

research article

Unsettling maternal futures in climate crisis: towards cohabitability?

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In this article, we explore the emotionally reflexive processes by which some women build maternal futures in the unsettling context of climate change, aiming to contribute to a better understanding of reproductive (and other) future building as aided by emotions. We analyse the online testimonies of an organisation that raises awareness about the interrelationship between climate change and reproductive decision making. The findings illustrate how women's consideration of possible futures is relational, guided by their feelings and what they know or imagine to be the feelings of their families, the wider society and future generations. This is important for interrogating how climate change might unsettle dominant maternal and familial practices but extend understandings of connection. We position cohabitability as a possible foundation for reproductive decision making but find this possibility unfulfilled. Rather, maternal future building more commonly reinforces individualised and gendered responsibility for the planet's future.

Key words climate change • cohabitability • families • motherhood • emotional reflexivity

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Introduction

To unsettle is to loosen both people and norms from steady foundations, to unmoor them from individual and cultural expectations of the present and future. To be unsettled can be a cause for mourning, leaving people ungrounded, at sea, uncertain and anxious. It might also feel exciting, hopeful and curious, holding the potential for positive social and political change for individuals and society (Mackey, 2014: 235). People talk of 'settling down' to have a family. In public and some scholarly imaginations, settling is often presented as a desirable state of relative fixity promoting predictable rules, a flourishing personal life and slow but steady social progress (Veracini, 2014: 247). Settling is also associated with colonisation and the displacement

and oppression of indigenous peoples (Belich, 2009; Smith, 2012; Veracini, 2014). For many previously 'settled' groups, tensions are evident as the climate crisis unsettles taken-for-granted elements of their lives and futures (Fry, 2011; Baldwin and Bettini, 2017; Gaziulusoy, 2020). In this article, we take preliminary steps in establishing how a conceptualisation of 'unsettling' might be useful in examining maternal future building. We explore a group of US women's accounts of their reproductive decision making in the context of the climate crisis: why and how can the acknowledgement of the climate crisis unsettle maternal future building? What might be the individual and social consequences of such unsettling?

Although having fewer children is a 'high impact action' (Wynes and Nicholas, 2017) in reducing a person's carbon footprint and countering climate change, there is limited research on reproductive decision making within climate crisis. Sociological work connecting environmentalism, sustainability and family practices is rare, despite calls for greater recognition of the interrelationships between families and the environment (Jamieson, 2016; 2020) and the need to theorise the discursive, symbolic and emotional aspects of climate change (MacGregor, 2009; Neckel and Hasenfratz, 2021). Existing studies have typically focused on the correlation between specific forms of environmental concern and fertility intentions and have not aimed to develop insights into the interpretive processes informing reproductive decisions (Arnocky et al, 2012; De Rose et al, 2015; Andrijevic and Striessnig, 2017; Sasser 2018; Davis et al, 2019). That research cannot engage with how people navigate an awareness of the environmental impacts of reproduction alongside personal desire and the cultural value attached to having children in heteronormative and bourgeois families (Iverson et al, 2020). Nor can such work attend to the intermingling of rational and emotional responses to climate change: the 'socially responsible' decision of having fewer children may be inflected by climate-change-induced grief and imagining children's futures can be 'undeniably a burdensome cognitive endeavour' (Gaziulusoy, 2020: 1). There is some work on reproductive choices becoming part of environmentalists' political action (Schneider-Mayerson, 2022) and how environmentally informed reproductive choices can be understood as ethical decision making when potential parents consider the implications of bringing children into future environments (Dow, 2016a; 2016b), but these analyses do not examine the importance of emotions in making those choices. In short, there is limited research that centres on the emotional complexities of reproductive decision making in the context of unsettling times and unsettled futures.

Our article offers a novel interpretation of women's reproductive decision making in relation to the climate crisis as an emotionally reflexive process of maternal future building with the potential for individual and social movement towards cohabitability. For many of the women whose testimonies we draw on, the climate crisis throws into doubt a future in which they settle down and have a family. In the context of this unsettling, their future building is emotional and relational, guided by their feelings and their knowledge or imagining of the feelings of their families, society and future generations. It can be informed by anxiety, regret and sadness, but also by hopes for a less individualised and less human-centred future for the planet. In arguing that emotional reflexivity is key to women's maternal future building, we highlight its potential and limits to draw on and unsettle social norms around family and motherhood in emotional tenors beyond anxiety (see, for example, Bradley et al, 2021) and the human-centredness (Doucet, 2021) that is the focus of existing work.

Conceptualising unsettled maternal futures

The uncertainties of the climate crisis require people to engage in future building, imagining and creating their future lives reflexively, emotionally and relationally (Holmes et al, 2021). Emotional reflexivity is central to this process. Barbalet (1996) has explained that the unpredictability of the future makes rationally calculating the best course of action unfeasible and requires acknowledging the importance of feelings in guiding decisions. We go further, arguing that feelings are intrinsic to reasoning. Attempts to make sense of how we and others feel – or might feel – are vital in informing how people understand their circumstances and in helping them act: this is emotional reflexivity (Holmes, 2010; 2014: 34–5). Emotionally reflexive future building occurs through interactions and ‘internal conversations’ in which individuals create interior dialogues with real and imagined significant and particular others with whom they are, have been, or might be, intimate. They also call out the ‘generalized other’ (a representation of what wider society might think) (Mead, 1925: 268) and different versions of themselves in these dialogues (Mead, 1967; Archer, 2003; Burkitt, 2012). Emotional reflexivity includes interpreting and acting on only partially understood embodied feelings and so there may be unspoken or poorly articulated aspects to real and imagined decisions. Structured social relations frame and constrain what is imagined, felt and done when relating to others (Holmes, 2019; Holmes et al, 2021).

Doucet (2021: 22–3) provides some useful possibilities for interrogating the changing structures shaping emotionally reflexive maternal future building. Doucet notes that women may move between diverse epistemic communities. She is not explicit about how different ways of knowing are imbued with feelings, but we use her work to explore the emotional dimensions of women’s bumping up against dominant gendered maternal and reproductive imaginaries and knowledges. Women are contending in the US, as across much of the minority world, with a hegemonic ‘reproductive temporality’ (Halberstam, 2005: 1–4) in which ‘the survival of the human species appears to depend on bourgeois family formation and homemaking’ (Rifkin, 2017: 36–7). Doucet (2021: 14) highlights emergent ecological imaginaries that revision knowledge and subjectivity to cohabiting with other humans and other species in sustainable ways. She does this by drawing on Lorraine Code’s (2006; 2008) application of Castoriadis’s (1987) concept of social imaginaries to Rachel Carson’s (2002) account of knowledge making. Doucet argues that if we apply this to research about families, we learn that these ecological imaginaries are based on relational ontologies. ‘Ecological relational ontologies’ (Doucet, 2021: 20) is a rather complicated way of saying that ‘concepts and practices ... come to be through their relationalities with neighbouring concepts’. What it means to be a mother and to do mothering in the US, has been referenced to fatherhood, childhood, family and other concepts within a particular historical and cultural context of intimate practices. Climate change unsettles these and draws new concepts into a relationship with mothering. It may prompt reimaginings of humans’ relationships with other species and with the planet. This may challenge unsustainable intimate practices that ignore human dependence on non-human systems and species.

Cohabitability conceptually extends relationality to recognise human connection to other species and the natural environment. Doucet (2021) argues that cohabitability

can drive change in how the public and policy makers think about family practices in more equitable and inclusive ways, although the particulars are not explored in that article. One contribution of our article is to consider specific imaginings of cohabitability in some US women's maternal future building. To do so, we attend to the ambiguities of the concept, exploring its potential to reinforce and challenge discourses that burden women with moral responsibility for caring for others and the planet; we are also sensitive to the limitations of cohabitability, which seem either to underestimate or essentialise issues of gender and nature. We take inspiration from a range of feminist work that makes such challenges, within and beyond the field of ecofeminism (see for example [Moore, 2015](#); [Lee, 2018](#)), recognising that gendered, heteronormative and capitalist understandings of parenthood are related to the extractivist and colonial knowledge systems that have led to anthropogenic climate collapse ([Gaard, 1997; 2015](#)).

Women's unsettling testimonies: the study

We analyse personal testimonies collected from the website of a women-led network located in the US, focusing on reproductive justice and the impact of climate change on reproductive lives. In invoking reproductive justice, the network carefully acknowledges the coercive sterilisation and birth control programmes aimed at non-White and poor communities and avoids the often racist and classist Malthusian and eugenic logics of overpopulation that make interrogations of the environmental implications of women's reproductive decisions a politically and ethically sensitive issue ([Arnocky et al, 2012](#); [Davis et al, 2019](#)). Nevertheless, the women's testimonies published on the website focus heavily on the choices not to bear children or to limit the number of children.

As at June 2021, there were 41 videos, 24 written and two audio testimonies. Testimonies vary from 53 words to around 1,400 words, and from one to seven minutes duration. Online personal accounts such as these are an underutilised source of 'found' data, where individuals independently depict their own experiences, rather than via interviews produced by 'researchers' ([Stanley and Sereva, 2019](#)). Online testimonies produced without the prompting of interviewers can tell us what those who make them feel it is important to relate ([Hookway, 2008](#); [Snee, 2013](#): 147–9). However, they are not completely free-form; they are responses to the network's solicitation for testimonies through the website and house parties hosted by members. There is limited information given about those testifying, usually just their name and where they live. We judge other characteristics by their names, and/or their appearance if they have made video statements. We also glean information from the testimonies. Other features of the sample are detailed in [Table 1](#).

The sample is not representative of US women but offers insights into how the climate crisis is affecting the maternal future building of a group of relatively privileged women. It allows us to develop conceptual tools that may inform future empirical research with more diverse samples.

The women have consented to making their testimonies public on the website and do this as a deliberate political act. They agreed to the website's terms of use, which state that the testimonies are non-confidential and may be used by third parties. Regardless, a feminist ethics of care guides us in representing these women and their stories. When researching sensitive subject matter, attention to 'subtle ethics' requires that researchers abide by heightened ethical sensibilities ([Pascoe Leahy, 2021a](#)). We follow Niamh

Table 1: The sample

Age range	N=	No. of children	N =	State/place	N=
20–29	19	0	49	Massachusetts	9
30–39	23	1	7	Illinois	8
40–49	6	2	1	New Hampshire	8
50–59	3	3	2	New York	5
60 +	3	4	0	Other states	34
No data	12	Unclear	8	Other countries	3
TOTAL	67		67		67

Moore (2012), arguing that using pseudonyms would not be in tune with the women’s political aims to make these declarations in their own names. However, as the women were perhaps not anticipating our academic analysis of these often–personal stories we deemed it ethical to create a degree of anonymity by not naming the organisation, using only the women’s first names and not giving their exact age or place of residence. We include approximate ages because whether a woman is still within her reproductive window to have biological children likely influences her relationship to the subject matter, emotional reflexivity and whether she feels the decision is ‘settled’ or unresolved.

An ethics of care also requires us to be reflexive about how our personal backgrounds shape our analyses of the testimonies. Two of us are mothers, the other is child–free. Between us, we therefore have a range of experiences in making reproductive decisions, which arguably help us to hear and understand what these women are trying to say. We come to this study as non–US citizens and there may be a cultural barrier to appreciating what it might mean to make these decisions within the context of US society in the early 21st century. Our taken–for–granted expectations and (mis)conceptions about the US were subjected to our collective critical judgement, aided by feminist, historical and sociological literature.

All authors read or listened to the women’s testimonies and dealt with them according to the principles of qualitative analysis outlined by Jennifer Mason (2017). We adopted a systematic and creative approach to making sense of the commentaries and stories, drawing on our expertise in oral history, textual analysis and analysis of qualitative interviews. We discussed emerging themes to incrementally arrive at a shared understanding of these women’s emotionally reflexive processes and how they were unsettling maternal futures. The discussion below stays close to the feelings they describe, presenting themes that offer particularly useful insights into the relational and emotionally reflexive process of maternal future building.

Relationality in the present: unsettling connections to family, friends and the generalised other

Many women describe how coming to understand the implications of the climate crisis has unsettled their visions of a maternal future. They are drawn into a reflexive process of planning and imagining their futures, strongly inflected by their own and others’ sadness and loss. Kate’s testimony exemplifies how her reproductive decision making is emotionally reflexive; her feelings about supposedly ‘objective’ science as well as about herself and others inform her thinking. She reflects on her feelings about environmental needs and makes relational engagements to establish her family and friends’ emotions.

I would love to have a baby, but I am struggling to justify bringing a new person into a world that faces climate change and overpopulation.

I don't feel like I can share my feelings with the majority of my friends and family. I have tried to explain my perspective to my parents, and it made them sad, and they have continued to encourage me to have kids regardless.

In articulating her ambivalence towards motherhood, Kate (a young married woman) weighs what she feels is environmentally justified against her maternal desire and her parents' sadness at the prospect of her childlessness. Her maternal future building challenges their expectations of her settling down to have children, reflecting the dominance and potential transformation of child-referenced family structures and practices.

Aviva (mid-thirties) seems to struggle less with others' possible responses to her decision not to have children but is aware that uncertainty and a non-maternal future must be navigated against the feelings of her family and most of her friends.

Most of my friends want kids or have kids or have several kids. And they all ask when am I going to have mine and settle down? I actually hesitate to say, 'I'm not really sure I want kids.' And a lot of my friends and my family think that's strange. But I know that that's how I feel.

These women are aware of how significant others may, or do, feel about their reluctance to have children; they are asked when will they have children and 'settle down'. In Aviva's case, this makes her feel ambivalent or hesitant about revealing, making or enacting plans for child-free futures.

Most of the women struggle to imagine alternative maternal futures not based on an individualised, gendered moral responsibility for doing things differently that is difficult to enact (Neckel and Hasenfratz, 2021). Their unsettled deliberations reflect their relationship with a generalised other: typically expressed through the term 'people'. Shannon is almost 40 and comments that 'people are still shocked' when she says she does not want children 'for environmental reasons.' Jessica will 'hesitate to tell people [her] reasons for not wanting to have another baby'. These women are working against a generalised current of approbation for having children, but this also makes them feel uncertain, requiring that they engage with tensions between what is environmentally sustainable and culturally valued.

The women often contrast their environmental concerns with the generalised other's expectation of good – and unsustainable – mothering practices, normatively associated with 'settling down'. Meera, in her early forties, predicts that

as you become a parent you see what the baby industry, what the child industry and the desire to be part of the pack of other parents [do] and you start to do these things that you probably wouldn't do. You start compromising, 'Okay, I'm gonna get goody bags for all 30 kids at the party' and then everything in those goody bags is made of plastic.

Meera's imagined maternal future is one of compromise and submission to the expectations of the generalised other. She places in tension divergent norms of good

mothering: being environmentally careful and complying with intensive, consumerist mothering (Hays, 1996; Meyering, 2013). Meera foresees mothering practices that would compromise her goal to pursue more sustainable mothering choices that might unsettle the capitalist 'child industry'. She stops short of imagining alternatives that challenge capitalism's hold over practices of intimacy and emotion (Hochschild, 2003; Illouz, 2009), such as the borrowed, gifted and handmade items that also circulate among mothers (Pascoe Leahy, 2021b).

For some women, reflecting on the environmental implications of mothering leads them to consider the unsustainable social conditions of settling into mothering in the US; conditions lacking reference to cohabiting with others beyond the nuclear family. These social conditions include taking for granted unjust labour conditions and those who are victims of those conditions. Mei is in her late thirties, pregnant, and is beginning 'to see more systemically how climate change is linked to the way we live overall'. She says that 'these small everyday decisions around having a child and raising a child has also brought into focus a lot of other issues. Not only climate justice, but worker justice and this key disturbing individualism of our society'.

And that's one small node in the problem of having kids in the US, because you know it's almost impossible to afford. People think that the solution to raise the family is to do it individually, inside the nuclear family, and if you can't purchase the labour of somebody else to do it. We can't really do that and so that's an issue; but even if we could the people who provide childcare tend to be underpaid or low-waged and there's not a lot of social support to help people out in this situation.

Mei is concerned about the economic and environmental costs of pursuing dominant, individualised maternal imaginaries. She navigates towards a relational approach that attends to non-family such as workers, but she does not explicitly connect this to ideas about cohabitability. Anxieties and frustrations about 'mothering under structures of racial domination and economic exploitation' (Donath, 2015: 358) lead Mei to doubt the ethics of having children. Mei and her partner's insecure and low-paid work limit their resources to manage the ethical and practical challenges of mothering through dominant US practices of intimacy that are centred on the nuclear family and assume economic security (Randles, 2021). Mei counters these concerns by noting that having children is meaningful *to her*. She commits to managing tensions between maternal desire and social and environmental risks and inequalities by becoming more involved in climate justice activism. Maternal future building has prompted in Mei a simultaneous settling into motherhood and an attempt to unsettle individualised family practices, with a vision of building more sustainable maternal futures for all.

Relationality over time: unsettling relationships with other generations

Women's testimonies frequently imply that the climate crisis disrupts their sense of connection to generations past, present and future, and they struggle to imagine futures where humans cohabit successfully. To not settle down threatens the very existence of generational connections, but so does climate change. These women draw on emotions felt intergenerationally, including anger, anxiety, sadness, hope and love in

imagining and planning maternal futures. As Kate's earlier testimony suggests, there is often a tension between yearning to become a mother and a rational assessment of the projected environmental risks for the planet. Many women are ambivalent, torn between imagining life as a mother while dreading their children's futures. As Ellen explains, '[t]he pictures in my mind's eye of caring for my child and the ones of an apocalyptic future are not easy to reconcile'.

The sense of responsibility for environmental collapse upsets rhetorics of caring for a new generation of children and of settled cohabitation with others. Often, the testimonies express an intergenerational anger directed towards past environmentally destructive actions that have contributed to present and anticipated environmental consequences. Amelia, who is in her twenties, says she 'didn't want to bring children into the world tasked with a burden already of reversing environmental damage done by my generation and previous generations'. Amelia reflects that 'it's selfish to want to continue bringing children into the world', but she believes that 'it's also everyone's right and I feel like it's being taken away from me because of the current state of the world'. This is a historically and culturally specific expectation of reproductive choice (Bueskens, 2019) that informs the logic of the testimonies.

As they reflect on how to act within the uncertainty of climate change, women often lose the hope of living with real children but imagine vivid inter-subjective relationships with unborn children. When describing her vision of an increasingly hostile physical and social environment, Maraya (in her early thirties) concludes: 'I don't want to bring a child into a world that is catastrophic and catastrophically unjust'. Emma, in her twenties, similarly explains that the decision she and her partner have made not to reproduce is born of love for their imagined children: 'Because we love our unborn children, we are not having them.' These imaginings reflect an 'ecological ethic of reproduction' which informs reluctance to bring children into a climatically and environmentally changed world (Dow, 2016b). However, these considerations are also inflected with emotions, notably sadness. Meghan, in her twenties, has always wanted children, conjuring potent fantasies of her 'red-headed babies'. She cries as she explains her concerns for her unborn children, the loss of that potential treasured relationship and her parents' future disappointment.

I'm afraid they'll never get to have connectedness to beauty in nature, in a world increasingly fuelled by war, where there is no fresh water and increasingly full of dangerous chemicals ... But I'm also afraid of not giving my parents the red-headed babies they wanted and afraid of never getting to know the unconditional love that children give.

Meghan describes grief and fear as she presents two possible futures she must choose between: the environmentally compromised world where her imagined children cannot cohabit in connection to nature and the potential of a future living without the children she and her parents desire.

Rebecca's imagining of an apocalyptic future where cohabitability has failed, is filled with sadness that informed her decision to have her 'tubes tied' in her early twenties. Now in her fifties, Rebecca describes her emotional connection to the child she never had, vividly imagining what they would need, feel and want:

I didn't want to be responsible for sadness – for a child, my child, living in a world of suffering and dying. I did not want my child to ask me, 'Why are there no more tigers in the wild?' It would break my heart ... I did not want to put that burden – that pain, on another human being – a human being I was responsible for.

Sadness, pessimism and fear were the dominant emotional tenors across the testimonies, but hope does appear, although it does not clearly reference cohabitation with other species and ecosystems. Hope and optimism are alternative emotional responses to risk (Beasley and Holmes, 2021: 59–86), which women draw on when imagining their maternal futures and their connection with future generations. Kate, mentioned above, who is 'struggling to decide', shares that she wants a baby and is considering adoption. She says 'having a child is an act of optimism. Having a child suggests that you believe the world will be a good place to grow up in for decades ahead. I want to be optimistic.' Katherine (in her early thirties) talks about wanting a child in 'foolish hope'; she does not know for sure what the future will be like, 'even given all the facts'. Kate and Katherine's optimism is shot through with ambivalence, a reminder that even promising maternal futures may feel tentative and unsettled.

Hope is occasionally expressed through women imagining that a child will contribute to a more sustainable and just future, drawing themselves and their children into a cohabitable relationship with collective future generations. These maternal futures centre on raising children 'the right way' to create the potential for change. Hannah (in her thirties) wants to raise a child who is socially conscious and aware, declaring that she will fight 'like hell to make sure my kids are awesome'. She sees her contribution to the future as raising children who will make a positive difference, because 'I think it's important that I'm influencing the next generation of children, of my own or someone else's.' In her early twenties, Jade imagines singing a protest song as a lullaby to her hypothetical future child: 'People gonna rise like the waters, gonna calm this crisis down, hear the voice of my great granddaughters singing climate justice now.' Drawing on intergenerational relationships, Stephanie, who is in her fifties, urges environmentally conscious younger people to become parents: 'People like those that you've [the organisation] been interviewing... THEY are the ones we need to have children... Generations ahead of and behind you will be counting on you to do the right thing.' This intergenerational responsibility equates to the right kinds of people making the right mothering decisions, echoing dominant raced and classed understandings of desirable mothers and mothering (Wilkinson, 2019).

Women's hope positions mothering as a counter to the climate crisis but rarely links maternity to explicit activism, which might unsettle mothering norms (see Roseneil, 1995). While Camila, who is almost 30, says that for some of her friends, deciding not to have children is akin to 'telling the bad guys they've won', more commonly mothering is seen as undermining political activity. She thinks 'we live in this time where our actions and our values, down to just the way we are, can have such an amazing impact' and wonders if having children is 'the wrong thing to do'. She considers how a future with children might be possible: 'In a perfect world we pass the carbon tax and then we can go and have kids and live on the farm, that would be amazing.' In this vision, mothering occurs not concurrently with but after successful activism. Katie (in her early thirties) argues that being 'responsible solely to [her]self' allows her 'to do a lot of social justice, tree planting'

and volunteer with a climate lobbying organisation. She says: 'I could do that [put time and energy into my community] if I had kids but I can do it more not having kids.' Within such framings, mothering is personal, not collective and community-based, and unreferenced to a history of mothering as radical, transformative and activist (O'Reilly, 2011). While women have different expectations for their futures, they share an assumption that motherhood must be justified in the context of unsustainable climate futures, but cohabitability so far seems a dim presence in their imaginings.

Cohabitability: unsettling human relations

The potential of the climate crisis to unsettle social positions and relationships suggests the possibility that women may consider a wider array of relationships, including their connections to non-human others, in their maternal future building, gesturing towards multispecies justice in the work of ecofeminists (Gaard, 1993). They look beyond the Anthropocene, centring the needs of the natural environment over those of yet-to-be-born children and significant and generalised human others. For example, there is a serene beauty to Katie's vision, which draws on loss, guilt and hope:

So, I think about climate change, and I can get really down about saying 'Oh this beautiful monarch butterfly is going to go extinct, and it's my fault and my children, if I was going to have children, wouldn't be able to experience this.' But for me I think about the fact that there the Earth has gone through all of these mass extinctions over and over and ... the worst we can possibly do can result again in hummingbirds evolving. It's just we might not be a part of the next incarnation of hummingbirds and orchids and things like that. In the end, whatever choices we make, I like to make my choices to increase the happiness and diversity and wellbeing of people and creatures around me and I do believe in the goodness of all life. But I also have this faith that it is going to be okay. It may not be okay in the way that I want it to be okay but there will be hummingbirds.

By invoking a sense of deep time, Katie – as well as working for social justice (see above), can imagine the continuity or indeed re-emergence of non-human species and focus on 'the goodness of all life'. For her, this restores a sense of calm and hope.

For many women, the emotional reflexivity that informs their post-Anthropocene future building is centred on feeling afraid or guilty about the potential impact their children might have on the natural world. Sarah, in her mid-forties, says she 'chose not to have children first to save space and resources for other animals'. Morgan, who is in her sixties, believes 'we must leave room for bear's children, moose's children'. An anonymous 42-year-old asks: 'What kind of a wildlife steward would I be if I made more people?' Despite the network's opposition to politically and racially charged discourses of human overpopulation or overcrowding, these women speak of the need to 'leave room' for other species, of 'too many' humans, of worrying about creating 'more people'. Others' comments align with feminist critiques of populationism (Hendrixson et al, 2020) by arguing it is not the numbers of humans but 'our prevailing conduct' that is intensifying climate change. As Marnie, a mother of three, puts it:

The harm isn't in how MANY we are, it's in HOW we are. We need to face the stark realities: our appetite for meat and dairy is a primary driver of climate change that everyone ignores are we blissfully unaware, or afraid to change our personal culture and habits?

Despite recognising systemic drivers of climate change, Marnie speaks of changing 'personal culture and habits'. Many of the women recognise the need for change but remain caught within discourses that emphasise individual actions and responsibility for oneself and one's family (Neckel and Hasenfratz, 2021).

Extending notions of community and belonging to the non-human informs some future building, but there are few glimpses of women feeling their way towards cohabitability as a strategy for unsettling unsustainable social systems and mothering practices and countering climate change. Emily (in her forties) draws on joy to imagine her individual maternal and social futures:

I see joy in the celebrations, lessons, growth, love, connection in the lives I see and the people around me. This group of people should not push out other people, species or ecosystems but neither should it have to extinct itself to prevent that from happening. My society needs to learn to co-exist.

Gehad looks back to different cultural traditions in which connections to land, nature and family seem more unified. An anonymous woman, pregnant with her third child, talks of grandmothers who gutted rabbits, and 'sat at bedsides and held the hands of elders taking their last rattling breath. They knew herbs: salty and bitter ones, too. They knew how to make a life delicious.' She decides to have her child to fight 'for the continuation of life'. These expressions of cohabitability position women within wider ecosystems but still centre on humans when describing meaningful and sustainable reproduction. Gehad and the anonymous woman quoted here also highlight the limits of romanticising history and cultural traditions, with no reference to the historical exploitation of natural resources and social and ecological inequalities. Cohabitability is not absent from such testimonies but is most evident as an argument against 'too many' children at the individual and global levels, rather than as a means of building a maternal future referenced to ethics and practices that incorporate the non-human world.

Unsettling conclusions

The political, ontological and ethical repercussions of maternal future building are thrown into sharp relief when the environmental future is uncertain. For the women whose testimonies are the subject of this article, acknowledging the climate crisis unsettles maternal future building. In this unsettling, emotions are vital to 'rational' decision making. Their considerations are rationally and emotionally informed by widespread scientific projections and recommendations, which can prompt feelings of anxiety but also hope for different kinds of lives. The decisions are not easy or clear-cut. Rather, the women are emotionally reflexive, referencing science, their feelings about it and their concerns about troubling family and friends.

The concept of emotional reflexivity is central to the contribution we make here, challenging binaries between rational choice and emotions. It shows how reproductive

decision making in the face of climate change (and other responses to the crisis) is neither a 'rational' choice nor a simple, unreflexive emotional reaction to fear or risk. Even in the face of uncertain futures, emotions do not hamper thinking and planning but guide and imbue it. It is important to understand this if we are to find sustainable and not miserable collective solutions to the climate crisis. This study aids in this task by illustrating how a variety of emotions are drawn on in maternal future building, which is done with reference to the likely severe impacts of climatic shifts. Particular and situated relations to others frame these emotions.

As well as considering the feelings of significant others, the women often orient their decision making towards a generalised human other. In their testimonies, they describe feeling compromised and unsettled by the prospect of mothering given current parenting norms that impede sustainable lifestyles. As well as relationships in the present, their feelings are informed by anger at ancestors who failed to care for the environment and by their imagining of how future children may have to live with anxiety, dread and suffering. In some cases, these women imagine non-maternal or non-human futures as the way to try to mitigate climate change. Only rarely do their visions of mothering in the future imagine cohabiting with other humans and other species in ways that fundamentally unsettle the centring of human life and concerns.

Women's future building holds the potential to unsettle more deeply gendered and individualised understandings of meaningful relationships and lives. Dominant US maternal practices, reproductive imaginaries and temporalities privilege a cyclical model of human, heterosexual relationships centred on the reproduction of people and social structures (Halberstam, 2005: 1–4; Rifkin, 2017: 37; Randles, 2021). In Edelman's (2004) theorising of 'reproductive futurism', The Child is a symbol of social and political hope, with a cultural value beyond individual desire. This significance is buttressed through the normalisation of a heteronormative life trajectory, with the attendant childbearing and child raising as the path to happiness and existential meaning (Edelman, 2004; Wilkinson, 2019). Climate change unsettles reproductive futures in ways that can decentre this model of relationships. Regardless of their stated decisions to have children or not, women's recognition of the possibility of non-maternal futures challenges taken-for-granted expectations of this form of settling down in child-centred relationships.

However, the framing of reproductive dilemmas simultaneously embeds other dominant understandings of motherhood. While the epistemic community soliciting and hosting the testimonies avoids obvious manifestations of neo-Malthusianism and express demands for control of women's bodies, the available social imaginaries strongly link the climate crisis and reproductive politics. As Rukaite (2020) notes, limiting the number of children to mitigate the climate crisis uncomfortably echoes the long patriarchal history of reproduction that positions female bodies as resources or problems to be managed for the common good. The 'choice' underpinning maternal futures demands women's control of their reproductive futures – an expectation unmoored from the realities of limited and eroding reproductive justice in the US and elsewhere. Simultaneously, it has the potential to undermine that control by constructing women's bodies as a societal concern. The expectation of choice positions motherhood as a moral identity, entwined with defining women as good or bad citizens (Rukaite, 2020). This in turn echoes long-standing classed and raced judgements of reproduction, mothering and child-raising practices. Those who are seen as other to White, economically privileged and heteronormative

women are positioned as not only ‘bad mothers’ but bad environmental citizens (Wilkinson, 2019). Further, the emphasis on personal choice reinforces the dominant individualised understandings of mothering and family life in the US, which privilege settling down as a heterosexual nuclear family unit in which women are primarily responsible for the actions of themselves and their children. Thus, the emotional reflexivity through which some women construct maternal futures simultaneously unsettles the centrality of motherhood in cultures and life trajectories and settles existing structural inequalities.

While these women are exposed to alternative epistemic communities through their activism and the network, very few testimonies envision maternal futures that depart from the gendered, human-centred hegemonic model of ‘settling down’ to have a family. Their future building involves limited recognition of different cohabitation possibilities, their ecological relational ontologies remain referenced to the current dominant sociocultural framework of mothering. They are embedded in the contemporary capitalist and individualistic framework of the early 21st century US. Their climate change knowledge is informed by materialist, empirical science that typically fails to acknowledge the gendered discourses and cultural and symbolic meanings that define risks and available responses (MacGregor, 2009; 2010). As noted, the women live in a society that not only privileges but assumes a cyclical model of human relationships and defines the future in anthropocentric terms. For many, the only alternative to privatised, consumerist and environmentally unsustainable practices of mothering is not to have children – a non-normative life trajectory but not a radical reimagining of mothering or family practices.

However, there are glimpses of maternal futures that extend into cohabitability. Cohabitability can decentre human relations and challenge theories of individualisation more effectively than even the excellent attempts to understand how relations to plants and other species, as well as human relationships, inform sustainable practices (Moore et al, 2014). Thus, it can potentially unsettle practices of family and maternity based on ideas of personal responsibility for one’s children and the planet. However, more imagination is required to feel a way towards futures in which nurturing the next generation and looking after the natural environment are neither envisaged as fundamentally incompatible nor solely the responsibility of individual mothers but, rather, enfolded within practices of cohabitability in which all humans participate.

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Conflict of interest

The authors declare that there is no conflict of interest.

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