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EWA WEYCHERT
DANIELE VIGNOLI
ANNA MATYSIAK
DOROTA CELIŃSKA-KOPCZYŃSKA

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Climate change narratives and first birth in the UK

Ewa Weychert[1 2], Daniele Vignoli[2], Anna Matysiak[1], Dorota Celińska-Kopczyńska[3]*

[1] *University of Warsaw, Faculty of Economic Sciences*
[2] *University of Florence, Department of Statistics, Computer Science, Applications "G. Parenti" (DiSIA)*
[3] *University of Warsaw, Faculty of Mathematics, Informatics, and Mechanics*
[*] *Corresponding author: e.weychert@uw.edu.pl*

Abstract: This study investigates how climate news exposure relates to first-birth outcomes in the United Kingdom. Drawing on theories of imagined futures, individualized political engagement, and eco-anxiety, we examine whether and how exposure to climate-related media coverage is related to fertility behavior. We construct a novel index of climate news coverage using text mining and link it to individual-level longitudinal data from the UK Understanding Society survey. Results show that high exposure to climate news is associated with a lower probability of first birth, but only among individuals who express strong pro-environmental attitudes. In contrast, political identity and perceived long-term climate risk do not significantly moderate this relationship. These findings suggest that climate news coverage, which we use as a proxy for climate change narratives, is associated with fertility in a non-uniform way, shaped by moral and emotional mechanisms linked to current environmental concern. This study highlights the role of media-driven imaginaries in shaping life course decisions and contributes new evidence on the demographic implications of climate change discourse.

Keywords: climate change, fertility outcomes, text mining

JEL codes: J13, Q54, D83

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1. Introduction

We are living through an era of profound and pervasive uncertainty, driven by economic instability, the aftermath of a global pandemic, ongoing geopolitical conflicts, and the intensifying consequences of climate change. Uncertainty refers to the perceived inability to predict or control forthcoming events and conditions (Beckert & Bronk, 2018). Childbearing decisions are inherently oriented toward the future and entail substantial long-term commitments; consequently, individuals often defer them when confronted with heightened contingent uncertainty (Ranjan, 1999; Vignoli et al., 2020; Matysiak & Vignoli, 2024).

Much of the previous literature focused on economic concerns and their relationship with perceived uncertainty, particularly employment instability and macroeconomic volatility, as well as how these factors influence fertility (e.g., Guetto et al., 2023). Nonetheless, recent works highlight the need to move beyond a narrow focus on economic uncertainty to consider also uncertainty about other spheres of life, including environmental uncertainty, in shaping reproductive behavior (Jylhä, Kolk, and Fairbrother, 2025; Puglisi, Muttarak, and Vignoli, 2025). In contrast to the typically short-term and cyclical nature of economic fluctuations, climate change constitutes a long-term, irreversible, and existential threat, potentially exerting profound and lasting effects on fertility intentions and outcomes. Grant et al., (2025) showed that climate change will lead to more frequent and severe climate events in the future, especially within a person's lifetime. Moreover, the climate related uncertainty is further amplified by the way the phenomenon is portrayed in the media. Coverage of the issue has expanded substantially in recent years, often emphasizing its catastrophic consequences (Schmidt et al., 2013; Hase, Mahl, Schäfer, & Keller, 2021). This predominantly negative framing of climate change in the media may heighten individual anxiety and shape attitudes toward climate change (Boykoff & Yulsman, 2013), potentially seeping into private lives and influencing deeply personal decisions, such as family planning (Clayton, 2020).

Building on the Narrative Framework (Vignoli et al., 2020), which emphasizes how imagined futures shape childbearing behavior, we propose that climate change narratives may similarly frame the future as uncertain, thereby influencing childbearing outcomes — an association that can, in part, be assessed through systematic analyses of news media outlets. While this theoretical link is increasingly acknowledged, empirical testing remains limited,

focusing mainly on climate change attitudes and childbearing intentions (Kurowska, Matysiak, & Grabowska, 2025; Bisi, Sturm, & Van Bavel, 2024) or childbearing outcomes (Powdthavee, Oswald, & Lockwood, 2024). However, no study to date has examined how climate change narratives as proxied by an index of climate news coverage relate to childbearing behavior.

Our study addresses this oversight by combining a monthly index of climate news coverage from two major newspapers in the UK, *The Guardian* and *The Sun,* with individual-level data from The UK Household Longitudinal Study: Understanding Society (UKHLS) (2009–2021) (ISER, 2019). These newspapers, with contrasting political orientations and readerships, play a central role in shaping climate discourse, making them ideal for studying media effects on fertility. Media content was collected via web scraping and aggregated into an index, then matched by month to longitudinal survey responses on fertility, climate change attitudes and political orientation. To facilitate the integration of longitudinal individual biographies with contextual-level variables, we rely on the LabFam Individual Biographies (LIB) (Weychert et al., 2025) dataset structure, which harmonizes and aligns individual-level and media-level data for robust panel analysis.

In the United Kingdom, climate change has become a significant public concern, with over half of Britons believing that protecting the environment should be prioritized over economic growth, even if it results in job losses (Ipsos, 2020). Furthermore, 85% of British respondents believe their government is moving too slowly to address climate change, which is another argument reflecting widespread concern and a strong desire for immediate action (European Investment Bank, 2022). These widespread pro-environmental attitudes make the UK a particularly relevant case for investigating the association between the index of climate news coverage and childbearing. We focus on first births, as they mark the entry into parenthood, the transition that is most often postponed or forgone.

Our results indicate that individuals who express a desire to do more for the environment exhibit a significantly lower probability of having a first birth when exposed to heightened climate news coverage than those who do not express desire to do more for the environment. In contrast, heightened climate new coverage had no significant effect across political orientation. The results emphasize the complex nature of the association between climate news coverage and childbearing outcomes which does not appear universal but rather dependent on the individuals' attitudes towards climate change.

The article proceeds as follows: Section 2 reviews the literature on uncertainty and fertility, introducing the role of media, and then turns to the climate crisis, outlining ethical and utility-based pathways that link climate concerns to childbearing and setting out our baseline hypotheses. Section 3 presents the data and methods. Section 4 reports the results. Section 5 concludes with a discussion of implications.

2. Literature Background

2.1. Uncertainty, Narratives, and Fertility

In response to growing interest in the relationship between economic uncertainty and fertility, Vignoli et al. (2020) introduced the Narrative Framework into family research. Drawing on the concept of fundamental uncertainty, defined as the inability to assign probabilities to future outcomes, often leading to anxiety or discomfort (Beckert & Bronk, 2018), they emphasized the role of future-oriented narratives in shaping behavior under unpredictable conditions. Recent research further demonstrates that subjective perceptions of uncertainty, stress, and pessimism about the future are strongly associated with pregnancy avoidance and reduced fertility intentions (Guzzo et al., 2025a; Guzzo et al., 2025b). Structural constraints alone do not determine behavior; instead, individuals interpret and respond to these constraints differently, exercising agency even under uncertainty. This agency is shaped by personal expectations, values, and imagined futures, which Vignoli et al. (2020) refer to as narratives. The Narrative Framework has been empirically validated through experimental (Vignoli et al., 2022; Lappegård et al., 2022) and survey-based studies (Guetto et al., 2021, 2023). These narratives, however, are not formed in isolation; they are influenced by shared cultural inputs such as media portrayals.

Media do not merely mirror reality; instead, they play a constitutive role in shaping collective understandings and future-oriented imaginaries. As Guetto et al. (2023) suggest and empirically illustrate, economic media narratives serve as raw material that individuals rework into expectations shaping their reproductive behavior. Exposure to media is in fact a key mechanism shaping perceptions of economic uncertainty (Baker, Bloom & Davis, 2016). Schneider (2015) identified a negative correlation between media coverage of the Great Recession and birth rates in the USA, while Comolli (2017) noted that, beyond structural economic factors such as total, youth, and female unemployment, indicators of economic uncertainty, including the Economic Policy

Uncertainty (EPU) index—which tracks the frequency of economic references in news (Baker, Bloom, & Davis, 2016)—are significant predictors of total fertility rates.

While initially applied to economic contexts, the narratives-of-the-future perspective can also be extended to other global uncertainties, such as climate change. Climate change represents an intensifying source of uncertainty, affecting both physical health and psychological well-being through phenomena such as eco-anxiety and ecological grief (Clayton, 2021). Puglisi, Muttarak, and Vignoli (2025) call for expanding the discourse on uncertainty in family life beyond traditional economic and employment-related concerns. They emphasize that environmental uncertainty—often anticipated or perceived rather than directly experienced—can significantly shape childbearing intentions, as shown in the Italian context.

2.2. Childbearing in the Climate Crisis: Ethical vs. Utility-Based Perspectives

The relationship between environmental attitudes and childbearing has a long tradition in academic and ethical debates. Two main theoretical pathways explain how climate concerns may influence fertility: i) a moral sense of responsibility regarding the environmental impact of having children, ii) concern about the future quality of life of potential offspring.

The first pathway is rooted in ethical concerns, particularly those related to overpopulation (Rieder, 2016; Schneider-Mayerson, 2022). Robertson (2012) describes how environmentalists adapted Malthusian ideas, framing overpopulation as a driver of poverty, health crises, and environmental decline, sometimes linking it to anti-natalist views that consider having children unethical. Wynes and Nicholas (2017) show that having one fewer child is among the most impactful individual actions for reducing annual carbon emissions. Building on this reasoning, Schneider-Mayerson (2015) argues that environmental attitudes in the United States have contributed to a cultural shift toward individualism that also shapes childbearing decisions. As ecological concerns grow, childbearing is increasingly framed as a personal expression of political and ethical responsibility (Schneider-Mayerson & Leong, 2020). This reflects a broader trend in which individuals replace collective political action with lifestyle-based forms of engagement, including consumption choices and family planning (Micheletti & Stolle, 2012). These patterns increasingly extend to reproductive decisions, emphasizing personal ethics over systemic change.

The second pathway emphasizes concern for children's future well-being. Choosing to have fewer or no children is increasingly viewed as a responsible response to the climate crisis facing future generations (Hedberg, 2020; Szocik & Häyry, 2024). Drawing on economic theories of parental utility and child quality (Becker, 1960; 1974), parents derive utility not only from the number of children but also from their expected well-being, including health, education, and life prospects. Concerns about climate change and resource scarcity may therefore lead prospective parents to anticipate a more precarious future for their children (Murtaugh & Schlax, 2009). When the future is perceived as environmentally uncertain or unsafe, individuals may delay or forgo childbearing due to anticipated hardship and instability. These ethical and utility-based concerns may be particularly activated when climate change is made salient through media coverage, especially among individuals whose identities and lifestyles are strongly environmentally oriented.

2.3. Narratives of Climate Change and Fertility and Identify: Differences by Environmental Attitudes, and Political Orientation

The considerations presented so far align with developments in Conviction Narrative Theory (CNT; Tuckett & Nikolic, 2017), which proposes that under radical uncertainty—where individuals cannot assign probabilities to future events—people do not rely solely on risk calculations but construct emotionally compelling narratives that justify and sustain action (Johnson, Bilovich, & Tuckett, 2023). Climate change narratives proxied by climate news coverage may therefore not simply inform but actively shape the futures people can imagine and whether those futures appear stable enough to support childbearing decisions.

This variation in narrative interpretation is consistent with Cultural Cognition Theory (Kahan, Jenkins-Smith, & Braman, 2011), which suggests that risk perceptions are filtered through group identity and value alignment, often overriding objective information. Similarly, research in identity economics shows that individuals are motivated to act in ways consistent with their social identity and group norms, especially when decisions carry moral or symbolic weight, as is often the case for childbearing in the context of climate anxiety (Akerlof & Kranton, 2000).

Environmental Attitudes

In the context of climate change, environmental attitudes constitute central components of such identity frameworks. Variation in how climate change narratives (proxied by the index of

climate news coverage) relate to childbearing outcomes is shaped by individual characteristics, particularly environmental attitudes, which determine how personally salient and morally relevant climate change is to the individual. Media portrayals of ecological risk may trigger childbearing hesitation, especially among those who are strongly environmentally oriented. Responses to such narratives are filtered through personal value commitments, shaping how individuals evaluate their credibility, relevance, and emotional impact. As a result, the same climate narrative can lead to divergent behavioral outcomes depending on identity and emotional engagement (Slater & Rouner, 2002; Gunther & Schmitt, 2004; Garrett, Carnahan, & Lynch, 2013).

The role of media in shaping climate-related uncertainty is therefore crucial. Media framing—shaped by journalistic norms and political ideology—plays a significant role in public perceptions of climate change (Boykoff & Yulsman, 2013). As climate change is increasingly portrayed as a long-term existential threat, such narratives may reinforce eco-anxiety and encourage imaginaries of unstable futures, potentially discouraging childbearing. Although previous studies find only small to moderate effects of environmental attitudes on fertility outcomes (Rackin et al., 2023; Dillarstone et al., 2023; Powdthavee et al., 2024; Puglisi et al., 2025; Jylhä et al., 2025), the growing intensity of climate discourse suggests that climate-related uncertainty may be emerging as a new narrative in fertility decision-making—particularly among environmentally conscious individuals.

Political Orientation

Beyond environmental attitudes, political orientation represents an additional source of heterogeneity. Because political orientation structures value priorities and risk perceptions, ideological frameworks may shape how individuals interpret climate narratives and translate them into reproductive intentions. An expanding body of research examines the relationship between political orientation and childbearing behavior. Even after accounting for urbanization, ethnicity, and geographic location, liberals tend to exhibit lower childbearing intentions than conservatives and are more likely to delay parenthood (Banducci et al., 2016; Cheung & Lui, 2024).

These differences likely reflect broader value orientations and lifestyle preferences, which may also shape how climate-related risks are interpreted. Research consistently shows that left-leaning individuals prioritize environmental protection more strongly and are more likely to view climate change as an urgent and severe threat, whereas right-leaning individuals tend to express

greater skepticism regarding its causes or policy implications. Expanding on this perspective, Gordon (2021) distinguishes between extrinsic risks, such as pandemics, and existential risks, such as climate change, showing that different forms of perceived risk may relate differently to childbearing decisions.

Taken together, these findings suggest that ideological responses to systemic crises may structure how climate narratives (proxied by index of climate news coverage) are integrated into reproductive decision-making. Consequently, the effect of climate news coverage on fertility behavior is likely to vary systematically depending on individuals' environmental commitments and political orientation.

Hypotheses

Building on the theoretical considerations outlined above, we derive a set of testable expectations regarding the relationship between climate news coverage and first-birth behavior. We begin with a baseline expectation concerning overall exposure to climate change coverage.

H1(climate news coverage): *Climate news coverage negatively affect the likelihood of the first birth.* Exposure to heightened climate news coverage may emphasize eco-anxiety and a sense of moral responsibility, shaping imagined futures that discourage childbearing.

The association between climate news coverage and fertility is unlikely to be uniform across individuals. It may depend on the personal salience and moral relevance of climate change. Individuals with strong pro-environmental lifestyle attitudes or heightened perceptions of long-term climate risk may be more likely to internalize climate narratives and interpret them as ethically consequential. For this group, exposure to climate news coverage may reinforce imagined futures marked by ecological instability or intergenerational harm, potentially increasing hesitation toward childbearing. Based on these considerations, we formulate the following hypothesis:

H2 (Environmental lifestyle attitudes): *Individuals with strong pro-environmental attitudes are less likely to have a first birth as exposure to climate news coverage increases.* Being exposed to a heightened climate news coverage may emphasize eco-anxiety and a sense of moral responsibility, contributing to imagined futures that discourage childbearing among those with strong environmental attitudes.

Beyond environmental attitudes, ideological orientation may further structure how climate narratives are interpreted. Political identities shape how individuals evaluate environmental risks and assign responsibility. Left-leaning individuals, who typically express stronger environmental attitudes, may be more receptive to climate change narratives that emphasize catastrophic futures and intergenerational harm. When exposed to heightened climate news coverage, they may be more likely to internalize these narratives as morally and politically salient, increasing the likelihood of postponing or forgoing childbearing. We therefore formulate the following hypothesis:

H3 (Political Orientation): *Individuals with left-leaning political identities are less likely to have a first birth as exposure to climate news coverage increases.* Higher exposure to climate news coverage may resonate more with left-leaning individuals, whose ideological frameworks are more responsive to environmental attitudes, potentially contributing to a lower likelihood of first birth.

2.4. The UK context

We focus on the United Kingdom, a nation that, after experiencing relative stability in fertility rates during the 2000s (Sigle-Rushton, 2008), has seen a steady decline in the recent decade reaching approximately 1.49 children per woman by 2022 (ONS, 2024; Kulu et al. 2025). The study of discourses surrounding climate change in the UK has expanded concurrently with news coverage of climate issues (Graham & De Bell, 2021). Doulton and Brown (2009) identified five primary discourse categories related to climate change: optimistic, rational, ethical, disastrous, and opportunistic people with low incomes. Their findings illustrate that climate change is not always framed as a catastrophic phenomenon. Other researchers suggested that discourse on climate change in the UK has different frames depending on political orientation, with either the existence of climate change phenomena being accepted or undermined (Carvalho & Burgess, 2005; O'Neill, et al., 2015). Similarly, Shaw (2013) investigated the effectiveness of the two-degree dangerous limit narrative in UK media, questioning its ability to emphasize the urgency of climate change. Demeritt (2001) argues that climate change is frequently depicted as a remote, abstract phenomenon, disconnected from the daily lives of individuals. Other studies, such as Ruiu (2021), suggest that descriptions of the consequences of climate change have become less

worrying and uncertain over time, and that especially right-wing media outlets are undermining the scientific consensus on the issue by framing it as a joke.

In 2019, the UK-based organization BirthStrike launched a virtual campaign that rapidly gained significant media attention (e.g., Hunt, 2019), relying solely on a Tumblr page and a Twitter feed. BirthStrike's public declaration included a pledge not to have children *"due to the severity of the ecological crisis and the current inaction of governing forces in the face of this existential threat"* (Hunt, 2019). The movement framed reproductive decisions explicitly within the context of environmental collapse and governmental failure to respond effectively. In the UK, concern about climate change notably cuts across traditional political lines, with substantial levels of environmental anxiety even among right-leaning individuals, making the UK a particularly compelling case study for exploring the intersections between climate narratives and childbearing outcomes (King's College London, Ipsos, & Climate Action Coalition, 2024). Recent Ipsos research (2024) shows that concerns about climate change remain high in the UK, with 72% of respondents expressing worries about climate change. Those pro-environmental attitudes may influence personal decisions, including those related to family planning, as individuals tackle the feelings of uncertainty about the future.

Given the growing prominence of climate change narratives in public discourse, it is important to assess whether these narratives are linked to changes in childbearing outcomes. Evidence from the 2022–23 UK Generations and Gender Survey indicates that, although young adults (Gen Z) are increasingly likely to intend to remain childless, environmental concerns do not appear to be a primary driver of this trend—except among older millennials, for whom such concerns are modestly associated with intentions to remain childless (Berrington et al. 2024).

3. Data and Methods

3.1. Macro–level data

We derive an index of climate news coverage from two major UK media outlets: The Sun and The Guardian. The selection of these newspapers is motivated by both their national importance and their contrasting readership profiles. They represent opposite ends of the political spectrum, with The Guardian generally associated with left-leaning perspectives and The Sun with right-leaning viewpoints. Together, they reach broad and politically diverse audiences. They are also among the most widely read newspapers in the UK, with weekly cross-platform readerships

of 15 million for The Guardian and 21.9 million for The Sun (Newsworks, 2019), highlighting their importance in shaping public discourse.

This choice is further supported by previous research, which identifies these outlets as influential in debates on major social and political issues, including domestic violence, women's political representation, economic inequality, and climate change (e.g., Boykoff, 2008; Norton & Hulme, 2019; Sakellari, 2021). In addition, national newspapers tend to provide more detailed and sustained coverage of climate change than television news (Painter & Gavin, 2016), making them especially suitable for analyzing climate-related narratives. The contrast between the "popular" press (The Sun) and the "quality" press (The Guardian) also allows us to examine climate news coverage across distinct audience segments. The Sun primarily appeals to blue-collar readers, whereas The Guardian attracts a readership with higher levels of educational attainment (Chan & Goldthorpe, 2007; Newsworks, 2019).

From a theoretical perspective, media framing plays an important role in shaping public opinion (Entman, 1993). The way climate change is presented in the media influences how audiences understand and evaluate the issue (Corbett & Durfee, 2004). By using macro-level text data from these two newspapers, we build a basis for examining the relationship between media narratives and public perceptions of climate change. Combined with information on individuals' media preferences and political orientations, this approach enables a more nuanced analysis of how media framing interacts with broader societal outcomes, including childbearing, in the context of climate change.

The Guardian and The Sun are also the most widely read newspapers in the UK according to responses in the UK Household Longitudinal Study (UKHLS) (ISER, 2024). Based on the variable paperm2 (newspaper most frequently read), available in UKHLS waves 3, 6, and 9, The Sun emerges as the most widely read right-leaning newspaper, while The Guardian is the leading left-leaning publication. Data collection for these two outlets is also relatively straightforward. Our analysis therefore focuses on a twelve-year period, covering data from The Guardian from January 1, 2009, to October 31, 2024, and from The Sun from June 1, 2016, to October 31, 2024. For the period in which data from The Sun are unavailable, we assign the value "unknown" to the index of climate news coverage for individuals with low levels of education.

Data for The Sun were collected using web scraping. We crawled the newspaper's website and extracted all links identified as article pages. The Python code used for this procedure is available upon request. In contrast, data from The Guardian were collected using the R package guardianapi (Odell, 2019), which enables retrieval through the newspaper's API and does not require custom web-scraping code.

Text cleaning was conducted in Python using the nltk (Natural Language Toolkit) package and included several standard preprocessing steps: (i) removing extra spaces, numbers, special characters, and one-letter words; (ii) converting all text to lower case; (iii) tokenization, that is, splitting text into smaller units such as unigrams and bigrams; (iv) stemming with the Porter Stemmer, which reduces words to their root form; and (v) removing English stop words, such as articles, pronouns, prepositions, conjunctions, and auxiliary verbs, that add little analytical value.

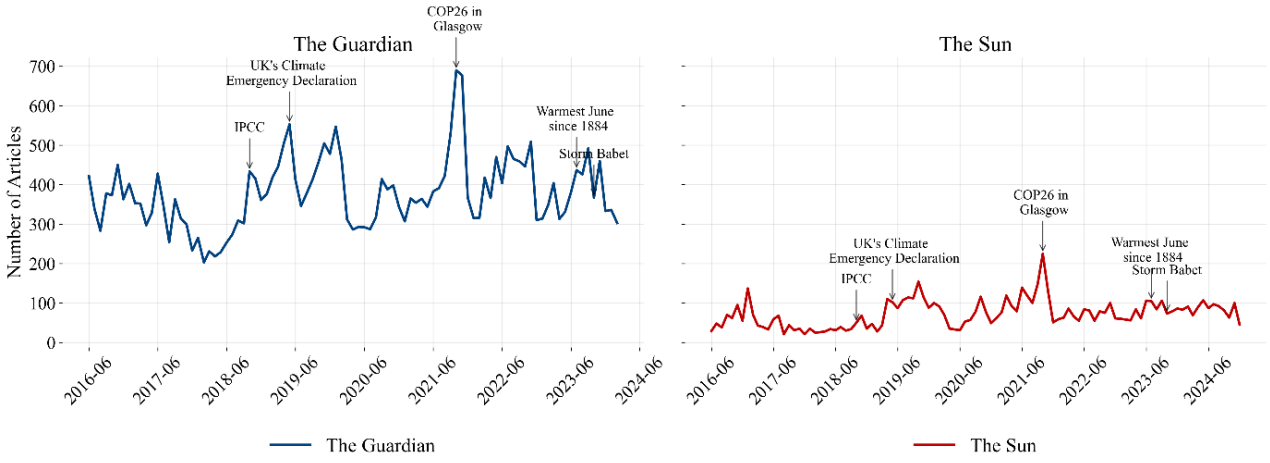
The corpus covers the period from mid-2016 to 2024, chosen to capture major political and environmental developments, including the aftermath of the Brexit referendum, multiple UK general elections, and the intensification of climate-related debates surrounding COP summits and net-zero policy shifts. The time span is constrained by data availability for The Sun. The final dataset includes 35,119 articles from The Guardian and 7,496 articles from The Sun. All selected articles explicitly focus on environmental topics and contain at least one of the following keywords or phrases: climate change, global warming, greenhouse effect, carbon emissions, renewable energy, environmental sustainability, air pollution, emissions reduction, or energy transition.

The index of climate news coverage used in the empirical models is defined as the monthly number of articles containing at least one of the selected climate-related keywords or bigrams, calculated separately for each newspaper.

Figure 1 shows the monthly number of climate-related articles published by *The Guardian* and *The Sun* between mid-2016 and 2024. The counts represent the number of articles per month containing at least one of the following climate-related bigrams: *climate change*, *global warming*, *greenhouse effect*, *carbon emissions*, *renewable energy*, *environmental sustainability*, *air pollution*, *emissions reduction*, and *energy transition*. *The Guardian* displays a consistently high volume of climate news coverage, with notable peaks around major events such as the 2018 IPCC report, the UK's 2019 Climate Emergency Declaration, and COP26 in Glasgow in 2021. By contrast, *The Sun* maintains a much lower baseline level of climate reporting, with only

occasional spikes, most notably in late 2021, suggesting a more reactive pattern of coverage tied to major international events.

Figure 1. Monthly frequency of climate related terms in The Guardian and The Sun (mid-2016–2024)



Overall, coverage in *The Sun* remains relatively flat and lacks the sustained attention observed in *The Guardian*. These differences reflect broader editorial and ideological distinctions in how climate issues are prioritized. *The Guardian* appears to engage with the topic more continuously, whereas *The Sun* covers it more selectively and episodically. In this sense, the two newspapers differ less in the basic political themes they cover than in their narrative style and affective tone. At the same time, differences in affective intensity are theoretically important, as they suggest that climate narratives may shape imagined futures through different emotional channels even when they address similar substantive issues.

3.2. Micro–level data

The information about childbearing outcomes and environmental attitudes comes from Understanding Society (UKHLS), an annual longitudinal study (ISER, 2024). Our analysis covers the period from 2009 to 2023 (waves 1 to 14) and focuses on women of reproductive age (18–44) within 2009 to 2023. We limit the analysis to first births, including only women with sufficient longitudinal data to enable the lagging of explanatory variables relative to the timing of childbirth. To extract childbearing outcomes, we use code developed within the LabFam Individual Biographies (LIB) harmonized dataset (Weychert et al., 2025).

The dependent variable, conception, is a binary indicator defined as the expected month of each child's conception, and we calculate that as a difference of nine months from the birth date. We include control variables that are well-established micro-level determinants in fertility research, such as age (we assumed a quadratic function), educational attainment (categorized as "Low and Medium" [below tertiary] and "High" [tertiary]), and marital status ("Single", "Cohabiting", "Married"). We treat all control variables as time varying.

The UKHLS longitudinal panel includes numerous questions on environmental habits, behaviors, and attitudes. For our analysis, we select variables that reflect attitudes toward environment. These variables offer insight into individuals' beliefs regarding the urgency and impact of climate change.

To test H1 on the association between climate change narratives, proxied by an index of climate news coverage, and childbearing, we combine micro-level data from UKHLS with macro-level data on climate news coverage. The two sources are matched by month and by respondents' reported newspaper readership. The resulting panel dataset spans the period from January 2009 to December 2021. Then, we verified whether this association is moderated by environmental lifestyle attitudes (H2) and political orientation (H3).

To assess environmental lifestyle attitude, we refer to the question: *"How do you feel about your current lifestyle and the environment?"* The response options are: "I'm happy with what I do at the moment", "I'd like to do a bit more to help the environment", "I'd like to do a lot more to help the environment". For analytical purposes, we recode these responses into two categories: i) "Happy with current": indicating contentment with current environmental efforts, ii) "Want to do more": encompassing both respondents who wish to do a bit more and those who wish to do a lot more to help the environment.

To categorize political identity, we group parties as follows: i)"Conservative": includes parties such as the Conservative Party, ii) " Labor": encompasses parties like the Labor Party iii) "Other": Assigned to respondents who did not express support for either major party, indicated uncertainty, chose not to disclose their preference, or identified with smaller parties such as the Liberal Democrats, Green Party, UK Independence Party, or British National Party.

Table 1 contains the descriptive statistics for the analytical sample. Most of the respondents were aged between 15 and 34 years (77.4%), with a nearly even split between those with "low & medium" (49.5%) and "high" (44.7%) educational attainment. Most were "single" (62.3%),

while smaller shares were “cohabiting” (20.4%) or “married” (17.2%). Regarding environmental attitudes, most respondents expressed a desire to do more for the environment (51.3%). Politically, 10.7% identified as “Conservative” and 14.1% as “Labor”, while the majority fell into the “Other” category (74.3%). The dataset includes 108,185 observations from 3,245 individuals.

Table 1. Descriptive statistics

Level of Variable	percentage
Age Class	
15-24	38.03
25-34	39.37
35-40	14.02
Education	
Low & middle	49.52
High	44.71
Marital Status	
single	62.33
cohabit	20.36
married	17.15
missing	0.16
Environmental Lifestyle Attitude	
Happy with current	48.7
Want to do more	51.3
Political Orientation	
Conservative	10.70
Labor	14.12
Other	74.32
No Political Orientation	0.86
Number of observations and individuals	
Number of Observations	108,185
Number of Individuals	3,245

3.4. Models

Our primary focus is on the timing of individuals' transition to their first childbirth. We observed women (form aged 18 up to 44) either until the birth of a child or, if no birth occurred, until their last survey participation. From the statistical modeling perspective, we utilize mixed-effects complementary log–log (cloglog) models. This approach incorporates a random-effects structure to account for the nested nature of panel data—specifically, the repeated observations

within individuals (as outlined by Hedeker, 2003). We chose the cloglog model over alternatives like logit or probit due to its appropriateness for modeling rare outcomes (Mills, 2010). All key predictors and control variables were lagged by nine months to reflect the delay between the expected conception moments and actual births. We evaluated each hypothesis separately using a dedicated model for the transition to the first births. For clarity and the ease of interpretation, our findings are presented as predicted probabilities of childbirth (Figures 2) and risk ratios (Table 1) To assess differences across levels of variable of interest, we used 83% confidence intervals, following the guidance of Austin and Hux (2002), as non-overlapping intervals at this level suggest statistically significant differences at the conventional 5% threshold.

4. Results

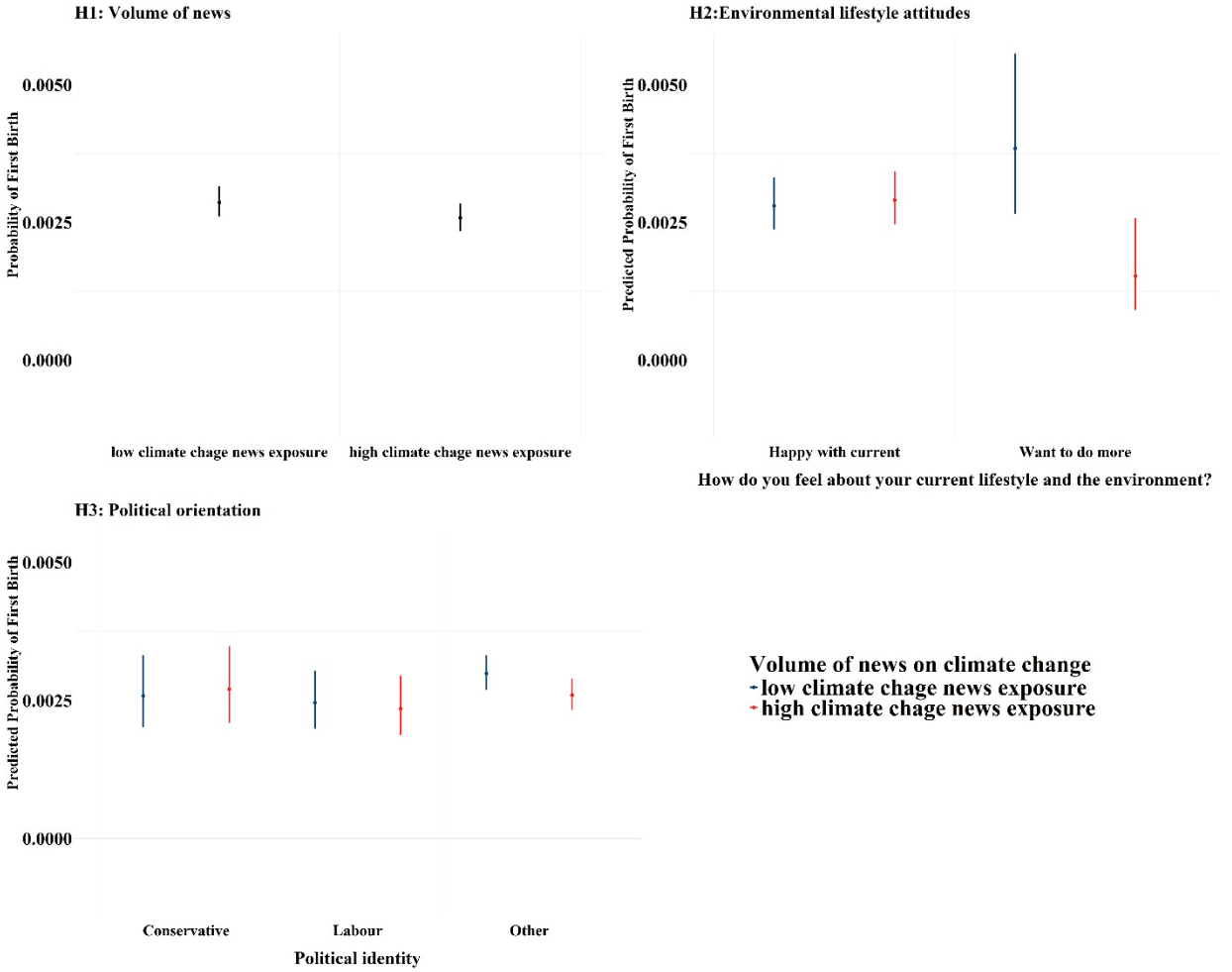
We begin by examining our baseline hypothesis (H1) in Figure 2. H1 predicts that exposure to high volumes of climate news coverage would reduce the likelihood of a first birth, on the assumption that greater exposure amplifies eco-anxiety and moral responsibility, thereby discouraging childbearing. The results in Figure 2 (H1) provide no support for this expectation: the predicted probability of having a first birth remains stable across low and high levels of climate news coverage. This null finding suggests that climate news coverage does not have a uniform effect across the population, motivating a closer examination of subgroup responses. Accordingly, we turn to stratified analyses (Figure 2.H2–H3) that test whether the association between media exposure and first births differs by environmental attitudes or political orientation.

With respect to H2, we find evidence that environmental lifestyle attitudes condition the effect of climate news coverage. Among respondents who report satisfaction with their current lifestyle ("happy with current"), probabilities of first birth do not vary by exposure. In contrast, those who express a stronger desire to "want to do more" environmentally show a markedly lower probability of having a first birth when exposed to high coverage, with limited overlap in confidence intervals. This pattern supports H2 and suggests that heightened environmental concern, when reinforced by frequent exposure to climate news coverage, may lower childbearing outcomes. Substantively, the magnitude of this interaction effect is considerable: respondents who both report stronger pro-environmental intentions and high exposure to climate news exhibit markedly lower probability of first birth (RR = 0.38) in Table 2, implying a reduction of roughly

62% relative to the reference group, highlighting that this is not only statistically significant but also a large and meaningful effect in practical terms.

Figure 2.H3 shows that across "Conservative", "Labor", "Other", predicted probabilities remain broadly similar under high and low exposure, with confidence intervals overlapping in all cases. This provides no support for H3 and suggests that political identity does not strongly mediate the link between the index of climate news coverage and childbearing.

Figure 2. Predicted probabilities of first births the index of climate news coverage exposure



Note: Predicted probabilities of first births, UK 2009–2019. Predicted probabilities and 83% CI are calculated controlling for: Woman's age, partnership status, educational level. Source: Authors' calculations based on *LabFam Individual Biographies (LIB)*

Taken together, our results highlight the importance of environmental attitudes, particularly the aspiration to strengthen pro-environmental lifestyles, in shaping childbearing outcomes under heightened exposure to climate news coverage. This underscores that climate news coverage

effects are not uniform but are instead contingent on underlying environmental attitudes. In contrast, political orientation shows weaker or null conditioning effects.

Table 2. Risk ratios of first births: interaction effects between an index of climate news coverage, environmental attitudes, and political orientation

	RR H1	RR H2	RR H3
(Intercept)	0.00 ***	0.00 ***	0.00 ***
age	1.71 ***	1.82 ***	1.72 ***
age square	0.99 ***	0.99 ***	0.99 ***
education [high]	0.97	1.08	0.98
marital status [cohabit]	3.15 ***	2.84 ***	3.15 ***
marital status [married]	8.44 ***	7.79 ***	8.44 ***
marital status [missing]	3.64 *	6.04 *	3.63 *
Climate media coverage [high climate news exposure]	0.90	1.04	1.05
Environmental Attitude [Want to do more]		1.37	
Environmental Attitude [Want to do more] x [high climate news exposure]		0.38 **	
political orientation [Labor]			0.95
political orientation [Other]			1.16
political orientation [No Political Orientation]			1.22
political orientation [Labor] x [high climate news exposure]			0.91
political orientation [Other] x [high climate change exposure]			0.83
political orientation [No Political Orientation] x [high climate news exposure]			1.28
Observations	108185	108185	108185
Marginal R^2 / Conditional R^2	0.333 / 0.333	0.328 / 0.441	0.334 / 0.334

*$p<0.05$ **$p<0.01$ ***$p<0.001$

5. Conclusions

5.1. Discussion of hypotheses

In this study, we investigated how an index of climate news coverage is associated with the probability of having a first birth, with particular attention to the role of environmental attitudes and political orientation. While prior research has suggested and demonstrated that media narratives of economic uncertainty can shape childbearing behavior (Vignoli et al., 2020, 2022), our study extends this perspective to encompass media narratives related to climate change uncertainty proxied by index of climate news coverage. Building on Beckert's (2016) concept of imagined futures, we find that not only economic but also environmental uncertainty, as conveyed through media, may discourage childbearing. This is especially relevant as climate change is often portrayed in catastrophic terms, which can heighten eco-anxiety and moral concern about future generations. These emotionally charged narratives may contribute to the broader decline in fertility observed across high-income countries (Hellstrand et al., 2021; Neyer et al., 2022).

The results for H1 show no general association between exposure to index of climate news coverage (keyword-based filtering) and the probability of having a first birth, providing no empirical support for H1. This finding aligns with recent evidence showing that, although childlessness intentions are rising among Gen Z, environmental concerns are not a primary driver (Berrington et al. 2024). Instead, the relationship appears conditional and heterogeneous, varying according to individuals' environmental attitudes.

The results for H2 indicate that individuals who express a desire to do more for the environment are significantly less likely to have a first birth once exposed to high volumes of climate change coverage (keyword-based filtering). Our results are in line with previous research showing that strong pro-environmental attitudes are associated with a greater likelihood of delaying or forgoing parenthood (Dillarstone et al., 2023; Powdthavee, Oswald, & Lockwood, 2024; Jylhä, Kolk & Fairbrother, 2025). In an environmentally conscious country such as the United Kingdom, these concerns may be further amplified by frequent media portrayals of climate crises. As the volume of climate change coverage intensifies, it may reinforce catastrophic future imaginaries (Beckert, 2016), leading some individuals to adopt more environmentally responsible lifestyles that may include postponing or opting out of childbearing.

The results of H3 show that interaction between exposure to climate change coverage and political orientation has no significant association with the probability of having a first birth. We find it somewhat surprising, as the literature suggests differences between right- and left-leaning individuals in their perception of climate change. However, in the UK context, the difference between right- and left-leaning individuals in perceiving the importance of climate change is much smaller than in the USA. Labour and Conservative supporters show far less division over the significance of climate change compared to Democrats and Republicans in the United States, while voters for Reform UK are the least likely to view it as a serious issue in Britain (Ipsos & Climate Action Coalition, 2024). Moreover, even right-wing newspapers increased their coverage of the negative consequences of climate change during the study period (Gabbatiss et al., 2022). This broad media shift toward acknowledging climate risks, across political lines, may help explain why we found no significant interaction between political identity and climate news exposure in the context of childbearing outcomes. Additional societal factors in the UK—such as the Church of England's advocacy for environmental stewardship as a moral duty (Church of England, 2020)—may also reduce political divisions.

5.2. Limitations

This study is subject to certain limitations. First, the UKHLS dataset lacks individual-level measures of media exposure, meaning we cannot determine how often individuals read or watch news content on television or online. Second, we focused only on two media outlets and did not include television news or social media platforms; future research could expand the analysis to incorporate a more diverse range of media sources. Third, climate anxiety and childbearing outcomes may vary by region, such as between urban and rural areas or between the north and south of the UK, which experience differing levels of climate change-related events. Moreover, the index of climate news coverage may overlap with the occurrence of real environmental events, such as floods or heatwaves, complicating efforts to isolate the effects of media coverage from those of direct personal experiences. Finally, while our study identifies important associations between the index of climate news coverage and childbearing behavior, it has limited ability to test causal mechanisms; it remains difficult to disentangle the influence of media-driven eco-anxiety from broader social and cultural trends.

5.3. Implications

Our findings challenge the notion of a simple, uniform, or unidirectional relationship between index of climate news coverage and childbearing behavior. Climate narratives do not uniformly reduce fertility; rather, their effects are contingent upon individual-level interpretive frameworks that shape how climate-related uncertainty is understood and incorporated into reproductive decision-making. Instead, they underscore the group-specific nature of this relationship. Specifically, individuals who report a strong desire to do more for the environment exhibit a significantly lower probability of having a first birth when exposed to a high volume of climate news coverage. By contrast, the index of climate news coverage appears to have no significant effect when stratified by political orientation. These results highlight the nuanced and conditional association between index of climate news coverage and reproductive outcomes, an association shaped more by individuals' environmental attitudes than by their political orientation. We underscore the importance of accounting for heterogeneity in psychological and behavioral dispositions when assessing the demographic implications of climate discourse.

Future research should explore cross-cultural comparisons, as the relationship between media narratives on climate-related uncertainty and childbearing outcomes may differ across cultural, economic, and political contexts. Citizens of different countries may interpret and respond to media climate change uncertainty differently from UK citizens, due to their unique experiences with climate-related disasters. Additionally, further studies could investigate the role of individual psychological characteristics as potential moderators between index of climate news coverage and childbearing-related outcomes. To better establish causality, experimental or quasi-experimental designs—such as exposing participants to different types of climate change narratives but only on childbearing intentions rather than actual childbearing outcomes.

Code available on request at: https://github.com/weychert/climate_change_fertility_uk

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University of Warsaw
Faculty of Economic Sciences
44/50 Długa St.
00-241 Warsaw
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