

Climate Change Narratives and Fertility Preferences: A Survey Experiment in Belgium and Italy

Introduction

Climate change compels families to navigate new realities and adapt to evolving environmental conditions. Preferences and decisions about whether and when to have children are inherently future-oriented. Prospective parents attempt to anticipate risks and opportunities they may encounter. This strongly relate to the expectations on the kind of future their children will inherit, reflecting on (perceived) safety, stability, and well-being. In the context of a rapidly changing climate, such complex considerations become even more uncertain and precarious.

This work situates itself within the growing body of research on fertility preferences and uncertainty, exploring how environmental worries and predictions about the future shape desires, intentions and expectations around having children. We are collecting new data in Belgium and Italy using a between-subject experimental design to test whether climate scenarios affect childbearing preferences.

Literature

When couples plan to have children or decide where to raise their family, they inevitably confront questions and concerns about what the future holds for themselves and for their children. The Narrative Framework addresses this future-oriented decision-making by advancing that fertility dynamics are shaped not only by past and present circumstances but also by future narratives. These narratives are hypothetical scenarios about the future, constructed from socially shared perspectives (regardless of their accuracy), that essentially serve as a way to cope with uncertainty, which limits individuals' ability to plan rationally (Vignoli et al., 2020). The Narrative framework was initially applied to study fertility preferences under economic (Vignoli et al., 2022) and health (Guetto et al., 2022) uncertainty, but recent studies have expanded its scope to include a wider range of future concerns (Bisi et al., 2024; Golovina & Jokela, 2024).

Within the broader literature on social worries and uncertainty, an emerging body of social science research has started investigating whether and how climate change influences the intention and desire to have children. Existing literature suggests at least two potential climate-related pathways limiting childbearing. The first reflects an attempt to minimise one's ecological footprint and thereby mitigate climate change (Helm et al., 2021). The second highlights concerns for the well-being of future generations, as individuals question how suitable future world conditions will be for their potential offspring (Bodin & Björklund, 2022). Despite this attention, research findings are few and the results send conflicting messages. Some studies report a negative association between climate change concerns

and fertility intentions (Arnocky et al., 2012; Davis et al., 2019; Szczuka, 2022), but De Rose and Testa (2015) found a weak positive correlation. Such discrepancy is likely to result from the diverging data sources and analytical methods. The studies by Arnocky et al. (2012) and Davis et al. (2019) all rely on student samples, excluding older individuals outside the education system who are more likely to be engaged in family planning. Furthermore, existing studies are observational-correlational, meaning that the causal effect of concern about climate change on fertility desires cannot be isolated. For example, the positive correlation found by De Rose and Testa (2015) could be the result of reverse causation.

In addition, researchers are often forced to operationalise climate-related questions in a sparse and inconsistent manner, with different survey measures likely yielding divergent results. In contrast, an experimental design allows researchers to expose respondents to standardised and comparable narratives about climate change by presenting all participants with an identical portrayal of a climate-affected future. Bisi and colleagues (Bisi et al., 2024) conducted an initial study with a sample of university students from Belgium and Italy, which laid the groundwork for the current research. This study used an online between-subjects experiment with university students randomly assigned to an optimistic, pessimistic, or control condition. The optimistic scenario stressed rising climate awareness and effective policies, while the pessimistic one emphasised global warming risks and policy failures. Findings from this study suggest that exposure to a pessimistic climate scenario negatively impacted participants' reported desire to have children (Bisi et al., 2024).

The current study adopts a similar experimental design while addressing key limitations of the previous research and expanding its scope. The primary objective is to assess how different climate change narratives influence short-term fertility intentions, desires, and expectations. Two central research questions guide this investigation: (RQ1) Do future climate change scenarios influence reported fertility preferences? (RQ2) Does this impact vary depending on whether individuals already have children?

Sample and data collection

We are currently collecting data in Belgium (N = 4,000) and Northern-Central Italy (N = 4,000), with fieldwork expected to conclude by the end of 2025. The study is being conducted in collaboration with two specialised survey agencies, Bpact in Belgium and Demetra in Italy.

The sample includes individuals aged 20 to 40, an age range in which people are most likely to engage in family planning. We apply quota sampling that reflects real-life population distributions across several key dimensions: gender, educational attainment (distinguishing between individuals with at most a high school diploma and those with at most a university degree), parental status combined with age, and geographic location (regional distribution).

The survey is structured into several key sections, each designed to capture different dimensions of fertility preferences and climate-related perceptions. These include:

a) Between-subject experiment. Complete randomisation will divide the sample into three treatment conditions, with respondents equally assigned to one of the following groups: optimistic scenario, pessimistic scenario, or control group. The treatment conditions address the same themes, while differing in tone (optimistic versus pessimistic). The scenarios have been carefully translated into Italian, Dutch, and French.

To ensure participant engagement and comprehension, two attention checks are included following the scenario. Additionally, respondents are asked to evaluate how realistic they perceive the scenarios to be, specifically in terms of policy actions and technological developments. To prevent superficial reading, participants are required to spend a minimum of 25 seconds on the scenario text before proceeding.

b) Assessment of fertility preferences. The survey includes a comprehensive set of questions aimed at capturing fertility desires, intentions, and expectations. These items use both scaled response formats and open-ended continuous measures, such as ideal family size. Additionally, we include batteries assessing expected support from family members in the event of having children in the next 3 years. Another key component of this section is a question block on motivations for having or not having children, which evaluates the influence of various factors, including climate change concerns, such as anxiety about the future and the environmental impact of childbearing.

c) Climate Change Perceptions and Exposure. This section explores respondents' views on climate change, including when they believe its effects will become tangible and how different aspects of climate change are currently impacting the world and their personal lives. We also assess direct exposure to climate-related events, such as flooding, and perceptions of flood risk in their residential area.

d) Socio-Demographic Information. We collect detailed socio-demographic data to test for potential differences across treatment groups. Variables include gender, age, country of birth, sexual orientation, partnership status, parental status, occupation, perceived economic stability, education level, parents' education level, relationship satisfaction, and living situation.

Analyses

The analysis will begin with descriptive statistics to examine differences in expressed fertility preferences across treatment conditions. To assess the causal impact of scenario exposure, we will employ regression models where the independent variable is the assigned climate scenario (optimistic, pessimistic or control). We will vary the dependent variables between fertility desires (wanting children and ideal number of children), fertility intentions (plans to have children within the next three years), fertility expectations (expected family size). Separate models will be run for Belgium and Italy to account for country-specific dynamics. Additionally, interaction terms between parental status and

treatment condition will be included to test whether individuals with children respond differently to climate narratives.

Findings from the previous study (Bisi et al., 2024) indicated that exposure to a pessimistic scenario consistently reduced the likelihood of reporting high fertility preferences across both countries. However, the optimistic scenario was associated with increased fertility preferences only among Belgian respondents, while Italian respondents reported similar desires to those who were exposed to a pessimistic scenario (significantly lower than the control group). One hypothesis emerging from that study was that differences in trust or belief in the scenarios (particularly regarding increased awareness and policy effectiveness) may explain the variation. However, due to limitations in the previous dataset, this could not be tested. In the current study, we have included new items measuring respondents' agreement with the scenario content, which will allow us to explore this hypothesis further. These measures will help clarify whether belief in the narrative moderates its impact on fertility preferences. Moreover, the broader and more diverse sample in this study, compared to the university student sample used previously, will enable us to assess whether the earlier findings were influenced by specific sample characteristics, such as age or educational background.

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