

The causal effect of "Puerto Verde" Project on Malaga's residents

Impact Evaluation "Málaga Puerto Verde"

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Overview

A brief look at what we will cover in this report



01 DiD

02 Sample

03 Outcome variables

04 Impact

05 Memory score

06 Results

DiD

The difference-in-differences method

TREATMENT GROUP

This is the group that receives the treatment or intervention of interest. It could be a specific population, geographic location, or time period.



CONTROL GROUP

This is a group that is similar to the treatment group in all relevant characteristics except for the treatment. The control group provides a baseline against which to compare the changes in outcomes over time.



OUTCOME VARIABLE

This is the variable of interest that you want to measure the effect of the treatment on. It could be anything from test scores to health outcomes to economic indicators.



PRE- AND POST-TREATMENT DATA:

You need data on the outcome variable for both groups before and after the treatment. This allows you to compare the changes in outcomes over time between the two groups.



DiD

The difference-in-differences method

Compare the difference in the outcome of interest between the treatment group and the control group before and after the treatment, and then take the difference in the difference.

Difference pre-post for the treatment group (T):

$$Dif_1 = y_{post}^T - y_{pre}^T$$

Difference pre-post for the control group (C):

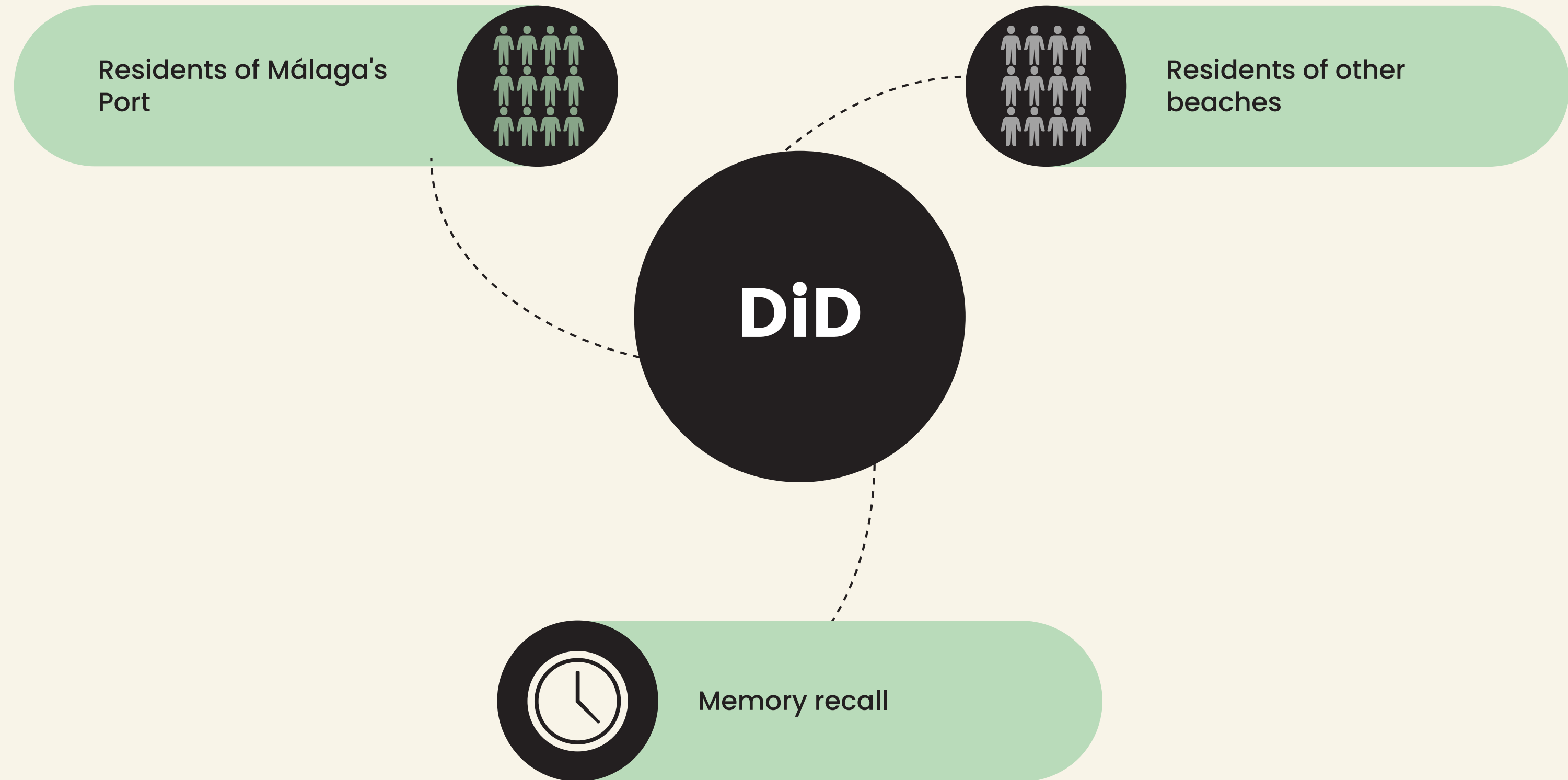
$$Dif_2 = y_{post}^C - y_{pre}^C$$

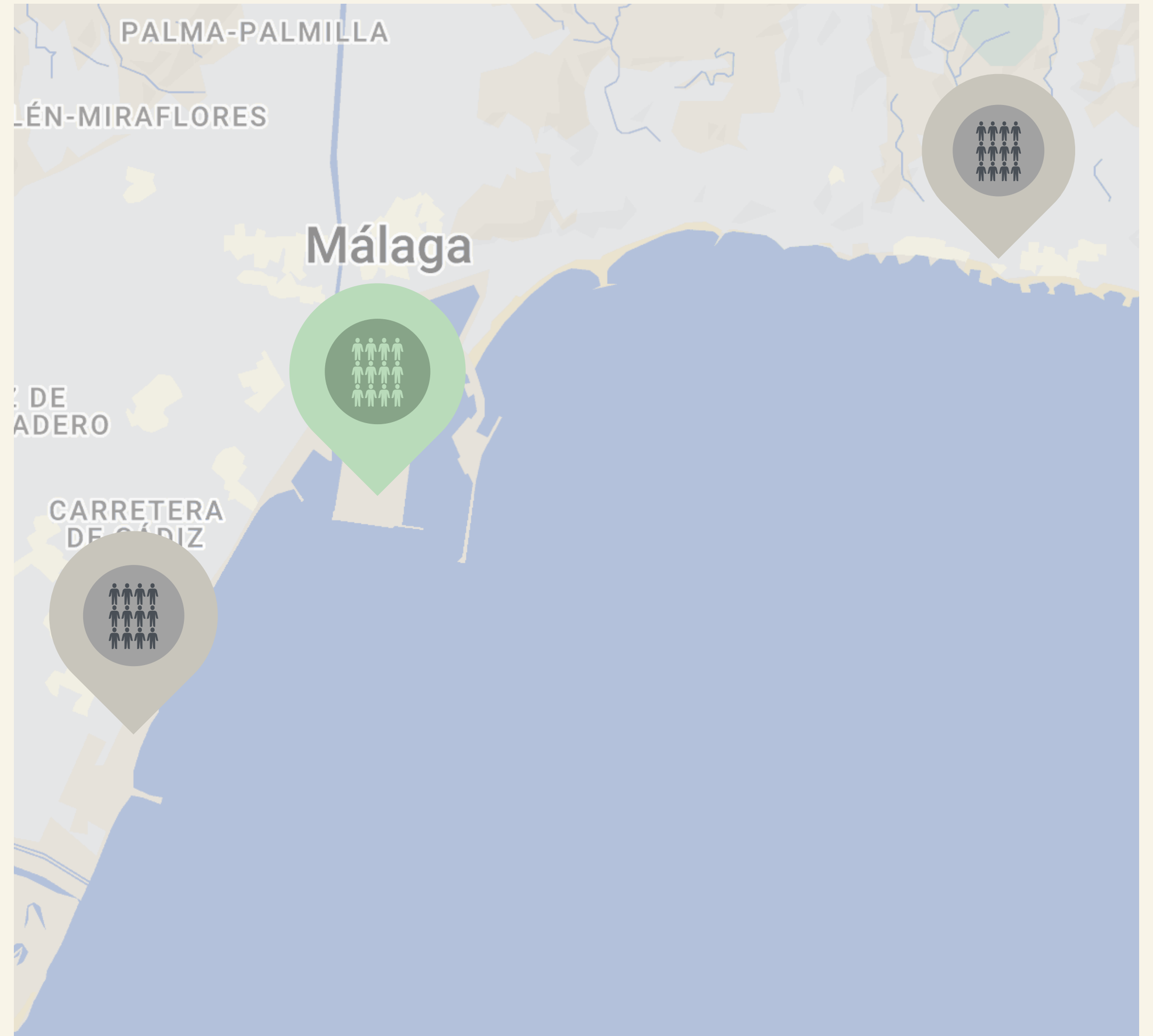
DiD estimator:

$$DiD = Dif_1 - Dif_2$$

DiD

The difference-in-differences method





SAMPLE

311



SAMPLE

311

TREATMENT

162

CONTROL

149



CONTROL

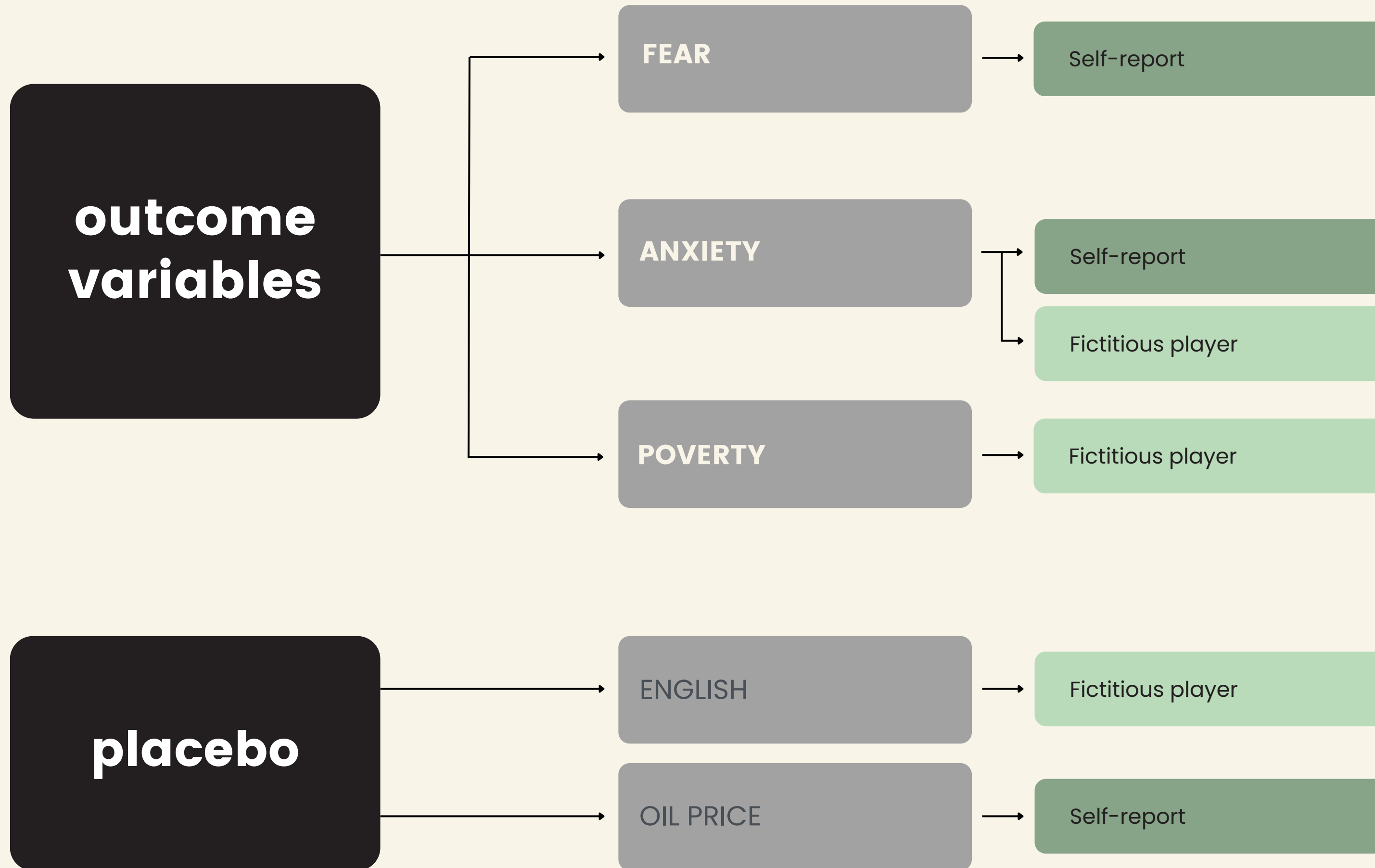


Age (mean): 53

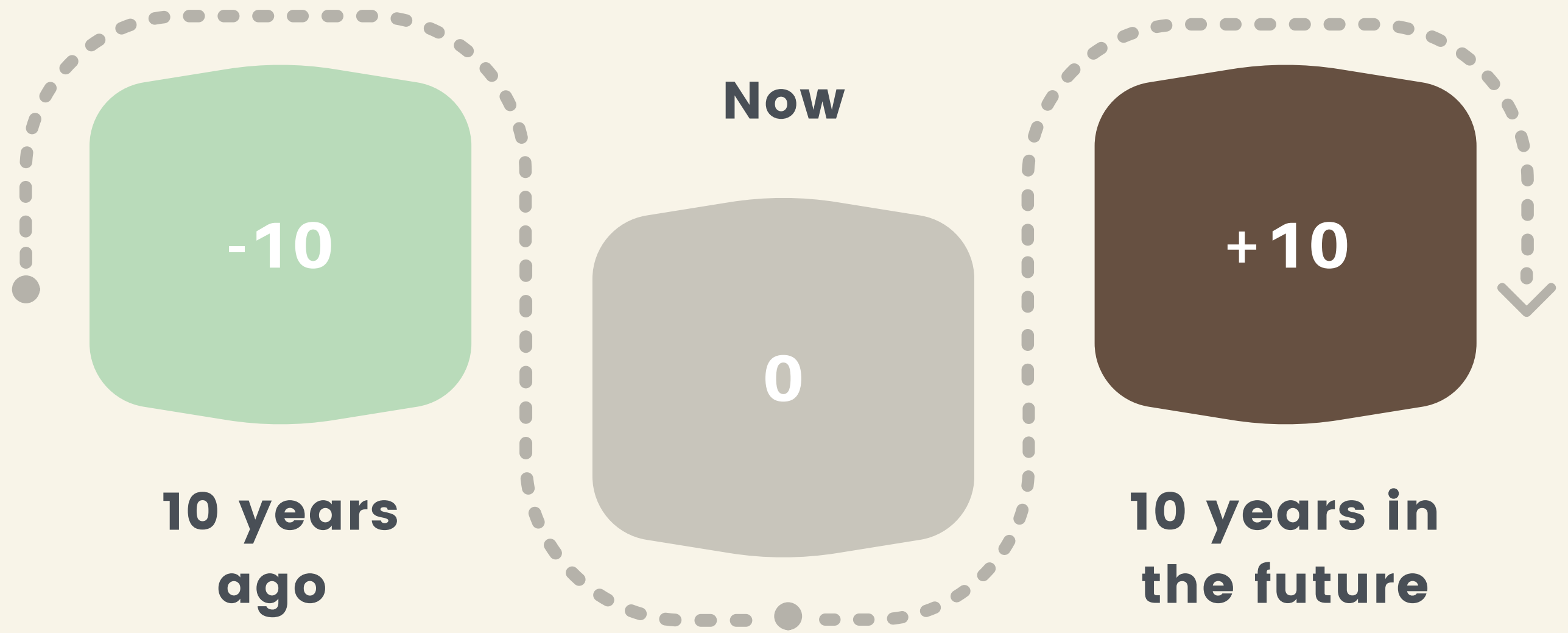
TREATMENT



Age (mean): 52

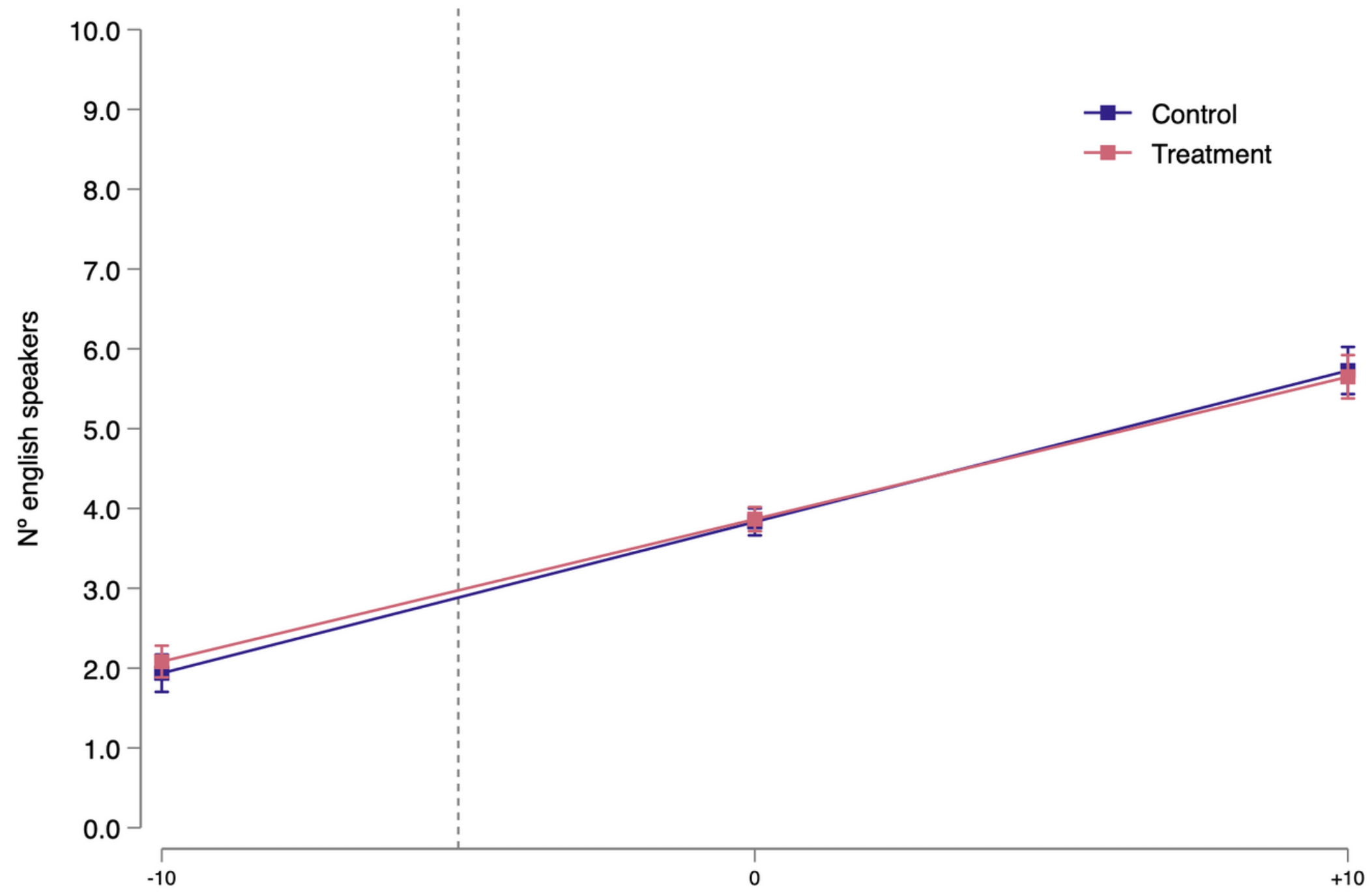


MEMORY RECALL

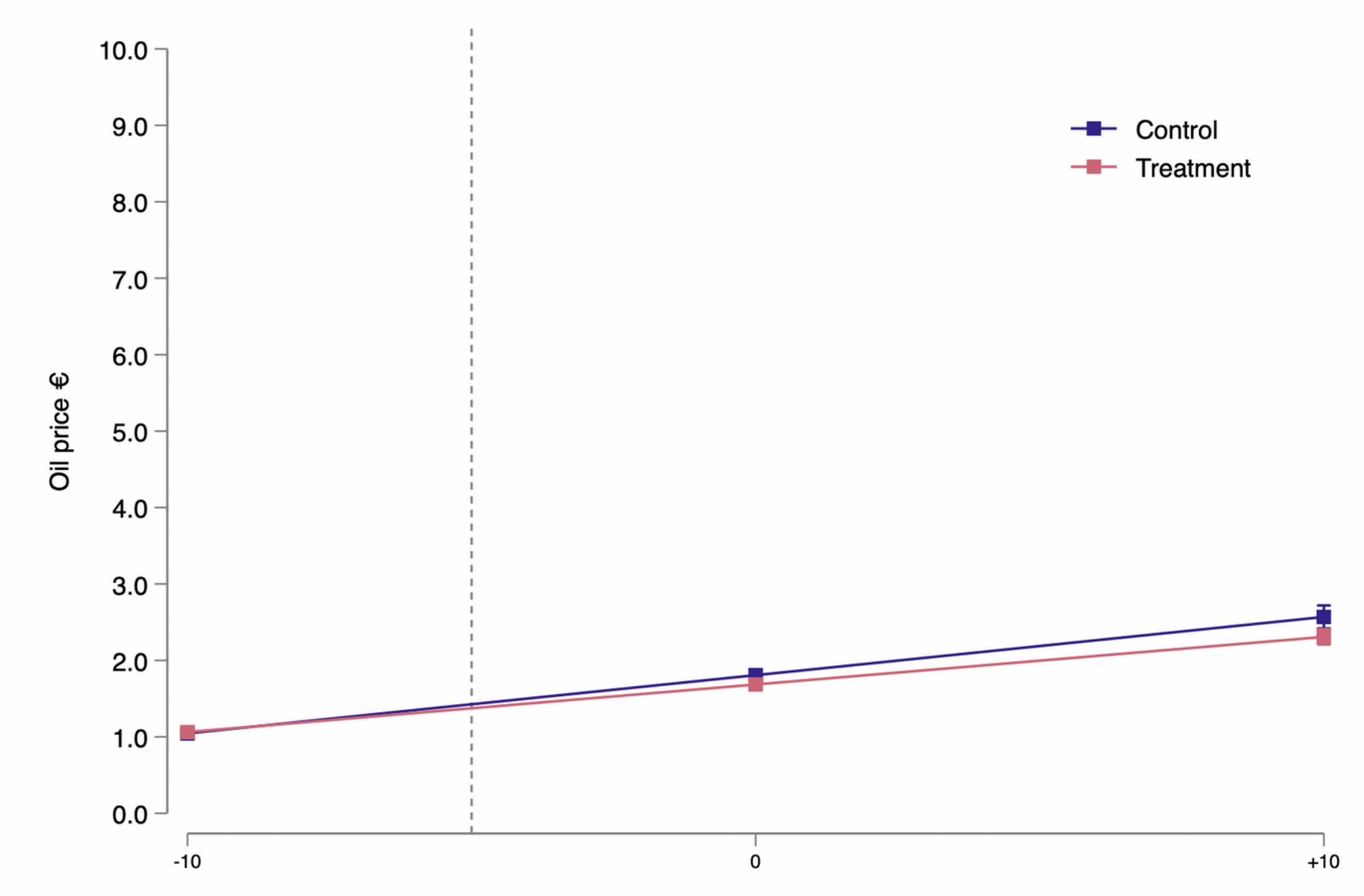


PLACEBO

N° PEOPLE WHO SPEAK ENGLISH

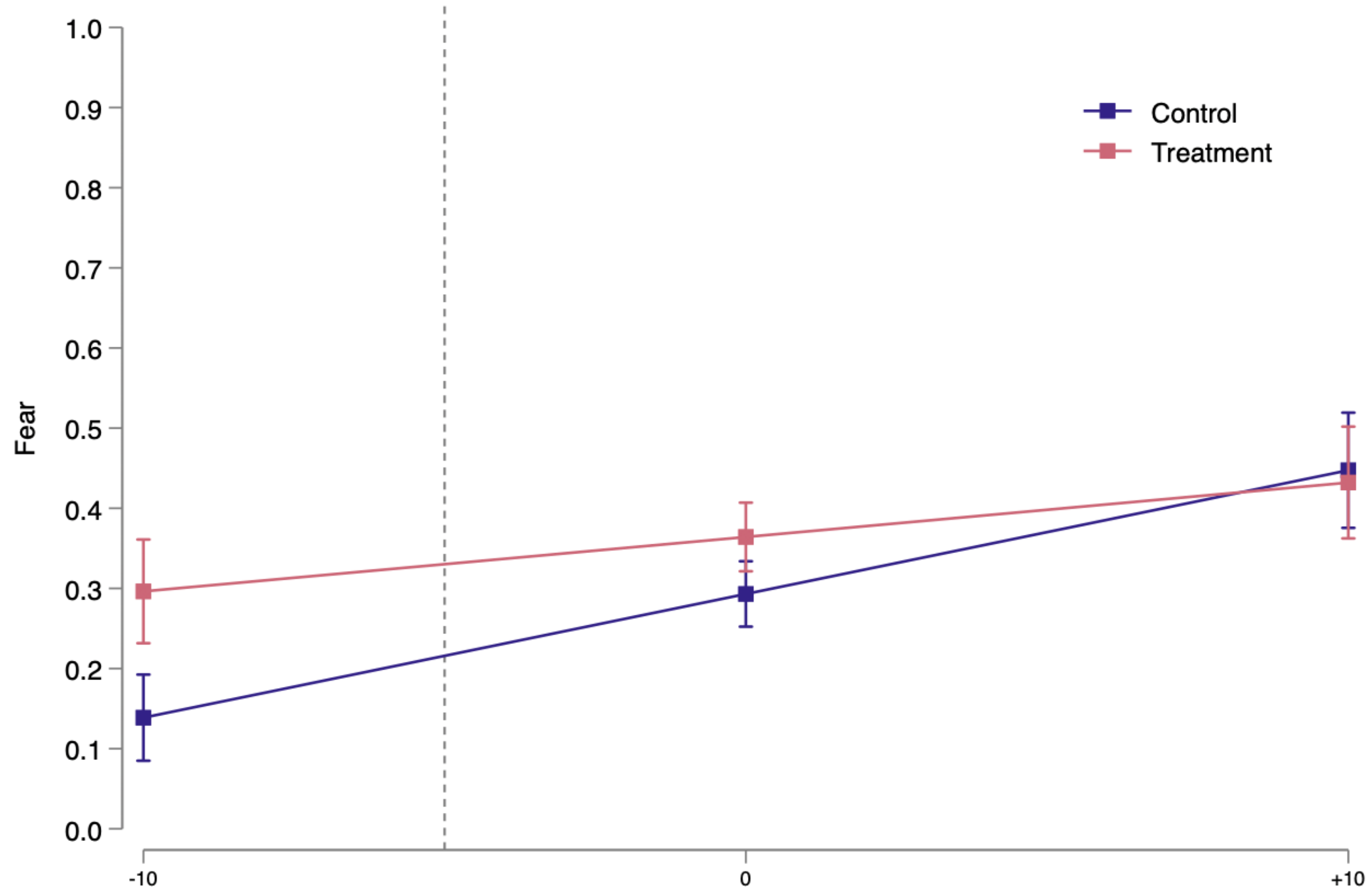


OIL PRICE IN EUROS

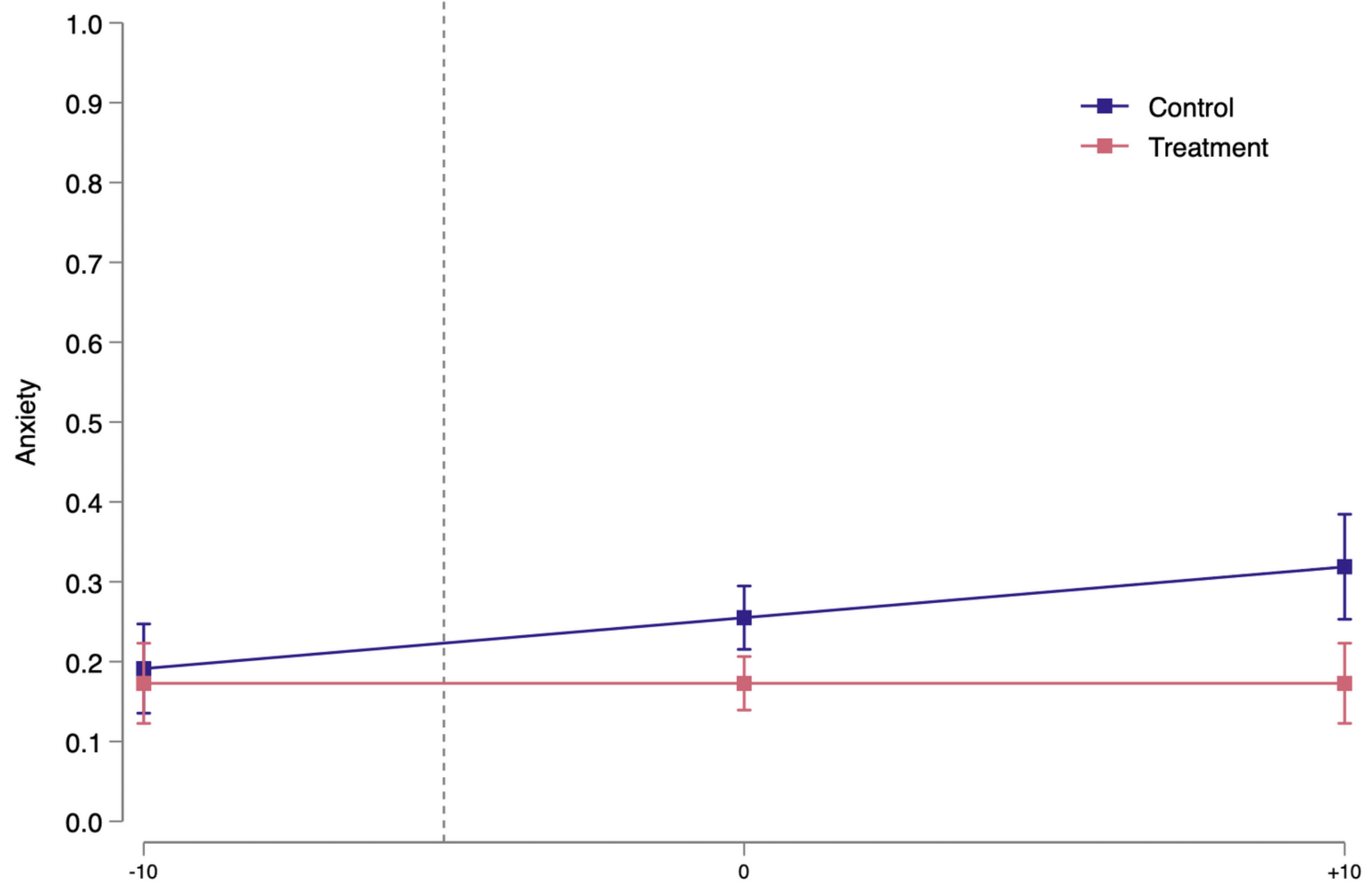


RESULTS

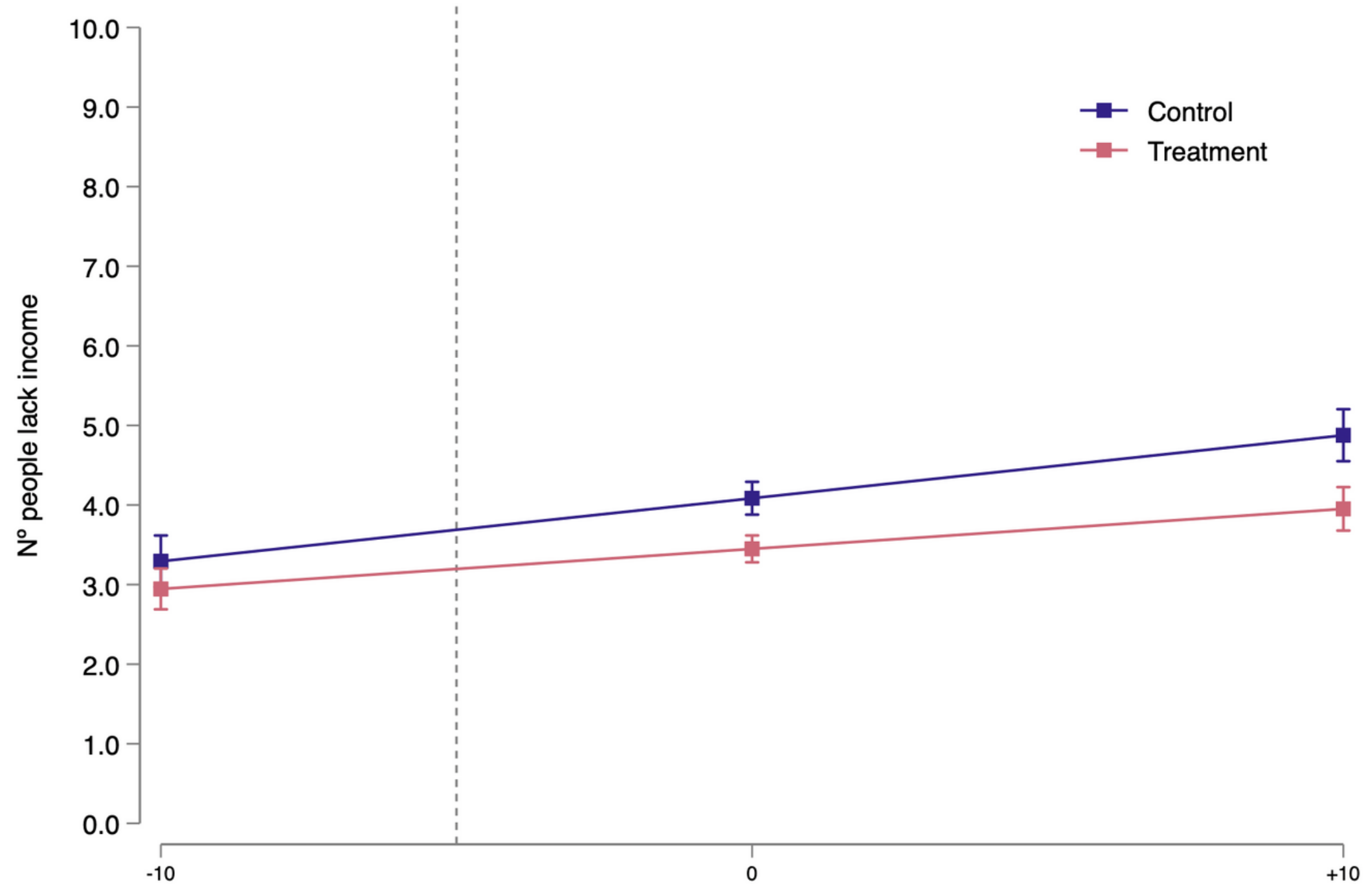
FEAR OF WALKING ON THE STREET



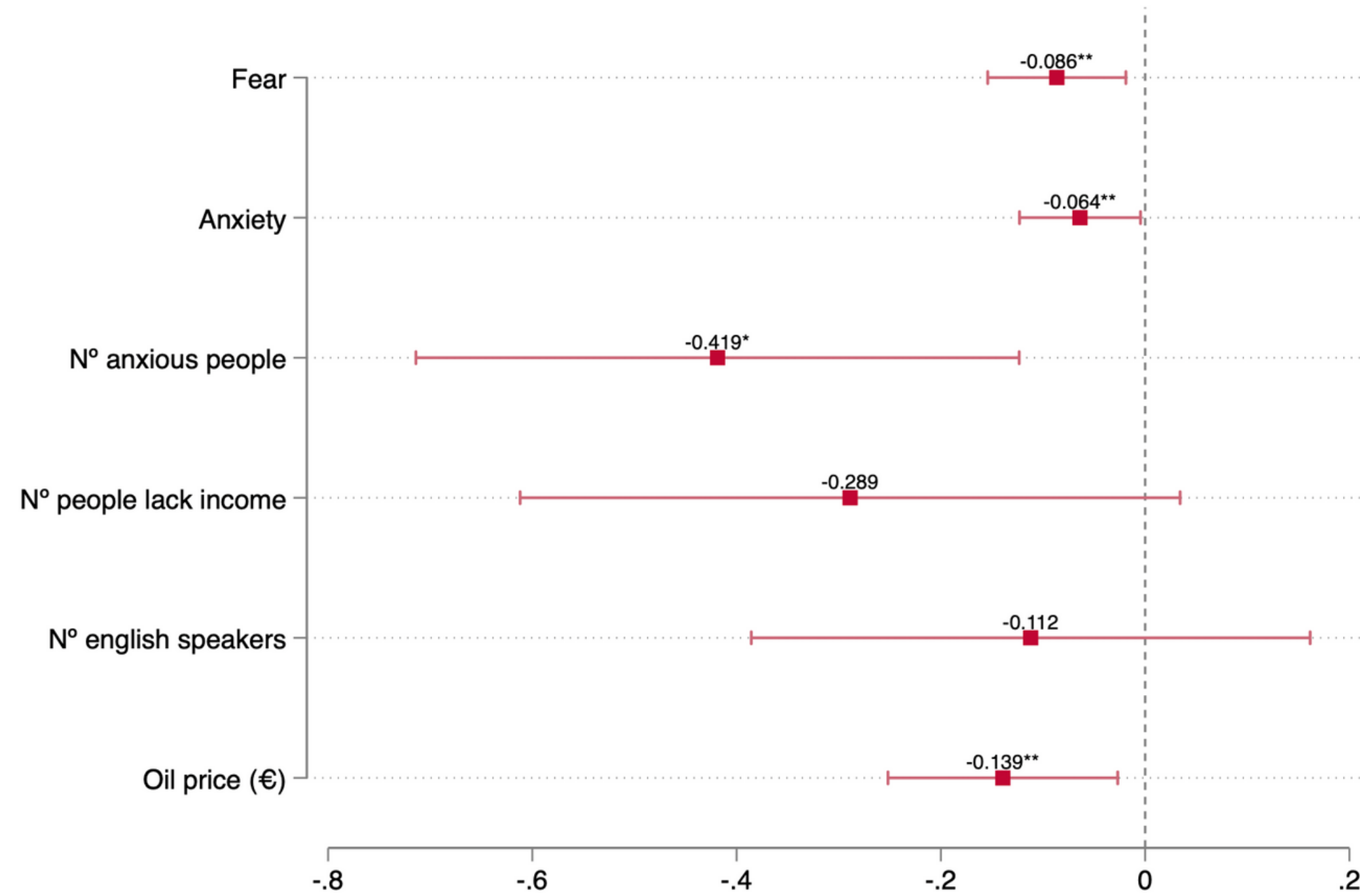
SUFFERS FROM ANXIETY OR DEPRESSION



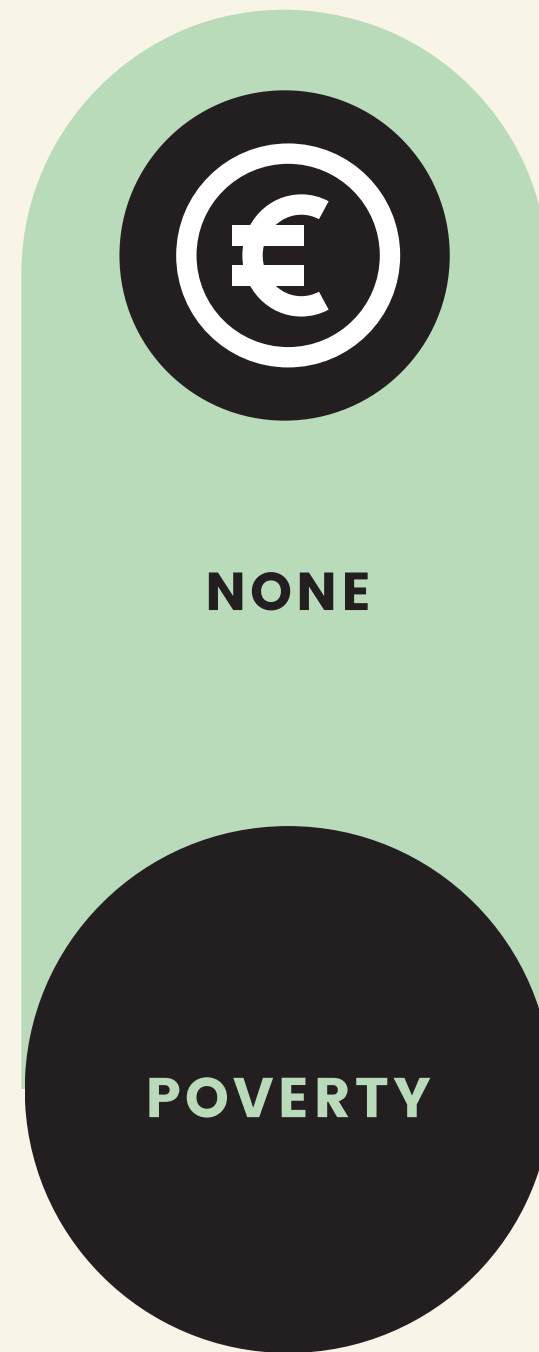
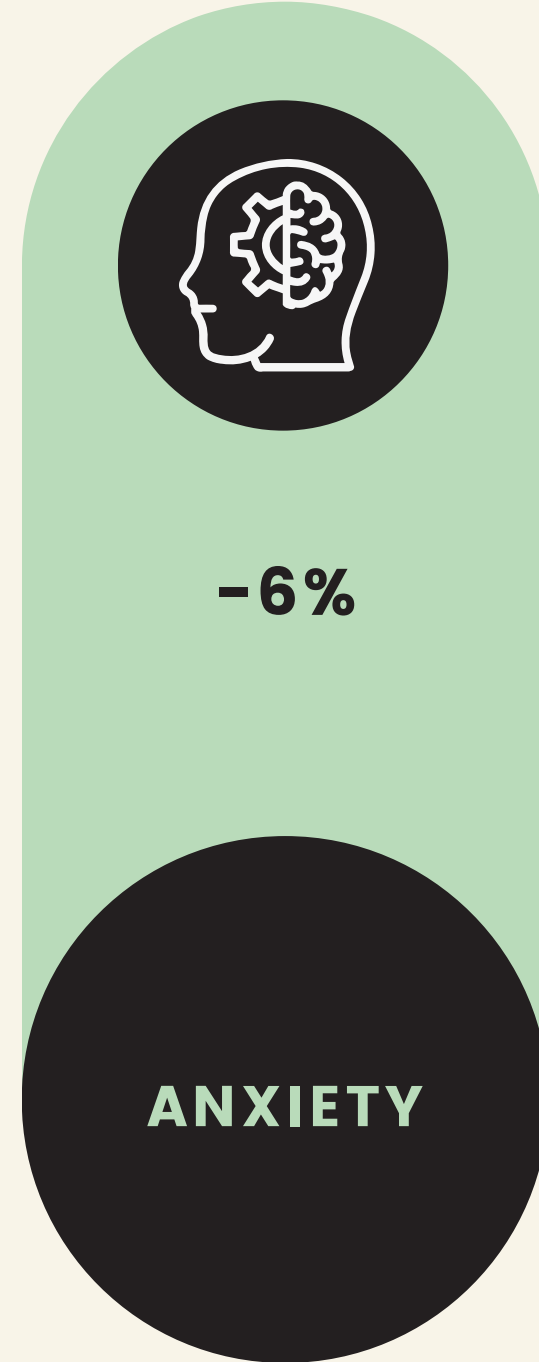
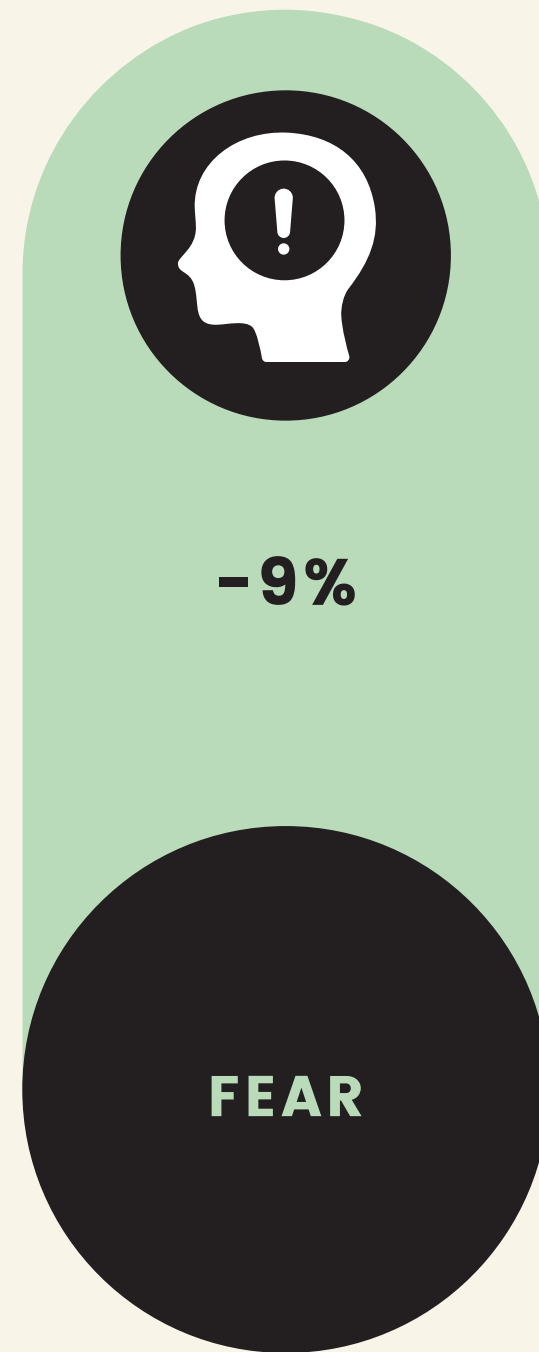
POVERTY



DIFFERENCE IN DIFFERENCE

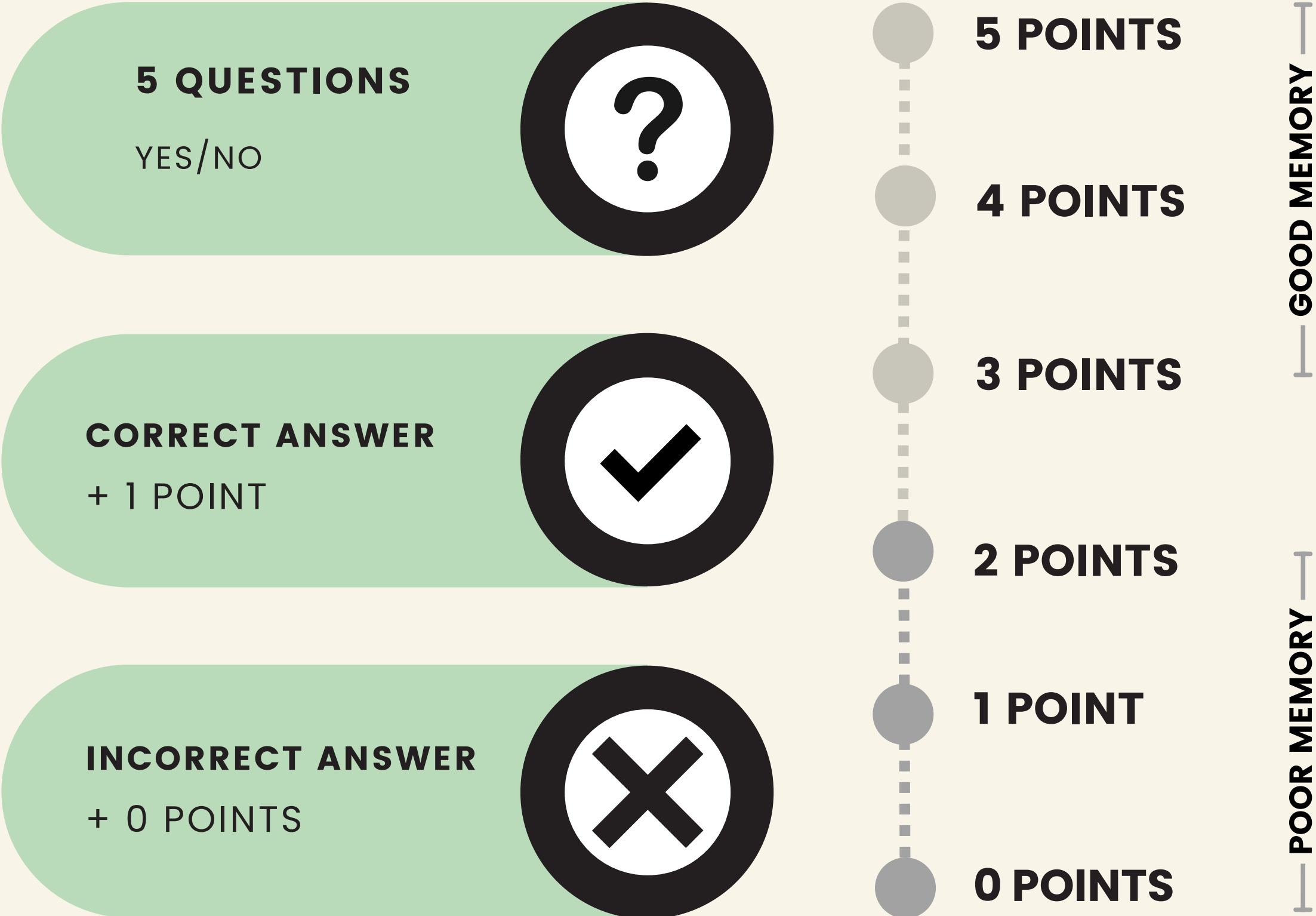


OUTCOME VARIABLES IMPACT



THE GOOD SAMPLE

MEMORY SCORE



GOOD & BAD SAMPLE

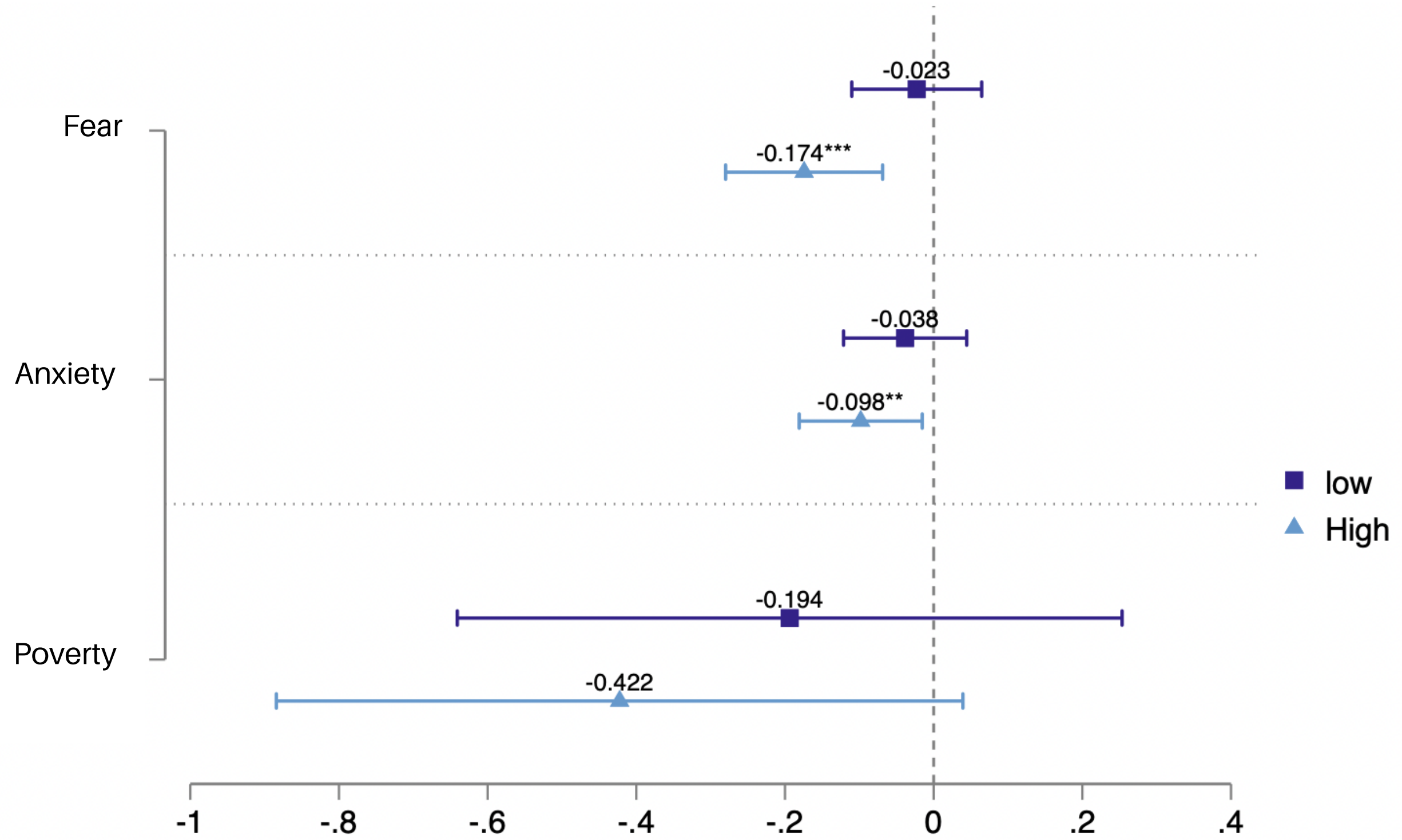
**Good
Memory**

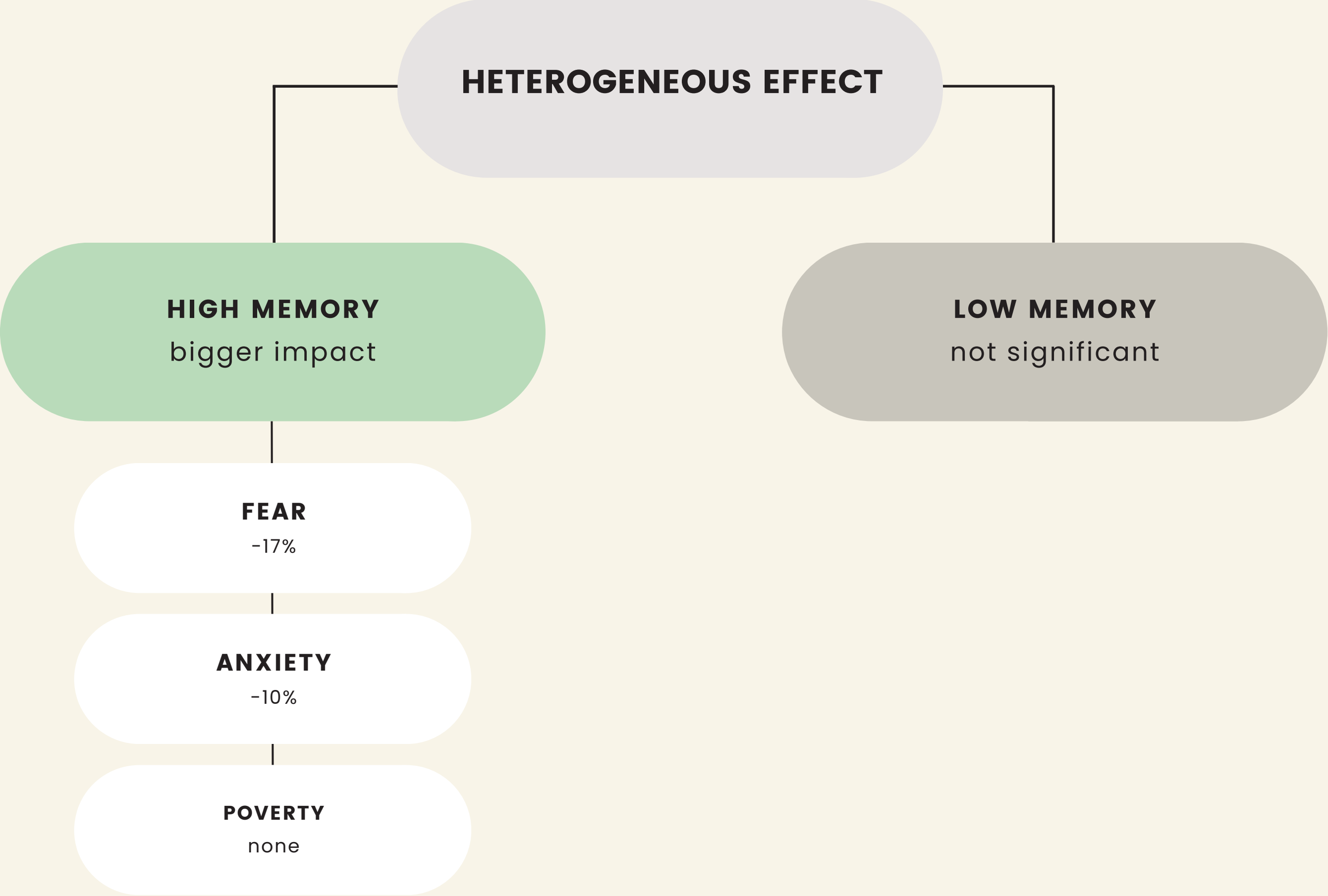
Memory score > 2

**Poor
Memory**

Memory score ≤ 2

DiD for both memory scores





HETEROGENEOUS EFFECT

HIGH MEMORY
bigger impact

FEAR
-17%

ANXIETY
-10%

POVERTY
none

FULL SAMPLE
smaller impact

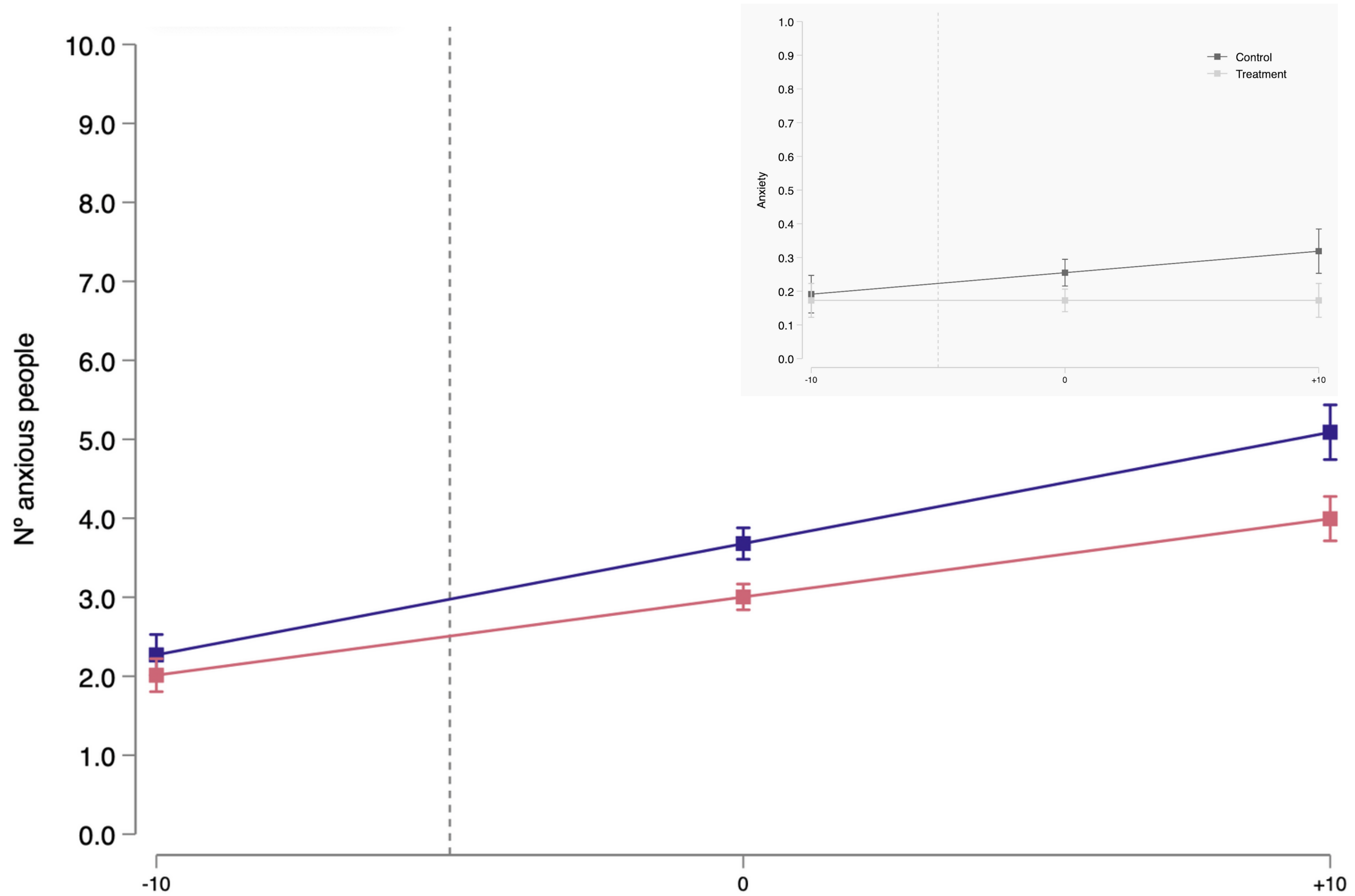
FEAR
-6%

ANXIETY
-9%

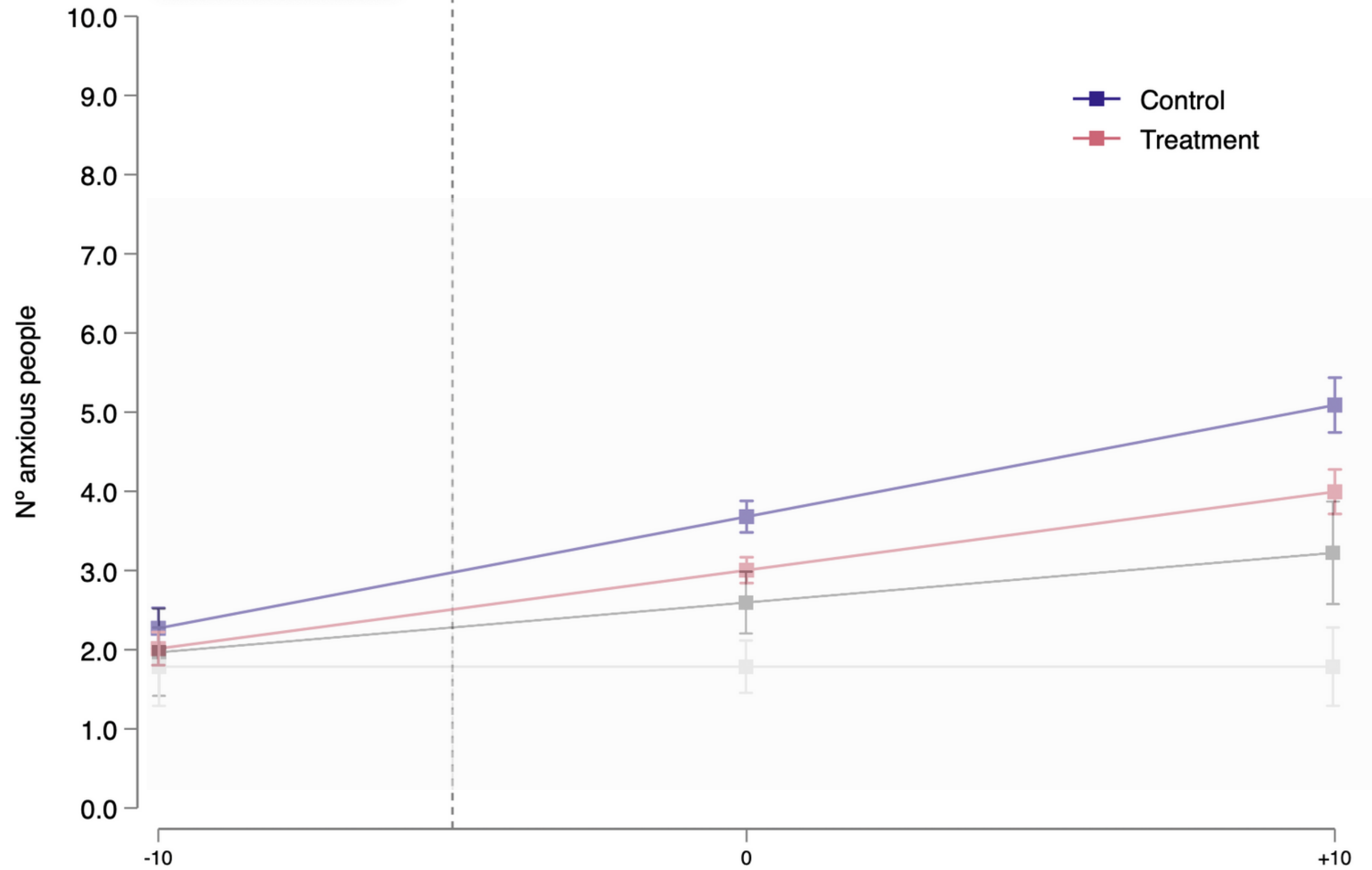
POVERTY
none

FICTICIOUS PLAYER

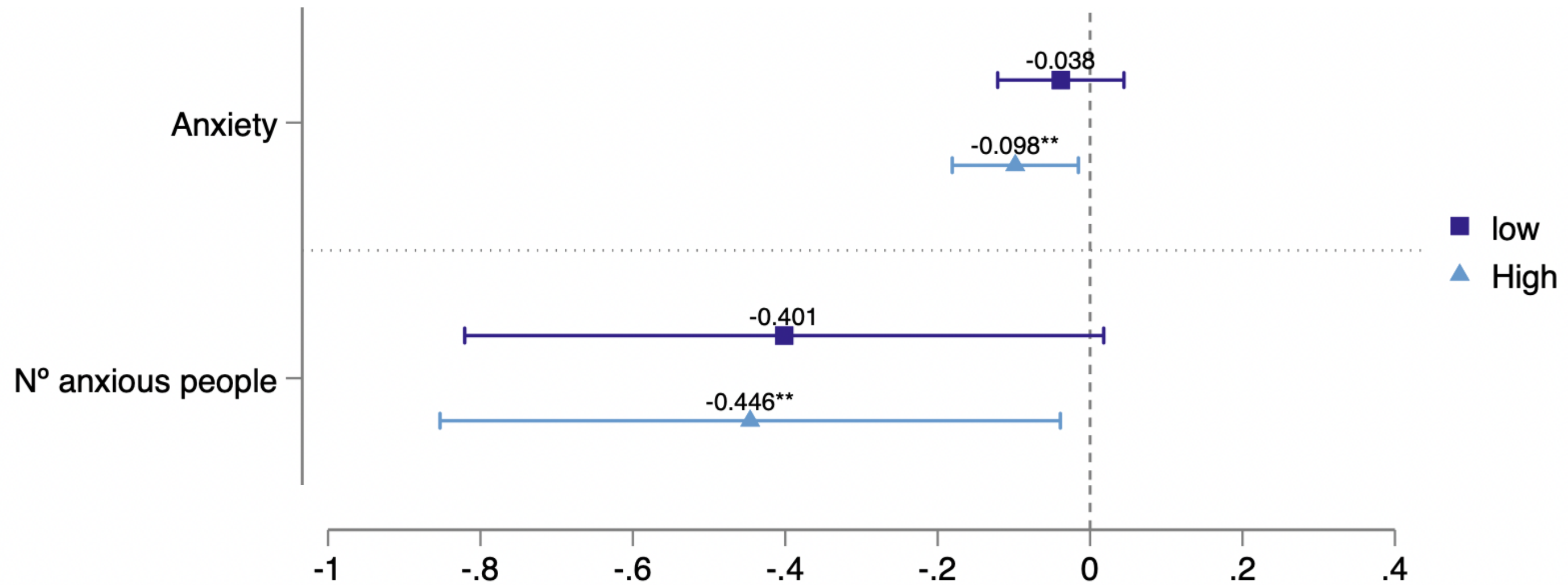
ANXIETY & ANXIOUS PEOPLE



ANXIETY & ANXIOUS PEOPLE



DiD for both memory scores



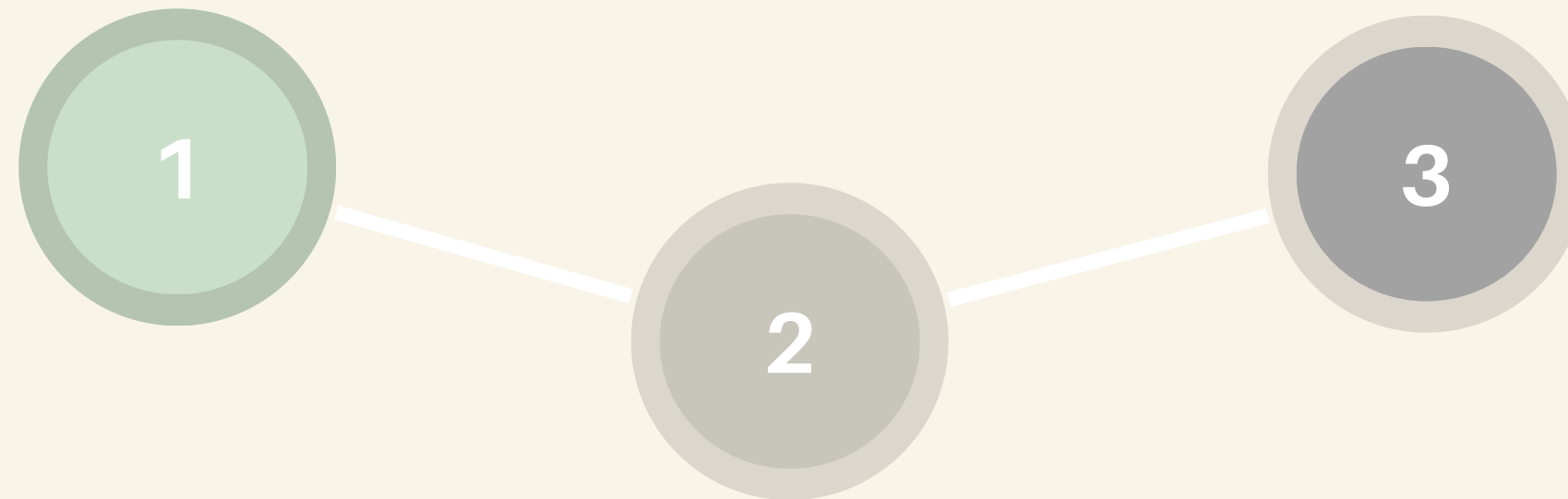
CONCLUSIONS

MÁLAGA PUERTO VERDE

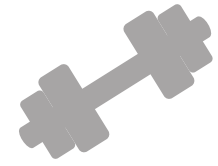
HAS

reduced anxiety

0 impact on poverty



reduced fear for
safety



robust: the mechanism survives placebo tests



respectful: fictitious player yields higher numbers



lower-bound: numbers are larger (good sample)