideal family size

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# Generations and Gender Programme Austria Consortium (GGP.AT)

The GGP is a social science infrastructure for research on population and family dynamics and provides evidence for population policies.

Meet us at the GGP.AT poster!

[www.ggp-austria.at/en](http://www.ggp-austria.at/en)

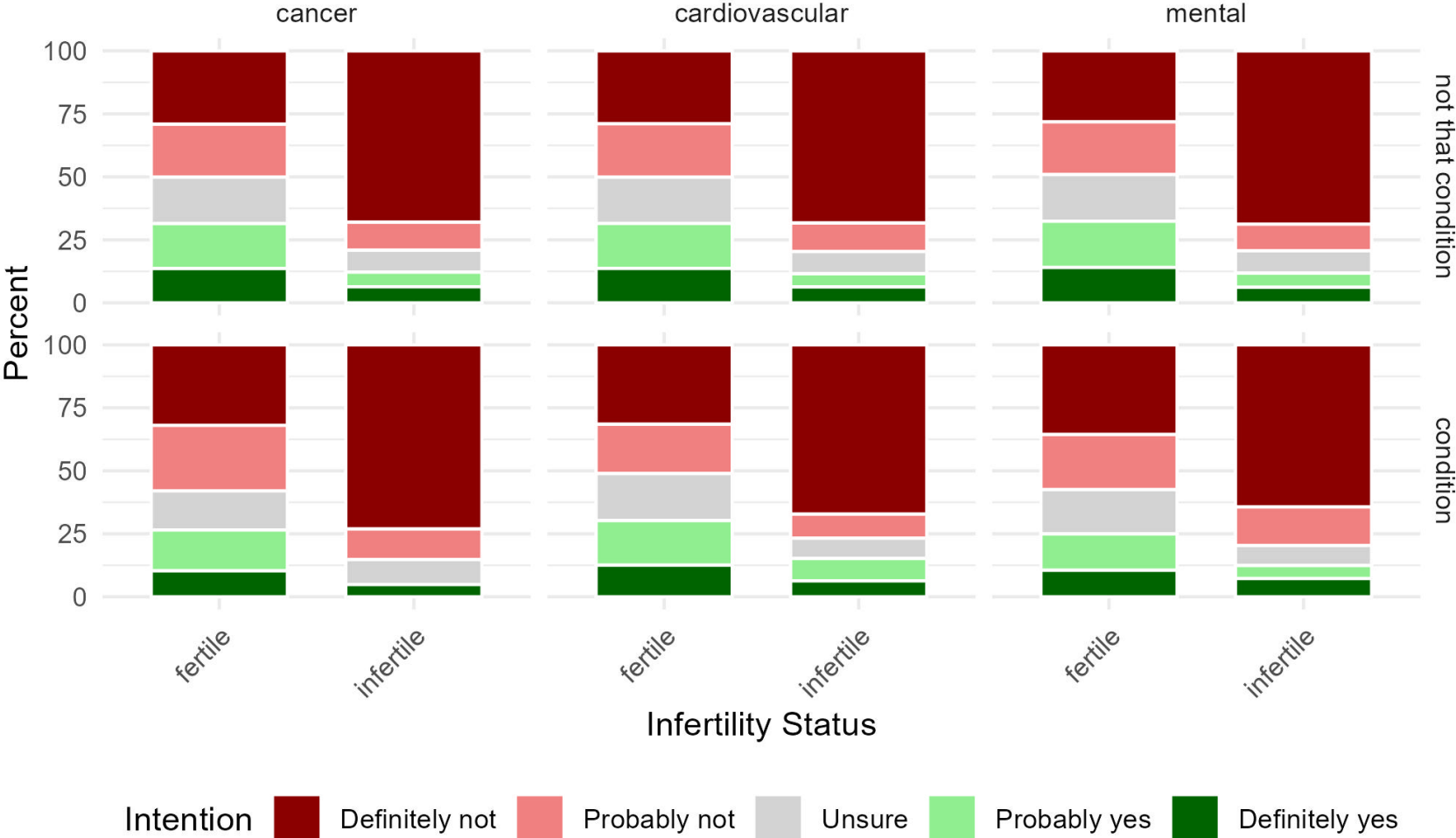


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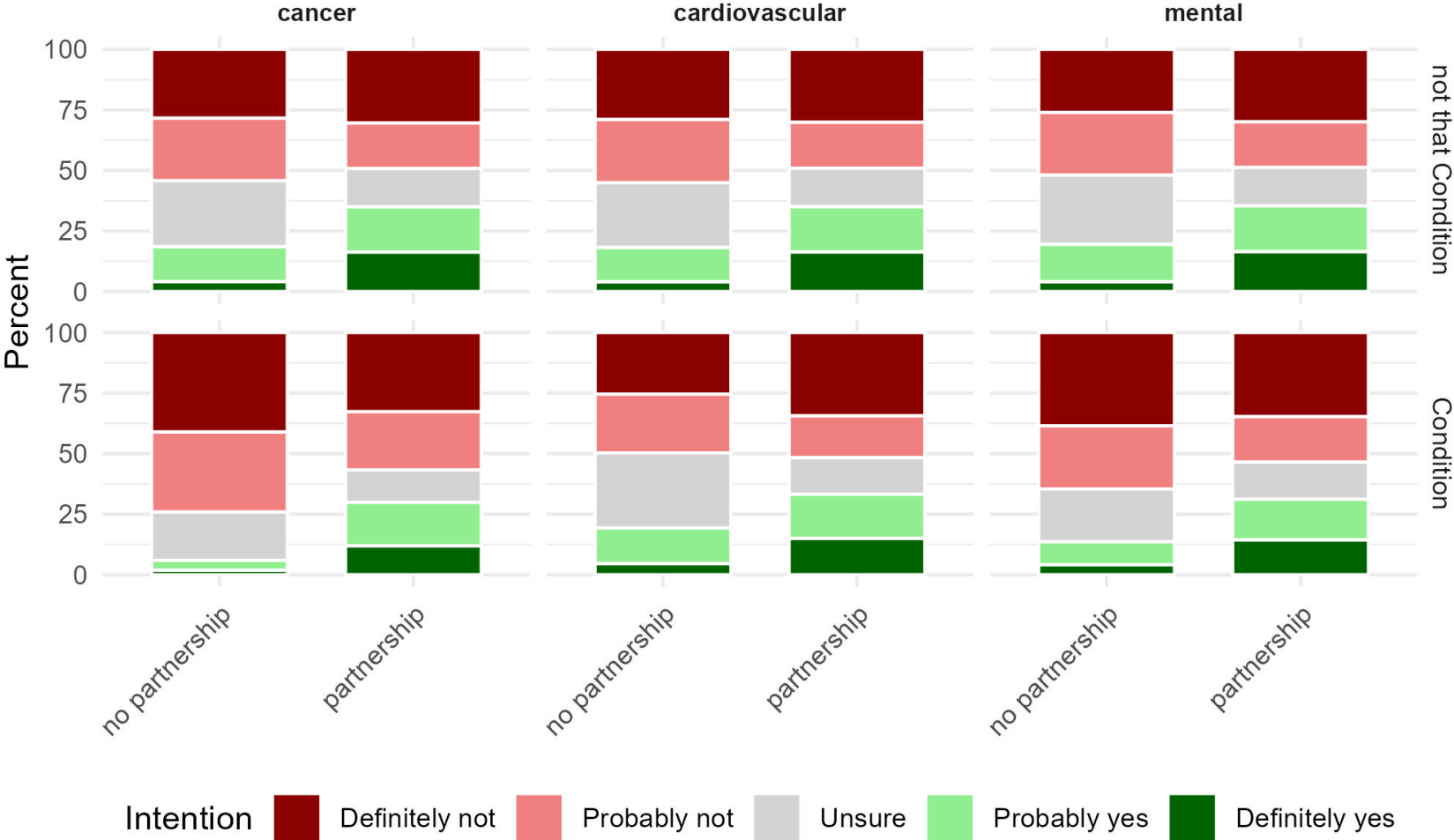
# Descriptive Results – Infertility

Fertility Intentions by Health Condition and Infertility  
Men and women aged 25-40; GGS II Wave 1



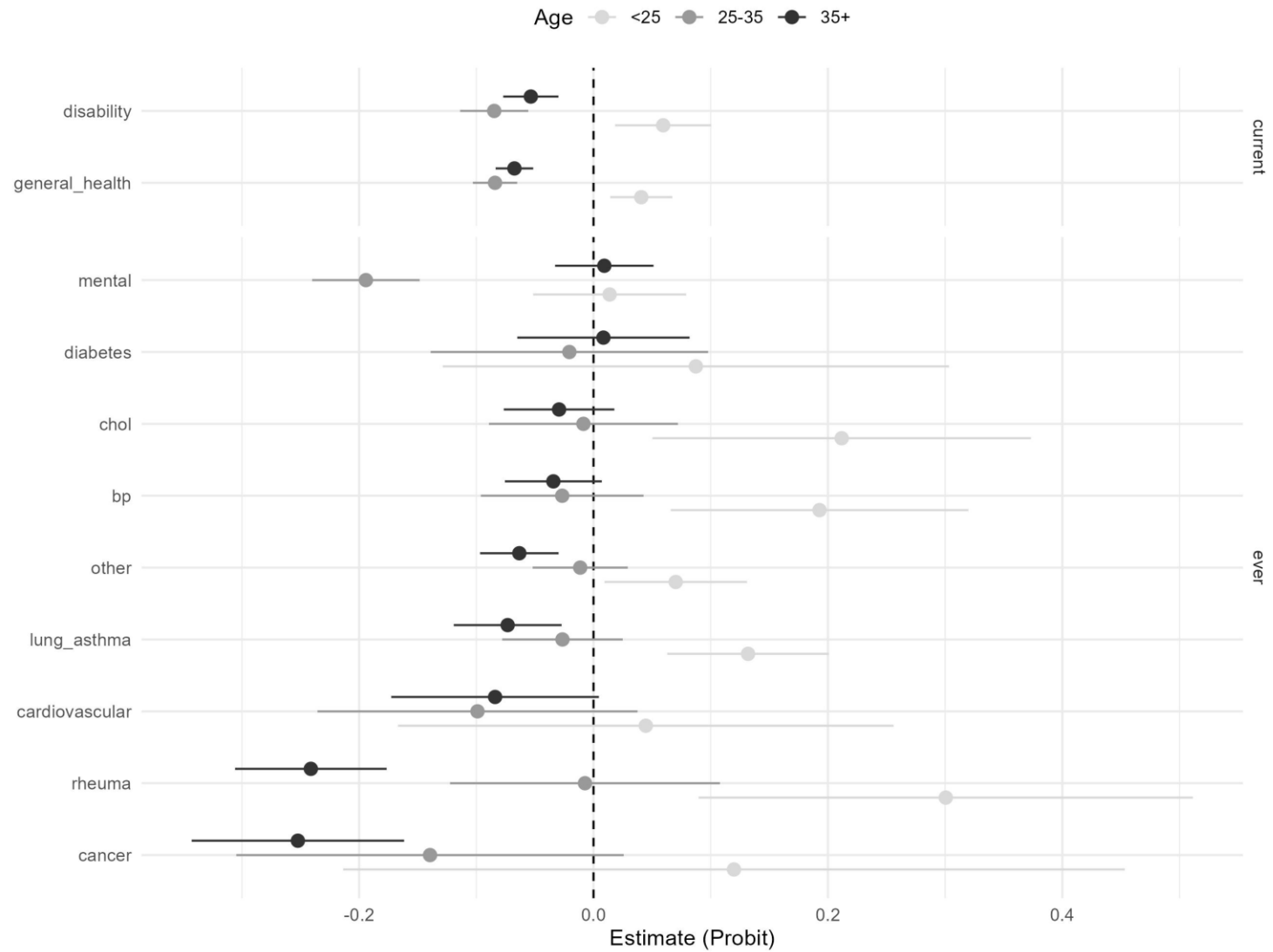
# Descriptive Results – Partnership

Fertility Intentions by Health Status, Condition and Partnership  
 Men and women aged 25-40; GGS II Wave 1



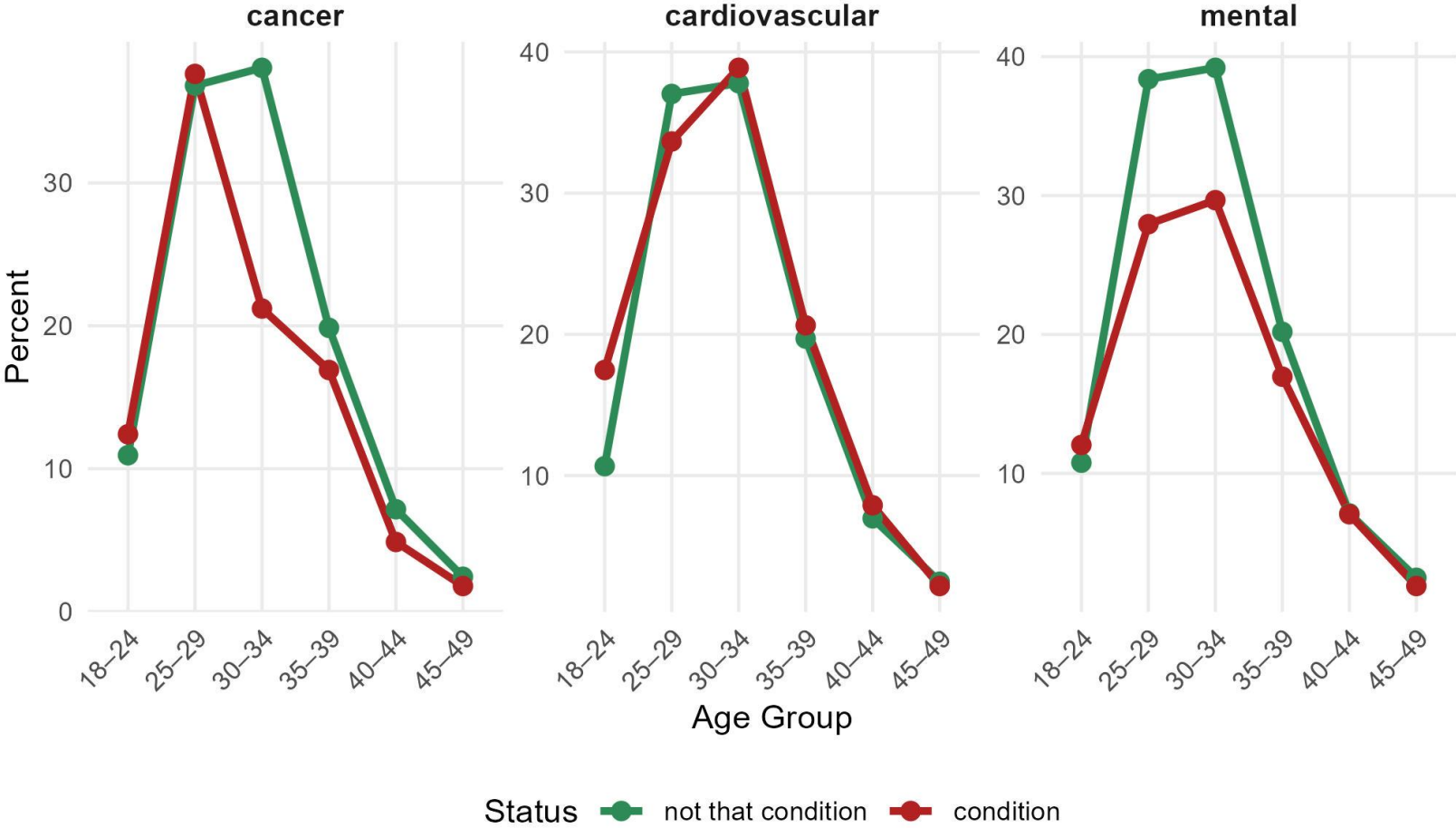
# Model 3: Total Effect by Age

Total Effects by Age

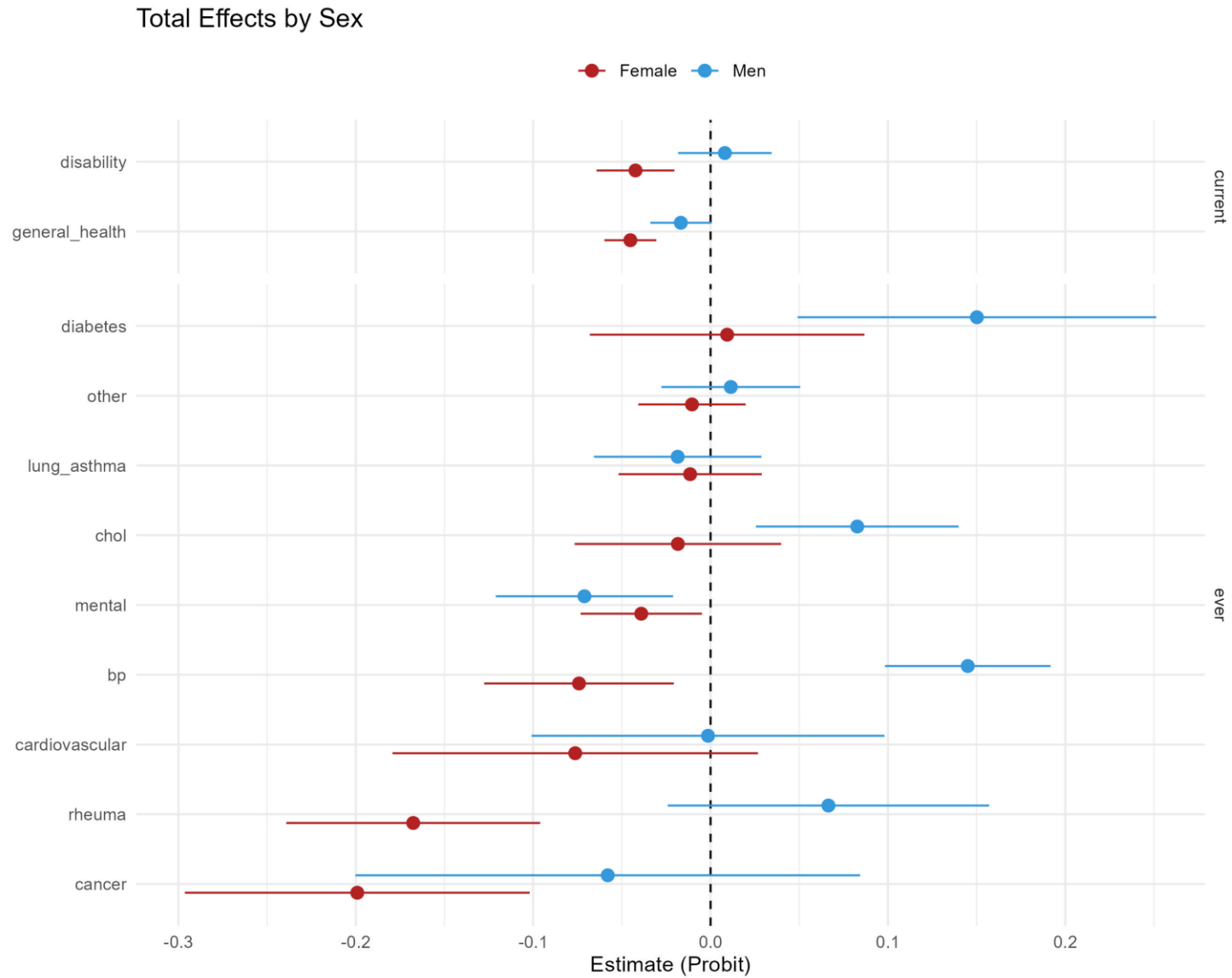


# Descriptive Results – Age

Positive Fertility Intentions by Health Condition and Age Group  
Men and women aged 18-49; GGS II Wave 1

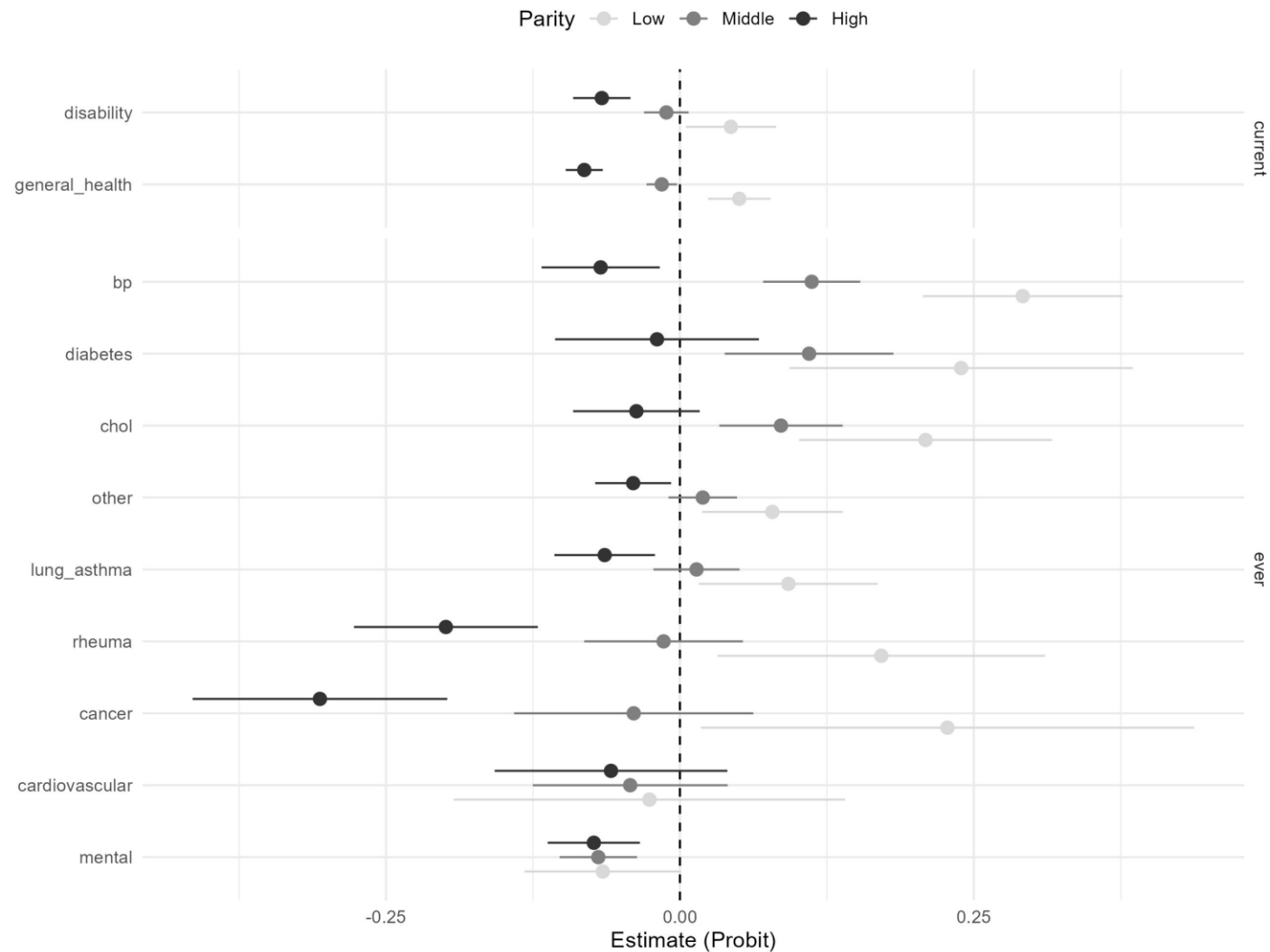


# Model 4: Total Effect by Sex



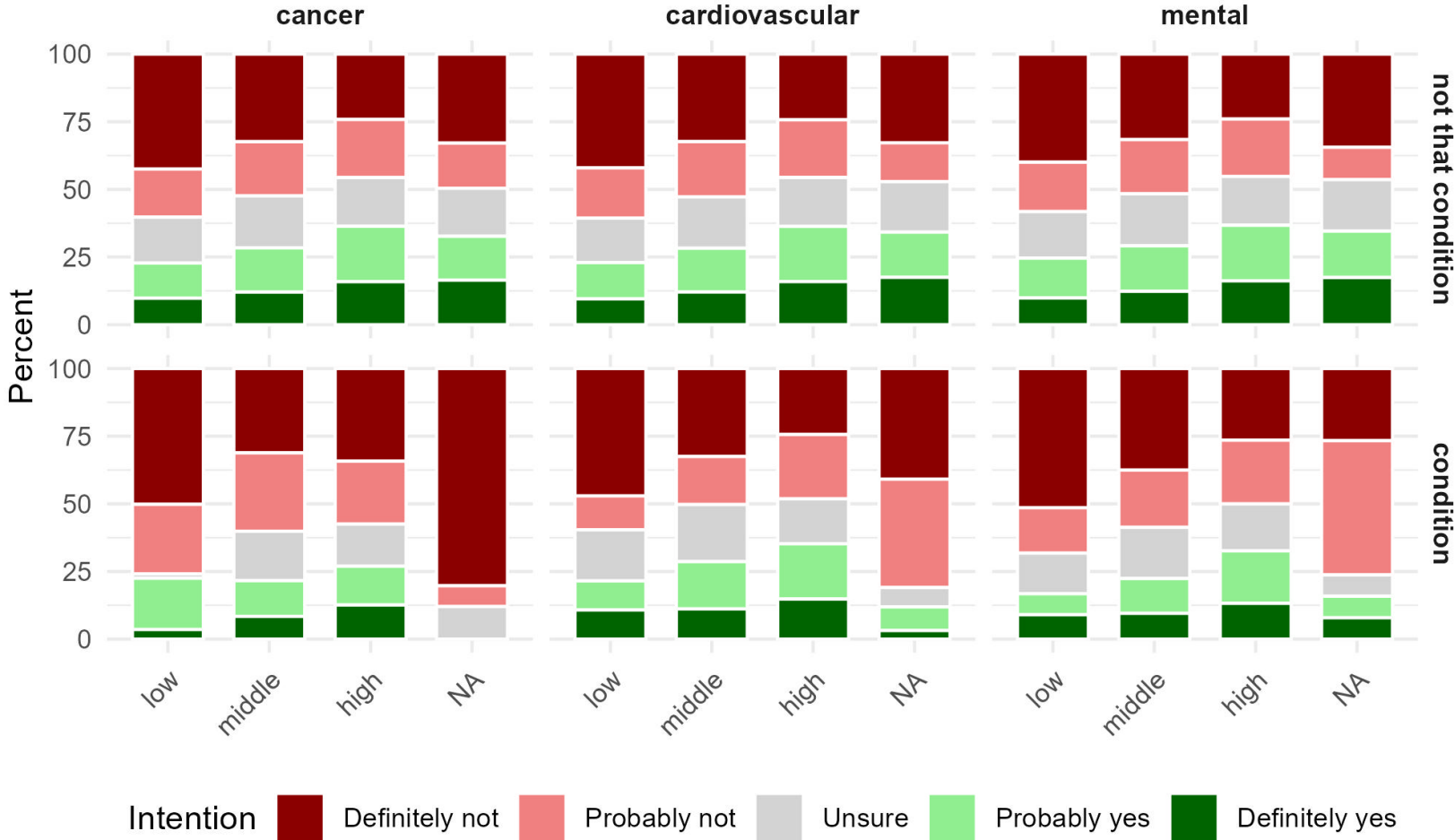
# Model 5: Total Effect by Education

Total Effects by Education



# Descriptive Results – Education

Fertility Intentions by Health Condition and Education  
Men and women aged 25-40; GGS II Wave 1



# Model 2: Fits

<b>Condition</b>	<b>Comparative Fit Index</b>	<b>Tucker-Lewis Index</b>	<b>Root Mean Square Error of Approximation</b>	<b>Standardized Root Mean Square Residual</b>	<b>n</b>
<i>bp</i>	0,97705076	0,93115227	0,0282471	0,01190698	56505
<i>cancer</i>	0,9778712	0,9336136	0,02758448	0,01164882	56505
<i>cardiovascular</i>	0,97701493	0,93104479	0,02820517	0,01189232	56505
<i>chol</i>	0,97708556	0,93125669	0,02814712	0,0118676	56505
<i>diabetes</i>	0,97722252	0,93166757	0,02813267	0,01186017	56505
<i>disability</i>	0,98240901	0,94722702	0,0244658	0,01037657	56505
<i>general_health</i>	0,98782863	0,96348589	0,01998702	0,00855046	56505
<i>lung_asthma</i>	0,97699663	0,9309899	0,02821552	0,01189569	56505
<i>mental</i>	0,97874459	0,93623376	0,02695628	0,01138028	56505
<i>other</i>	0,97966468	0,93899405	0,02648829	0,01120197	56505
<i>rheuma</i>	0,97817936	0,93453808	0,02736627	0,01155931	56505

# Model 2: Chance

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<b>illness</b>	<b>group</b>	<b>type</b>	<b>OR</b>	<b>Chance_%</b>	<b>p_sig</b>
<i>bp</i>	2+ Children	Total Effect	0,536	-46,4	***
<i>cancer</i>	2+ Children	Total Effect	0,358	-64,2	***
<i>cardiovascular</i>	2+ Children	Total Effect	0,604	-39,6	**
<i>chol</i>	2+ Children	Total Effect	0,521	-47,9	***
<i>diabetes</i>	2+ Children	Total Effect	0,553	-44,7	***
<i>disability</i>	2+ Children	Total Effect	0,822	-17,8	***
<i>general_health</i>	2+ Children	Total Effect	0,74	-26	***
<i>lung_asthma</i>	2+ Children	Total Effect	0,824	-17,6	*
<i>mental</i>	2+ Children	Total Effect	0,884	-11,6	n.s.
<i>other</i>	2+ Children	Total Effect	0,874	-12,6	*
<i>rheuma</i>	2+ Children	Total Effect	0,384	-61,6	***

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