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The environmental politics of reproductive choices in the age of climate change

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ABSTRACT

The ethics of having children in the age of climate change is increasingly being discussed, but the political dimensions of individual reproductive choices in relation to climate change have been almost entirely ignored. This lacuna is addressed by drawing on a survey of 607 climate leftists who were factoring climate change into their reproductive plans and choices. Using a grounded theory approach, it identifies four dimensions of the connection between reproductive choices and environmental politics in the age of climate change: the parental investment in environmental politics; children as future environmentalists; the opportunity cost of parenting; and fertility as a socio-political tool. It adds reproductive plans and choices to the range of ways in which individuals conceive of themselves and act as environmental political actors, situating these results within the scholarship on eco-reproductive concerns, environmental micropolitics, environmental lifestyle movements, green parenting, and political demography.

KEYWORDS Climate change; climate politics; micropolitics; reproduction; parenting

Introduction

In the United States and a number of other countries, a significant amount of people of childbearing age are connecting climate change to their reproductive choices (e.g. Australian Conservation Foundation 2019, Morning Consult 2020). Beyond its influence on the lives of millions of young people and their families today and in the future, this phenomenon has implications for environmental sociology and environmental psychology, but it also has implications for contemporary and future environmental politics. Popular and scholarly discussions about reproductive plans and choices in the context of climate change have largely focused on ethical considerations (e.g. Rieder 2016), with very little attention to the political dimensions of this phenomenon.

Reproductive concerns about climate change are surprisingly widespread in some countries. A public poll conducted in the US in 2020 found that among

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18- to 44-year-old Americans without children, 14.3% cited climate change as a 'major reason' for not having children, while 20.7% cited it as a 'minor reason' (Morning Consult 2020). This suggests that approximately 12.5 million childless Americans of were not having children at least partially because of their climate concerns (Schneider-Mayerson and Leong 2020). This number does not include the millions of American parents that seem to be having fewer children than they desire because of climate change – a 2018 poll found that 33% of all respondents who 'had or expected to have fewer children than they considered ideal' cited 'worried about climate change' as one of the motivating factors (Miller 2018a). A different 2018 poll found a similar level of concern among environmentally engaged Australians (Australian Conservation Foundation 2019), suggesting that this eco-reproductive hesitation may be common in countries that are socio-economically and culturally similar to the United States.

As eco-reproductive concerns have gained more public attention, journalism and popular discourse have sometimes touched on the political dimensions of reproductive choices in the context of climate change. For example, op-eds about the ethics of reproduction in the age of climate change often allude to the hope that one's children might develop environmental values (e.g. Scranton 2018) and, it is implied, contribute to addressing climate change through environmental politics and related activities. And some activists have begun connecting reproduction and environmental politics. In 2019 the UK-based organization BirthStrike virtually promoted a public 'birthstrike' that received significant media attention (e.g. Bailey 2019) in a short span of time with only a Tumblr page and a Twitter feed. BirthStrike's public declaration contains a pledge not to bear children 'due to the severity of the ecological crisis and the current inaction of governing forces in the face if [sic] this existential threat' (#Birthstrike 2019). In September 2019 Emma Lim, a Canadian teenager, made a similar online pledge, and by July 2020 over 10,000 teens had signed Lim's resolution, which stated, 'I pledge not to have children until I am sure my government will ensure a safe future for them' (No Future No Pledge 2020).

To explore the nexus between reproductive choices and environmental politics in relation to climate change, I draw on the qualitative responses to a survey of 607 climate-concerned Americans who were factoring climate change into their reproductive plans and choices. Because of the significant media attention within the United States on Americans that are factoring climate change into their reproductive plans and choices, I focused my attention on Americans between the ages of 27 and 45, who constituted the majority of the respondents to my survey. I inductively classify the stories that a relatively elite group of liberal and progressive climate-concerned Americans – who I refer to as *climate leftists* – are telling about how climate change and their reproductive

plans and choices are related. I identify and describe four dimensions of the connection between reproductive choices and environmental politics in the context of climate change, illustrating common statements with representative examples.

This research adds reproductive plans and choices to the range of ways in which individuals conceive of themselves as and act as environmental political actors, and situates these results within the scholarship on eco-reproductive concerns, environmental micropolitics, environmental lifestyle movements, green parenting, and political demography. I describe how this research connects and contributes to these fields of study, explain my methodology, present the results, and discuss their implications.

The environmental micropolitics of reproductive choices

Very little empirical scholarship has been published on the relationship between concerns about climate change and reproductive plans and choices. In 2020, drawing on the same data set used here, Schneider-Mayerson and Leong compared the concern that young Americans who are factoring climate change into their reproductive choices expressed about the carbon footprint of procreation with their concern about the well-being of their existing or potential children in a climate-changed world. Within sociology, demography, and women's and gender studies there is a robust literature on how individuals decide whether to have children (e.g. Morgan and King 2001, Park 2005), and on voluntary childlessness in the United States (e.g. Blackstone 2019) and elsewhere. At times, this literature has touched on environmental issues, often in relation to some of the foundational Malthusian concerns within the US environmental movement (e.g. Robertson 2012). Within the literature on the decision not to parent, concerns about 'population growth' were common in the 1970s and 1980s (Houseknecht 1987), and recent scholarship contains occasional references to concerns about 'overpopulation' (e.g. Park 2005, p. 394–5). Additionally, there has been research on the relationship between general environmental concern and fertility intentions. Some of this research (e.g. Arnocky, Dupuis, and Stroink 2012) suggests a positive relationship between environmental concern and anti-reproductive attitudes; however, other research has suggested a positive relationship between climate concern and the intended number of children (De Rose and Testa 2015).

The environmental politics of reproduction, which includes 'the lived experience of reproduction in environmentally dystopic times,' has been described as an important area of research (Lappé *et al.* 2019). Over the last decade, scholars of social movements have increasingly acknowledged that the contentious politics paradigm does not capture the entire range of efforts to effect social change (Snow 2004, Haenfler *et al.* 2012), and that

within some countries there seems to be a growing trend towards individualistic approaches to politics (Van Stekelenburg and Roggeband 2013, Schneider-Mayerson 2015). This has led to the observation that there is a 'scholarly blind spot concealing the intersections of private action and movement participation, personal change and social change' (Haenfler *et al.* 2012, p. 2), and the reproductive plans and choices that are the subject of this research fall within it. They might be viewed as part of a 'green lifestyle,' defined by Lorenzen (2016, p. 98) as 'a subjective pattern of living, enabled by changes in circumstances and the life course, which involves moments of intense deliberation over the uncertain environmental impacts of everyday goods and practices.' Reproductive plans and choices also have some overlap with the 'lifestyle movements' that Haenfler *et al.* (2012) identify, in that they are individual and private actions that are seen as having the potential to influence social and political change.

A broader line of scholarship focuses on ideological parenting, from the conservative Quiverfull movement (Harrison and Rowley 2011) to studies of youth political socialization (McDevitt and Kiousis 2015). Within this literature, a number of studies identify the significance of 'green parenting' (Grønhøj and Thøgersen 2012, Stevenson *et al.* 2016) and parenting in the context of climate change in particular (Gaziulusoy 2020). Here scholarship is interested in the environmental implications of reproduction, and has tended to focus on the transmission of values, rather than how parenting might be seen as engaging in and contributing directly to environmental politics. More widely, recent work focuses on how parents themselves think about green parenting (Auriffeille 2020), and on the way that parenting effects parents' beliefs and attitudes. For example, Ekholm (2019) found a greater level of concern about climate change (which may or may not translate into environmental political activity) among parents than nonparents.

These (often contradictory) findings leave a number of unanswered questions in the field of political demography, concerning the relationships between climate concern, the decision to have children, and the transmission of values. In the United States today, reproductive choices occur within the context of declining birth rates and what some observers refer to as a 'political fertility gap' (Kirsch 2019). Demographers have found that even after controlling for urbanization, race/ethnicity, and location, liberals have a lower fertility rate than conservatives, desire less children, and have children later (Stone 2020). This gap developed in the 1980s, grew after 1995 or so, and has widened in recent years (Stone 2020). Popular books on similar fertility gaps – and, sometimes, fertility competitions – in other countries have been published recently (e.g. Weisman 2013), bringing attention to the political dimensions of fertility.

These trends suggest that the political fertility gap might be affecting the way that individuals in the US – and leftists in particular – make or describe their reproductive choices. Of course, reproductive choices are shaped not only by desires and concerns, but by resources. Reproductive choices in the United States occur in the context of awareness of the growing demands of parenting on parents (e.g. Miller 2018b), whether that is measured in terms of time (US Bureau of Labor Statistics 2019) or financial resources (Lino 2017). Even with supportive friends and family, most of these costs are borne by parents. This has led some scholars to question the general utility of reproduction at the individual level, arguing, for example, that one can do the most good with one's finite resources by putting them towards things other than raising children. As Rachels puts it, building on Singer's famous 'famine relief argument' (1972), having children in affluent states effectively means concentrating resources in these states rather than redistributing them to where they are most needed: 'parenting consumes vast sums of time, money, and energy. It would be much better to direct those resources elsewhere' (2014, p. 570).

In North America and Europe, the recent birthstrikes have also brought reproductive choices into the political realm, highlighting intergenerational differences in the perception of and concern about climate change. Birthstrikes have publicized the extent to which climate change is negatively affecting the way that many young people are thinking about their lives and their futures. This is a noteworthy contribution to environmental politics, especially in the context of a generational gulf in perceptions of climate change (Ballew *et al.* 2019) and the lack of conversations about climate change (Leiserowitz *et al.* 2018), which is particularly problematic since power and other resources are concentrated among older generations in the US (e.g. Howe 2018) as in most countries. Yet there is currently no scholarship on birthstrikes as a form of environmental politics, or the motivations that underlie such forms of contention.

Despite recent activism, attention by journalists and authors, and scholarship in adjacent fields, there is currently a paucity of empirical scholarship on the relationship between climate change and reproductive plans and choices, on the distribution of resources and the transmission of values, and none on the political motivations of young people who are factoring these concerns into their reproductive plans and choices. We have little understanding of how young people negotiate these choices, particularly in the pre-conception stage, how they compensate for future trade-offs, or produce moral rationales for their actions. Examining these helps fill multiple gaps in the scholarship and lays the groundwork for further research.

Conceptual framework, research design, and methodology

The primary research questions that informed the research design were as follows: How are people who are factoring climate change into their reproductive choices thinking about these decisions? Which factors are most important to them? How are they thinking and feeling about a climate-changed future, and how are these beliefs and emotions informing their reproductive plans and choices?

The research design was a survey that was largely qualitative (Jansen 2010). I expected that a detailed survey with branching and open-ended questions would result in the kind of rich data that is available through in-person interviews, but might be less subject to social desirability bias (Joinson 1999) when it comes to emotionally and politically sensitive subjects such as reproductive plans and choices. The survey contained 16 open-ended questions and between 24 and 31 multiple-choice questions, depending on the responses. The open-ended questions focused on respondents' emotions in relation to climate change; their personal and political actions in response to climate change; their thoughts, feelings, and considerations about having children in the age of climate change; the conversations they have with others about this subject; and their vision of and concerns about the future. The multiple-choice questions were demographic questions along with questions about how respondents feel about climate change, which actions they prioritize, and which actions they take. The survey questions are included in the supplementary material.

Ten well-known climate thinkers, activists, or organizations posted the link to the anonymous survey on public Twitter and Facebook pages, which ensured wide dissemination of the survey. While this sampling methodology risks a bias towards those who have Internet access and use social media, the youthfulness of the target population mitigates that risk. The posting specified that respondents had to be over age 27 and had to be 'connecting climate change to their reproductive choices.' Both inclusion criteria were repeated in the survey's screening questions, along with questions that screened respondents for belonging in the 'Alarmed' segment of Global Warming's Six Americas, an established instrument that segments Americans according to their climate beliefs and attitudes (Chryst *et al.* 2018). A minimum age of 27 was selected to ensure that participants were not just registering fleeting anxieties, on the assumption that many Americans, and especially liberals, do not begin thinking concretely about having children until their middle or late-twenties (Stone 2020). At the end of the survey, respondents were asked to share the survey link with anyone who might qualify. For each respondent who completed it, US$20 was donated to 1 of 10

environmental or reproductive justice organizations. We should expect that this altruistic compensation might lead to self-selection for altruistic individuals, and individuals who are concerned about climate change or reproductive justice. In total, 1,159 respondents passed the pre-screen, including 845 US-Americans. And 656 of these US-Americans fell within the age range of 27–45. The upper limit of 45 was selected because it has conventionally been understood as the end of 'childbearing age' in the US (e.g. Hamilton and Ventura 2006), and because responses by participants in their fifties and sixties often demonstrated that they were retroactively 'connecting' climate change to their past reproductive choices, but had not factored climate change into those choices at the time they were made. Data cleaning involved the removal of 30 responses that were retroactively connecting climate change to previous reproductive choices and 19 that had a completion rate below 90%. This left 607 respondents in the sample.

Given the absence of scholarship on this subject, the responses to the open-ended questions were coded using a bottom-up, grounded theory approach to identify emergent categories of responses that arose naturally from the survey participants (Glaser and Strauss 2017). A surprisingly prominent category was the political dimensions of respondents' reproductive choices. Responses that touched on this topic were isolated. Within this category, subcategories were developed through an inductive process of reading and re-reading the relevant responses, identifying recurring words and themes, and grouping the codes that were generated into collections of similar content. These groups constitute the four dimensions identified below. Typical examples have been selected to illustrate common sentiments, beliefs, and arguments, and presented with pseudonyms.

This is a sample (Table 1) largely composed of *climate leftists*. I use 'left' instead of 'liberal' because while most respondents selected 'liberal' or 'very liberal' on a multiple-choice question with standard US political categories, many suggested, in an open-ended follow-up question, that they didn't identify as 'liberal' at all, preferring categories such as 'progressive' (34 responses), 'socialist' (26), and 'democratic socialist' (17). Climate leftists might be distinguished from other leftists not by their belonging in the 'alarmed' category – which is now common in the United States (Goldberg *et al.* 2020) – but by the centrality that climate change seems to play in their worldview. These respondents described viewing and responding to climate change not as a siloed 'environmental' concern, but as an all-encompassing issue that can only be understood through an intersectional lens. The category 'climate leftist' builds on emerging descriptions of members of climate-focused communities, such as 'climate persons' (e.g. Holthaus 2019).

While climate leftists are not the same as climate activists – not all climate leftists are activists, and vice versa – they might be expected to have

Table 1. Sample composition.

Category	Percentage	*N*
Sex		
Female	73	446
Male	22	131
Other (e.g. non-binary, genderfluid, genderqueer, trans)	5	30
Race/ethnicity		
White	88	535
Asian-American	6	38
Latinx	3	16
Native American	2	11
Middle Eastern	<1	4
Black	<1	1
Political identification		
Very liberal	70	424
Liberal	21	126
Moderate	4	24
Conservative	<1	1
Very conservative	0	0
No opinion	5	32
Education		
Graduate or professional degree	52	314
Bachelor's degree	41	251
Associate's degree	1	9
Some college	4	26
High school diploma or GED	1	6
Less than high school diploma or GED	<1	1
Location		
West	41	252
Northeast	27	162
Midwest	18	108
South	12	75
US citizens living abroad	2	10
Parental status		
Parents	24	144
Nonparents planning to have children	12	73
Nonparents undecided about having children	29	178
Nonparents committed to not having children	35	212

a significant overlap, and perhaps a similar demographic composition. This might explain, in part, this sample's whiteness, educational attainment, and femaleness (Boucher *et al.* 2020, Saunders *et al.* 2020). Additionally, American nonparents tend to be more educated than parents (Blackstone 2019, p. 38), and this sample contains a large number of nonparents and individuals that were undecided about parenthood. While a recent poll suggests that just as many men as women are connecting climate change to their reproductive choices (Morning Consult 2020), the survey link was shared by a women-led organization with a dedicated social media following (Conceivable Future), and since women in the US are generally considered to be subject to more pressure to have children than men (e.g. Hird and Abshoff 2000), it is possible that American women are thinking more about their reproductive plans in advance, or are more interested in responding to a survey on this topic.

Four dimensions of the environmental politics of reproductive choices

My interest in the environmental political dimensions of reproductive choices emerged from the open-ended responses, which frequently noted that what is most important to the respondents is not the individual environmental choices that they and others make, but about the way that those choices might influence environmental politics so as to slow and adapt to climate change. For example, Jodie, a 31-year-old teacher and mother in California, reported that she and her husband

> care about our individual footprints and our child's and so make many lifestyle choices to mitigate that effect (like a vegan diet, and utilizing public transit, etc.). However, we both believe that it is more important for our society to shift on a massive level requiring collective action and not just individual choice[s]. We need a complete shift in how our society gets energy, individual lifestyle choices are important but insufficient. We hope to raise our child to take part in that necessary action.

Individual choices, while virtuous, were frequently described as far less consequential than political engagement. But for the respondents in this sample this was not an either/or question. Individual choices, especially life-creating and life-altering individual ones, were often viewed as having implications for environmental politics, in the present and the future.

In the analysis of my data I identified four different dimensions of the relationship between reproductive choices and environmental politics, all of which applied to respondents who had conceived or were planning to conceive biological children as well as respondents who had adopted or were planning to adopt children. They are presented here according to the groups of respondents that were most likely to describe them.

Respondents who were parents or planning to have children

The environmental political arguments for having children, or having more children than one might otherwise, were put forward primarily by respondents who were parents or planning to have children in the future. They fit into two categories: *the parental investment in environmental politics* and *children as future environmentalists*.

The parental investment in environmental politics refers to the belief that parents, due to a direct and embodied connection with the distant future, will be more invested in environmental politics than nonparents. This dimension contains two elements: the claim that *without* children individuals would 'give up' on environmental politics; and that *with* children, individuals will be more dedicated to environmental politics than they would be without them.

Numerous parents argued that without a child they would 'give up' on life, and on their dedication to engagement in environmental politics. As Jessica, a 29-year-old data scientist in California, put it

> With the latest reports giving us 10 years to possibly hold back the worst changes it's definitely very frightening and my partner and I discussed whether or not it's worth bringing kids into this situation. However, not having kids also feels like just giving up. So we have decided to keep trying to have children.

For her, as for many others, this reference to 'giving up' was a psychological claim, reflecting personal desires and expectations. She and other respondents reported that having children is so central to the way they imagine a good and meaningful life that foregoing this experience would constitute too great a sacrifice. Making this sacrifice would lead them to 'give up' on caring about the state of the world, which would, in turn, prompt a retreat from politics, among other things. To forestall such a retreat, they reported, they chose to have children.

Using similar language, many parents argued that having children 'forces' them to maintain hope about the future, which prevents them from allowing themselves to succumb to climate despair, which would lead to political quiescence. Josh, a 37-year-old rabbi in the Midwest, reported that

> to make an active decision not to have any children, would be, for me, such an expression of hopelessness that my life would in effect end the moment I made that choice. I can't live in that kind of hopelessness, I certainly can't contribute positively to the world, I can't help other people learn how to cope, build resiliency, nor minimize their contributions to climate change if I choose hopelessness.

For many parents and those planning to have children, hope was a necessary precondition for their engagement in environmental politics. Having children would require them to have hope, and was therefore necessary for them to remain engaged in environmental politics.

The second element of *the parental investment in environmental politics* was the belief that having and raising a child forces one to maintain a greater investment in and concern for the distant future, beyond one's expected lifespan. One of the challenges of responding to climate change is the lag between greenhouse gas emissions and resulting climatic and social, political, and economic consequences, which means that the imperative to act is premised on a desire to prevent negative consequences not only in the present but in the near and distant future. This temporal lag means that climate change is frequently de-prioritized in favor of more psychologically proximate concerns. In this context, numerous parents reported that having children heightened their concern about climate change. Michael, a 45-year-old paramedic and father in Maryland, commented that for him,

> Having children (by any means) translates the urgency of keeping the biosphere habitable and functional for 'future generations' from rhetoric into a deeply personal concern.

Anthony, 31-year-old teacher and father in Southern California, reported a similar experience:

> My partner and I both discussed at length whether or not we should have a child into a world we feel is essentially doomed. There are a few reasons we decided to go through with it. The first is that when our niece was born we both felt a galvanizing energy around our climate activism. We weren't working for abstract survival, but for a world we could see her thriving in.

For others, such as Gabrielle, a pregnant graduate student in New York, having children would force them to stay engaged in environmental politics:

> Having children as I wish to feels like binding myself to life and to the future of the earth—I will not be able to just close my eyes and hope nothing too bad happens in my lifetime.

The *parental investment in environmental politics* was also a consideration for respondents who were unsure about their reproductive plans. For example, Mei, an undecided consultant and climate activist in Washington, wondered if

> having a child will provide more motivation to keep fighting this problem, rather than be overwhelmed and burnt out from climate activism.

The second dimension that was frequently cited by parents and those planning to have children is *children as future environmentalists*. Eighty-one percent of parents and respondents planning to have children answered 'Yes' to the question, 'Do you think of your (future) parenting as a contribution to creating a better world?' In the responses to the open-ended follow-up question – 'How do you think your (future) parenting (will) contribute(s) to creating a better world?' – the majority of parents and those planning to have children referred to their expectation that their children will (or would) become climate activists, pro-environmental voters, or contribute in other ways to a transition to a more sustainable and just world.

Many parents and those planning to have children believed or hoped that their children would become active participants or even leaders in environmental politics. Sarah, a 35-year-old director of an environmental organization and mother in the Midwest, wrote

> I want to raise two climate justice warriors. We hope they will grow up and fight for justice for all … We chose to continue our legacy of climate justice through them.

Similarly, Courtney, a 29-year-old program manager in North Carolina, disclosed

> I have struggled a lot with whether or not to have children given the impending climate crisis. Ultimately, I decided that I feel morally comfortable with the decision to have children because I do not believe individual action can stop the climate crisis. Only systematic, national policy change to regulate corporate behavior can adequately reduce emissions to slow the climate disaster. I believe there is value in raising children who are climate-conscious and politically engaged and will continue to agitate for the systematic change needed to save our planet from complete catastrophe.

Echoing these sentiments, Rebecca, a 36-year-old communications manager and mother in Northern California, wrote that she and her partner 'are working to raise people who will be helpers and leaders in the difficult times to come.'

Others saw their children not necessarily as future activists but as future pro-environmental voters, or people who might contribute to the pursuit of sustainability in other ways. Supriya, a 45-year-old activist and mother in California, noted

> I considered the benefits of raising informed environmentalists and voters as offsetting somewhat the lifetime carbon footprints of my children.

Kim, a 35-year-old researcher and mother in California, wrote that when she was deciding whether to have children

> I thought about how I will raise my kids to be educated about climate change and how they can be a force for good, for fighting it. Not all families have those values, but we do. That doesn't make me more entitled to children, but it's something I think our family, including my children, can and will contribute to the world.

And Tara, a 45-year-old social worker and mother of two in Colorado, wrote

> I was hopeful that having children who would take our places would not only continue humanity, I would raise kind, compassionate, environmentally aware humans who might help change the dialogue and practices.

On a more cultural note, David, a 42-year-old journalist and father in California, noted that

> even in the most catastrophic sort of future that may await us, humanity still needs its warriors, its truth tellers, its fighters for justice and those who will help, not harm, our progress. Weighing my (limited) role in this lifetime, and thinking that one of the best things I can do is to pass on my values to another person who will be able to carry on the 'good fight' despite hellish conditions is something that at least provides hope. Humanity isn't dying tomorrow. People with strength, dignity, ideas and passion will be needed, in the future more than ever as times grow darker.

Similarly, Brandy, a 28-year-old web developer in the Northeast wrote that

> some people will survive [climate change] and play a big role in creating a better society. I do think it is important for us worried folks to raise this

> next generation, rather than letting humanity be overtaken by the greed of monied interests.

Undecided and childfree respondents

The environmental political arguments for not having children, or having fewer children, were put forward primarily by respondents who were undecided about or committed to not having children. They fit into two categories: *the opportunity cost of parenting* and *fertility as asocio-political tool*.

Childfree respondents and those who were undecided frequently mentioned *the opportunity cost of parenting*. As Isabel, a 35-year-old organizer in Illinois put it,

> Given how little support there is for parenting in this country, any energy I devote to the personal child project is energy that will be taken from the project of fighting climate change, and mitigating harm for my community.

Similarly, James, a 30-year-old director of an environmental organization in the West, wrote that he would 'rather spend my life trying to mitigate' climate change 'through policy, through organizing, through action, than have children.' For these reasons, some childfree participants were satisfied with their choice not to have children. Kai, a 43-year-old disaster recovery planner in Hawaii, wrote, 'I am relieved that I did not have a child because this choice gives me more time to dedicate to political activities and activism.' As a result of this decision, she reported 'feel[ing] more committed to slowing down climate change and mitigating plastic pollution.'

Respondents described not only the quantifiable resources they would invest in raising children – time and money that could be dedicated to environmental campaigns and organizations – but also unquantifiable resources such as 'energy' and psychological and emotional capabilities. Chris, a childfree consultant in South Carolina, revealed that 'part of why I decided not to have children is that I'm not strong enough to have kids and fight climate change at the same time.' And Alex, a 31-year-old artist in New York, noted that raising a child in the intentional way they would like to is demanding, and would detract from the valuable cultural and political work they engage in.

> I don't believe that I personally have the energy and capacity to have a child while committing myself to the storytelling and creative work that I want to do. In terms of my activism, I am interested more in transforming my own life and choices to better for the planet and the people on it and I don't feel like I am far enough into that transformation to be able to teach another human how to do that.

An additional intangible resource is risk. Some respondents argued that parenting might compromise their ability or willingness to risk their safety and liberty in service of climate politics. For example, Sean, a 36-year-old Quaker minister in the Northeast, said

> I have felt clear that I am called [. . .] to devote my life to climate work. The most important part of that for me is being ready and available to respond with action (when the right moment arises) that could land me in prison for years or decades. Having biological children who were dependent on me, and leaving my life partner alone to raise them, would be unfair.

In terms of time, money, energy, psychological and emotional capabilities, and risk, childfree and undecided respondents argued that they could do the most with their finite resources within the short time-frame available to transform global fossil-fuelled civilization by directing them towards environmental politics and related activities.

The fourth dimension, *fertility as a socio-political tool*, is the socio-political weaponization of fertility, in which young people of childbearing age attempt to use their reproductive potential to influence environmental attitudes and politics.

While this motive was never described as the primary reason for choosing not to have children, a number of childfree and undecided respondents described thinking about their choice, and the way that they talk about it with family members, in this way. Ryan, a 37-year-old policy expert in Pennsylvania, wrote that he and his partner 'tell the family that this is our reason' so as 'to help them understand the consequences of inaction' on climate change. They described their primary reasons for choosing not to have children as 'fear for the future' and the 'climate liability of additional people on the planet,' but saw their conversations with family members as an opportunity to strategically wield their fertility to convey the depth of their anxieties and fears about the future.

Similarly, Hillary, a 28-year-old journalist in California, wrote that she had numerous reasons not to have children, but reported that during conversations

> I tend to prioritize the climate change component because I think it is important to make people think about that more. I don't think I'd want children regardless, but climate change makes it a hard no . . . My mom and grandma have expressed dismay at my decision. I told my grandmother if she felt that way that she should vote for a Democrat in 2020 . . . I see my decision to not have children as a political tool.

She and other respondents chose to convey to others the 'climate change component' of their reproductive plans and choices so as to exert an influence on the attitudes and political behavior of her family members, leveraging the familial desires and expectations that are attached to their

reproductive potential as a 'political tool' to influence environmental politics at a micropolitical, interpersonal level.

All responses in this category described using *fertility as asocio- political tool* with one's family members, as opposed to friends, acquaintances, or the public.

Weighing options, wielding fertility

While previous research on reproductive considerations in relation to climate change has focused on concerns about one's existing or potential children suffering in a climate-changed world and concerns about the carbon legacy of procreation (Schneider-Mayerson and Leong 2020), these results demonstrate that a subset of climate-concerned Americans are also considering the environmental political dimensions of their reproductive plans and choices.

The reproductive plans and choices of the respondents in this sample can be considered political according to the scholarship on lifestyle movements, which considers 'lifestyle choices as tactics of social change' (Haenfler *et al.* 2012). While the intense focus on these personal choices might be encouraged by the popularity of environmental lifestyle movements, the respondents in this sample do not fit into the category of a 'lifestyle movement,' since most did not describe seeing themselves as participants in a movement. For individuals who are thinking about their reproductive plans and choices in the context of environmental politics, reproductive choices constitute a midpoint between environmental micropolitics and environmental lifestyle movements, on one end of the environmental political spectrum, and public and contentious political engagement, on the other. Though respondents' plans and choices were individual and private, they were frequently made or explained with reference to their potential to contribute to public and collective environmental politics, in the present and in the future. In this sense, reproductive plans and choices are an important addition to the ways in which individuals conceive of themselves and act as environmental political actors.

Scholars who have theorized environmental micropolitics have tended to focus on 'everyday' choices such as recycling, gardening, and consumption patterns (Lorenzen 2012), but reproductive choices are of a different magnitude, constituting perhaps the most significant, permanent, and consequential choice that an adult makes in the life course. Reproductive plans and choices might also be considered political according to a contentious politics paradigm. In line with the growing focus on public environmental political responses to climate change, respondents in this sample were not only considering the ways in which their individual choices might contribute to social change by passing on pro-environmental values to their children (for

example), but also considered the various ways in which their individual choices might contribute to public and collective environmental politics, ranging from movement participation to electoral politics, in the present as well as the future.

The finding about beliefs in *the parental investment in environmental politics* and *children as future environmentalists* add to our understanding of green parenting. It does so first by enabling the consideration of reproductive decision-making as a consequential, pre-conception stage of green parenting. Second, it extends the hopes that environmentally concerned parents have expressed about 'socializing their children into green living' (Auriffeille 2020) into the explicitly political realm. Third, parental beliefs that having children might lead them to a greater engagement in environmental politics, and to maintaining that engagement over time, demonstrate that Ekholm's claim about the attitudinal effect of parenting on parents themselves is shared by some individuals, and is sometimes expressed as a motivation for choosing to have children.

The finding about *children as future environmentalists* shows that some climate leftists are aware of and concerned about the political fertility gap, and are referencing it as a factor in choosing to have children. This demonstrates that young Americans, on the left as well as the right (Harrison and Rowley 2011), are viewing reproduction as a political demographic strategy. It also suggests an interplay between public and private discussions about having children in the context of climate change, and the choices that some individuals are making. Numerous parents who mentioned *children as future environmentalists* as a reason for choosing to have children, or to have many children, noted that if more liberal, environmentally concerned young people factor climate change into their reproductive choices and choose to raise fewer children, or none at all – as they gathered was possible from media coverage and conversations with friends – the political fertility gap in the US might grow over time.

While demographic scholarship on the relationship between environmental concern and reproductive choices has not been definitive, there seems to be a general assumption in public discourse and recent scholarship that climate concerns will lead young people to have fewer children, in part because the focus on this subject has largely centered on environmental ethics (e.g. Rieder 2016, Schneider-Mayerson and Leong 2020). Both *the parental investment in environmental politics* and *children as future environmentalists* demonstrate that environmental considerations might also lead young people to have children, and even to have more children than they might have otherwise – something that has rarely been noted in scholarship or popular discussions about reproductive choices in relation to climate change.

However, this research also finds that young people express environmental political motivations for choosing to have fewer children, or none at all.

While financial considerations and time constraints are frequently cited as a primary motivation for having fewer children than one desires, or no children at all (e.g. Miller 2018a), this desire to redistribute one's resources is often portrayed as a selfish desire for happiness or leisure (Blackstone 2019). Building on Blackstone's research on childless individuals' desire to 'leave a legacy' (Blackstone 2019), respondents in this sample described strategizing about how to have a maximal impact on slowing climate change, even if it required relinquishing their own reproductive desires. Climate activists seemed to find *the opportunity cost of parenting* particularly salient. Beliefs about *the opportunity of parenting* might be seen as a version of the utilitarian 'famine relief argument' against procreation (Rachels 2014), which might be particularly relevant and compelling given the high and concentrated resource demands of parenting in the United States (and similar countries) today.

The choice of respondents in this sample to wield fertility as a socio-political tool should be viewed in the context of the recent birthstrikes. While birthstrikes originating in Canada and the UK have been public and collective, this research demonstrates that some climate leftists are also wielding fertility as a socio-political tool in more private settings. The birthstrike, whether public or private, temporary or permanent, is one way that younger generations are communicating to older generations the depths of their climate concern and anxiety. This research was conducted in late 2018, shortly before the UK organization #Birthstrike began, and it may partially explain the micromotivations that underlie such public political strategies.

Finally, it is important to contextualize this research, and this subject, within broader discourses about reproductive freedom, reproductive rights, and reproductive choices. First, while this research is concerned with reproductive plans and choices in the age of climate change, many people do not have the freedom or ability to choose whether to have children, or how many. Second, despite the focus on the connection that respondents described between environmental politics and their reproductive plans and choices, climate change was rarely described as the sole factor in those reproductive plans and choices (see Schneider-Mayerson and Leong 2020). Third, while this analysis discusses reproductive choices here as if they are the product of rational deliberation, many people do not make such decisions on that basis, or describe them in this way.

Conclusion

While the scholarship and public discourse on reproductive considerations in relation to climate change have focused largely on ethics, this research demonstrates that for a subset of Americans, political considerations are reported as being critical to their reproductive plans and choices.

This research moves the field forward by connecting a number of areas of study, including eco-reproductive concerns, environmental micropolitics, lifestyle movements, green parenting, and political demography. It identifies an important and likely growing group of individuals – climate leftists – who place climate change towards the center of their worldview, but are not necessarily activists. It identifies a new area of study for scholars of environmental politics – the environmental politics of reproductive choices – and also extends each of the related subfields. To the study of environmental micropolitics, this research adds a consideration of reproductive plans and choices – individual decisions about whether to have children, and how many. These choices constitute the most important decisions in many peoples' lives, yet they have not been included in the scholarship on environmental micropolitics or environmental lifestyle movements. To the study of green parenting, this research adds reproductive choices as a pre-conception stage of parenting – the first part of a process of socialization into pro-environmental values and political engagement. To the study of political demography, this research adds individual motivations to bear children so as to counterbalance a perceived fertility gap, demonstrating that for some people in the United States, partisan politics extends to the realm of reproduction. And to the study of reproduction and the environment, this research adds political concerns and considerations, bringing environmental politics into a developing area of research.

Notably, some of these environmental political considerations constitute pro-natalist motivations. The scholarship and public discourse on reproduction in the age of climate change, and reproduction and the environment more broadly, has tended to focus on anti-natalist arguments. This research shows that some climate leftists also report climate-related motivations to have children, and even to have larger families than they might otherwise. In this way, it reminds us that even if environmental issues, and climate change in particular, might increasingly be factored into and even prioritized in reproductive choices and family planning in the near future (Schneider-Mayerson and Leong 2020), the demographic and political consequences of such a development are far from certain.

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References

Arnocky, S., Dupuis, D., and Stroink, M.L., 2012. Environmental concern and fertility intentions among Canadian university students. *Population and Environment*, 34 (2), 279–292. doi:10.1007/s11111-011-0164-y

Auriffeille, D.M., 2020. "Before she was born, i ate cheerios and beer for dinner": a qualitative examination of green parenting in lowcountry South Carolina. *Humanity & Society*, 0160597620943195.

Australian Conservation Foundation, 2019. What do women think about climate change? *Australian conservation foundation and 1 million women*. Available from: https://www.acf.org.au/women_will_change_their_lives_and_votes_for_climate_action.

Bailey, S., 2019. BirthStrike: the people refusing to have kids, because of 'the ecological crisis. *CNN*, 26 Jun.

Ballew, M., *et al*., 2019. Do younger generations care more about global warming? *Yale program on climate change communication*.

#Birthstrike, 2019. Available from: https://birthstrike.tumblr.com/. [Accessed 8 Aug 2019].

Blackstone, A., 2019. *Childfree by choice*. New York, NY: Dutton.

Boucher, J.L., *et al*., 2020. From the suites to the streets: examining the range of behaviors and attitudes of international climate activists. *Energy Research & Social Science*, 72, 101866. doi:10.1016/j.erss.2020.101866

Chryst, B., *et al*., 2018. Global warming's "Six Americas Short Survey": audience segmentation of climate change views using a four-question instrument. *Environmental Communication*, 12 (8), 1109–1122. doi:10.1080/17524032.2018.1508047

De Rose, A., and Testa, M.R., 2015. Climate change and reproductive intentions in Europe. *In*: D. Strangio and G. Sancetta, eds. Italy in a European Context: Research in Business, Economics, and the Environment. London, UK: Palgrave Macmillan, 194–2012.

Ekholm, S., 2019. Swedish mothers' and fathers' worries about climate change: a gendered story. *Journal of Risk Research*, 23 (3), 1–9.

Gaziulusoy, A.İ., 2020. The experiences of parents raising children in times of climate change: towards a caring research agenda. *Current Research in Environmental Sustainability*, 2, 100017. doi:10.1016/j.crsust.2020.100017

Glaser, B.G. and Strauss, A.L., 2017. *Discovery of grounded theory: strategies for qualitative research*. New York: Routledge.

Goldberg, M., *et al*., 2020. *For the first time, the Alarmed are now the largest of Global Warming's Six Americas. Yale University and George Mason University*. New Haven, CT: Yale Program on Climate Change Communication.

Grønhøj, A. and Thøgersen, J., 2012. Action speaks louder than words: the effect of personal attitudes and family norms on adolescents' pro-environmental behaviour. *Journal of Economic Psychology*, 33 (1), 292–302. doi:10.1016/j.joep.2011.10.001

Haenfler, R., Johnson, B., and Jones, E., 2012. Lifestyle movements: exploring the intersection of lifestyle and social movements. *Social Movement Studies*, 11 (1), 1–20. doi:10.1080/14742837.2012.640535

Hamilton, B.E. and Ventura, S.J., 2006. Fertility and abortion rates in the United States, 1960–2002. *International Journal of Andrology*, 29 (1), 34–45. doi:10.1111/j.1365-2605.2005.00638.x

Harrison, L. and Rowley, S.B., 2011. Babies by the bundle: gender, backlash, and the quiverfull movement. *Feminist Formations*, 23 (1), 47–69. doi:10.1353/ff.2011.0012

Hird, M.J., and Abshoff, K., 2000. Women without Children: A Contradiction in Terms? *Journal of Comparative Family Studies,* 31, 347–76.

Holthaus, E., 2019. On being a 'climate person.' *The Correspondent*, 1 Nov.

Houseknecht, S.K., 1987. Voluntary childlessness. *In*: M.B. Sussman, S.K. Steinmetz, and G.W. Peterson, eds. *Handbook of marriage and the family*. New York, NY: Springer Science & Business Media, 369-395.

Howe, N., 2018. The graying of wealth. *Forbes*, 16 Mar.

Jansen, H., 2010. The logic of qualitative survey research and its position in the field of social research methods. *Qualitative Social Research*, 11 (2).

Joinson, A., 1999. Social desirability, anonymity, and Internet-based questionnaires. *Behavior Research Methods, Instruments and Computers*, 31 (3), 433–438. doi:10.3758/BF03200723

Kirsch, J.A., 2019. Republicans have more kids than democrats. A lot more kids. *Fatherly*, 26 Mar.

Lappé, M., Jeffries Hein, R., and Landecker, H., 2019. Environmental politics of reproduction. *Annual Review of Anthropology*, 48 (1), 133–150. doi:10.1146/annurev-anthro-102218-011346

Leiserowitz, A., *et al*., 2018. *Climate change in the American mind: March 2018*. Yale University and George Mason University. New Haven, CT: Yale Program on Climate Change Communication.

Lino, M., 2017. The cost of raising a child. US Department of Agriculture. 13 Jan.

Lorenzen, J.A., 2012. Going green: the process of lifestyle change. *Sociological Forum*, 27 (1), 94–116. Mar. doi:10.1111/j.1573-7861.2011.01303.x

Lorenzen, J.A., 2016. Green lifestyles and micropolitics: pragmatist action theory and the connection between lifestyle change and collective action. *In*: B. H. Brewster and A.J. Puddephatt, eds. *Microsociological perspectives for environmental sociology*. Oxfordshire, UK: Routledge, 97–113.

McDevitt, M. and Kiousis, S., 2015. Active political parenting: youth contributions during election campaigns. *Social Science Quarterly*, 96 (1), 19–33. doi:10.1111/ssqu.12127

Miller, C.C., 2018a. Americans are having fewer babies. They told us why. *The New York Times*, 5 Jul.

Miller, C.C., 2018b. The relentlessness of modern parenting. *The New York Times*, 25 Dec.

Morgan, S.P. and King, R.B., 2001. Why have children in the 21st century? Biological predisposition, social coercion, rational choice. *European Journal of Population/Revue Europenne de dmographie*, 17 (1), 3–20. doi:10.1023/A:1010784028474

Morning Consult, 2020. National tracking poll #200926. Available from: https://assets.morningconsult.com/wp-uploads/2020/09/28065126/200926_crosstabs_MILLENIAL_FINANCE_Adults_v4_RG.pdf.

No Future No Pledge, 2020. Available from: http://www.nofuturepledge.ca/. [Accessed 5 Jul 2020].
Park, K., 2005. Choosing childlessness: Weber's typology of action and motives of the voluntarily childless. *Sociological Inquiry*, 75 (3), 372–402. doi:10.1111/j.1475-682X.2005.00127.x
Rachels, S., 2014. The immorality of having children. *Ethical Theory and Moral Practice*, 17 (3), 567–582. doi:10.1007/s10677-013-9458-8
Rieder, T., 2016. *Toward a small family ethic*. Basel, Switzerland: Springerbriefs in Public Health.
Robertson, T., 2012. *The Malthusian moment: global population growth and the birth of American environmentalism*. Rutgers, NJ: Rutgers University Press.
Saunders, C., Doherty, B., and Hayes, G., 2020. A new climate movement? Extinction Rebellion's activists in profile. *CUSP Working Paper*, 25 Jul.
Schneider-Mayerson, M., 2015. *Peak oil: apocalyptic environmentalism and libertarian political culture*. Chicago, IL: University of Chicago Press.
Schneider-Mayerson, M. and Leong, K.L., 2020. Eco-reproductive concerns in the age of climate change. *Climatic Change*, 163 (2), 1007–1023. doi:10.1007/s10584-020-02923-y
Scranton, R., 2018. Raising my child in a doomed world. *New York Times*, 16 Jul.
Singer, P., 1972. Famine, affluence and morality. *Philosophy & Public Affairs*, 1, 229–243.
Snow, D., 2004. Social movements as challenges to authority: resistance to an emerging conceptual hegemony. *Research in Social Movements, Conflict, and Change*, 25, 3–25.
Stevenson, K.T., Peterson, M.N., and Bondell, H.D., 2016. The influence of personal beliefs, friends, and family in building climate change concern among adolescents. *Environmental Education Research*, doi:10.1080/13504622.2016.1177712.
Stone, L., 2020. The conservative fertility advantage. Institute for Family Studies. 18 Nov. Available from: https://ifstudies.org/blog/the-conservative-fertility-advantage.
US Bureau of Labor Statistics, 2019. *Average hours per day parents spent caring for and helping household children as their main activity*. Available from: https://www.bls.gov/charts/american-time-use/activity-by-parent.htm
Van Stekelenburg, J. and Roggeband, C., 2013. Introduction: the future of social movement research. *In*: J. van Stekelenburg, C. Roggeband, and B. Klandermans, eds. *The future of social movement research: dynamics, mechanisms, and processes*. Minneapolis, MN: University of Minnesota Press, xi–xxii.
Weisman, A., 2013. *Countdown*. New York, NY: Little, Brown.