

RESEARCH ARTICLE

Challenging pronatalism is key to advancing reproductive rights and a sustainable population

Nandita Bajaj¹ and Kirsten Stade²

Abstract

Social and environmental justice organisations have silenced discourse on human overpopulation due to fear of any association with reproductive coercion, but in doing so they have failed to acknowledge the oppressive role of pronatalism in undermining reproductive autonomy. Pronatalism, which comprises cultural and institutional forces that compel reproduction, is far more widespread, and as damaging to individual liberties as attempts to limit reproduction. The failure to recognise the enormity of pronatalism has led to the wholesale abandonment of voluntary, rights-based efforts toward a sustainable population despite widespread scientific agreement that population growth is a major driver of multiple cascading environmental crises. We examine the full range of patriarchal, cultural, familial, religious, economic and political pronatalist pressures, and argue that the reluctance to address population as a driver of the ecological crisis serves the very pronatalist forces that undermine reproductive autonomy. We posit that addressing overpopulation, and the pronatalism that drives it, must be central to international conservation and development efforts to elevate reproductive rights while also promoting planetary health.

1 Population Balance, St. Paul, MN; Institute for Humane Education, Antioch University, Keene, NH.
Email: nandita.bajaj@populationbalance.org

2 Population Balance, St. Paul, MN. Email: kirsten.stade@populationbalance.org

Keywords

Pronatalism, reproductive autonomy, population, environment, fertility

Introduction

Scientists are in general agreement that human population growth, as well as unsustainable production and consumption, are the main drivers of current levels of unprecedented and likely irreversible environmental destruction. Yet, notwithstanding widespread evidence of ecological overshoot, encompassing urgent concerns such as climate change, the biodiversity crisis, the depletion of soils and material resources, desertification and growing scarcities of fresh water (Rees, 2020; Bradshaw et al., 2021; Crist et al., 2022; IPCC, 2022), there is a tendency in both popular and academic circles to ignore, minimise and dismiss population as a factor in conservation (Bajaj, 2022). Although this tendency is rooted in concern over the history of population stabilisation efforts, which included coercive measures that violated women's reproductive autonomy, it ignores the prevalence of efforts to advance reproductive freedom through voluntary family planning and contraception in the history of international population activities, as well as the overwhelming benefits of these efforts to women and the environment. It also ignores the extent to which coercive pronatalism – which comprises the social and institutional pressures to bear children – has been a far more pervasive and equally destructive force in women's lives.

In this paper, we begin by establishing the link between human population and environmental destruction, then outline the history of international interest and action toward addressing this link. We review how, since the latter half of the last century, a period of international investment in family planning intended to lower birth rates and stabilise population growth has transitioned to an era in which such efforts have been largely abandoned. Furthermore, we show how disparate forces converged at the 1994 International Conference on Population and Development (ICPD) in Cairo, Egypt to cement the shift from a direct focus on family planning to a focus on the rights of women to choose the size of their families (Kopnina and Washington, 2016; Sinding, 2016; Kuhleemann, 2019; Coole, 2021). We discuss how the shift embodied in the Cairo Consensus fails to acknowledge that reproductive choice is strongly shaped by social and institutional pressures.

We argue that these pronatalist pressures, driven by patriarchal, social, cultural, political, economic, religious and nationalistic agendas, constitute a form of

reproductive coercion that is more widespread and impactful than the coercive population stabilisation efforts of the past and present that have played in the silencing of population discourse. We conclude by arguing that acknowledging and dismantling the many forms of pronatalism, which directly drive population growth, is key to both addressing the environmental crisis and elevating reproductive rights and self-determination.

Population and environmental destruction

Runaway human population growth and unconstrained consumption have led us to a state of ecological overshoot in which we are straining Earth's ecosystems far beyond their capacity to regenerate (Rees, 2020; GFN, 2022). The climate crisis and biodiversity collapse are threatening the continuation of life on Earth, causing catastrophic upheaval to human communities and driving many already imperilled species ever closer to the brink of extinction (Crist et al., 2017; Bradshaw et al., 2021). Agriculture alone, and its rapid expansion to meet the needs of our growing population, has been identified as the primary threat to 86 per cent of the species at risk of extinction. This is no surprise, given that deforestation and habitat destruction have converted roughly 40% of the planet's ice-free land area to crop production and livestock grazing (Crist et al., 2017). The magnitude of the biodiversity crisis can perhaps best be conveyed with the fact that, since the advent of agriculture 10,000 years ago, and compounded by the Industrial Revolution and the explosion of human population growth over the past 200 years, the biomass of terrestrial vegetation has diminished by half and that of wild animals by 83 per cent. Of the total biomass of terrestrial vertebrates, 59 per cent is represented by livestock, 36 per cent by human beings, and about five per cent by wild mammals, birds, reptiles and amphibians (Bar-On et al., 2018; Bradshaw et al., 2021).

Much of this destruction is of course attributable to the consumption habits of wealthy, western populations – consumers of meat, animal products and processed foods in the developed world. But with the human population projected to increase to ten billion by the 2080s, and half of that number among the middle class by 2030, demand for these agricultural products will inevitably grow (Crist et al., 2017). Indeed, as the demographic transition occurs when human populations achieve lower fertility rates, generally after they have reached higher levels of development and thus environmental impact, it is clear that the role of population growth in multiplying the effects of consumption cannot be

dismissed (Samways, 2022). Even with respect to climate change, where the vast majority of emissions come from populations in wealthy, low fertility countries, the foremost scientific body concerned with developing solutions to climate change, the Intergovernmental Panel on Climate Change (IPCC), recognises population growth as a substantial driver (IPCC, 2022). In fact, although economic growth has been the most significant driver of the global growth in carbon emissions since 1990, Chaurasia (2020) has shown that population growth accounted for around a third of the increase in emissions, and that improvements in energy efficiency and the transition to renewable energy technologies can only offset part of the emissions increases and other negative environmental effects of growth in population and per capita wealth. In addition, even outside the developed world, the impacts on biodiversity of subsistence agriculture (Kopnina and Washington, 2016), and the bushmeat trade (Ripple et al., 2016), which are growing along with population in the developing world, are undeniably significant.

Taken together, the enormity of these challenges represents not just an existential threat to planetary ecosystems and other species but also extraordinary suffering for our own species. The loss and compromise of ecosystems the world over, changed weather patterns, sea level rise, increasing war and conflict, emerging infectious diseases, toxic waste and pollution and food and water shortages are already taking an enormous toll on human communities, especially those who are already the most impoverished (Crist et al., 2022).

The silencing of population discourse

And yet, in recent decades the international conservation and development community has entertained a deafening silence on the importance of population to environmental conservation. Particularly since the ICPD, nongovernmental organisations, academics, policymakers and others concerned with conservation and development have been reluctant to acknowledge human overpopulation as a driving force behind these challenges (Kopnina and Washington, 2016; Sinding, 2016; Kuhlemann, 2019; Coole, 2021; Tucker, 2021). As a consequence, family planning³ availability as a policy goal of international development has much diminished and has yet to recover its former prominence and funding, although

³ Here we use the term ‘family planning’ as it is commonly used as a synonym for using contraception to limit family size. We acknowledge, however, that the term privileges ‘family’ – and in particular traditional, heteronormative biological family – even though these institutions are toxic for many women.

recent years have witnessed some resurgence of interest (Bongaarts et al., 2012; Sinding, 2016).

This shift away from family planning is generally attributed to the conflation of any such efforts with reproductive coercion. Many of the architects of the Cairo Consensus, fearful of repeating the egregious human rights violations that had been committed in the name of population stabilisation, did everything in their power to centre discussions of population and development around women's health, empowerment and rights. However, as they invoked eugenics movements in the United States and Europe, India's and Puerto Rico's coercive sterilisation campaigns and China's one-child policy, they framed all previous population investment as coercive. In doing so, they dismissed the vast majority of voluntary international family planning efforts that had played a dramatic role in women's reproductive liberation in the preceding decades. In their concern to avoid undermining women's rights and autonomy, they set in motion changes that unravelled decades of progress for these very interests (Sinding 2008, 2016; Campbell and Bedford, 2009; Potts, 2014; Tucker, 2021).

In addition, seldom acknowledged is the influential role of the Vatican and other conservative ideological actors, whose active lobbying of delegates at the conference contributed to the consensus that derailed the family planning activities they opposed (Sinding, 2008; Coole, 2021; Tucker, 2021). The involvement of these actors may partially explain the failure of conference delegates to consider another major source of reproductive coercion: pervasive pronatalist forces that compel women globally to have children for familial, political, economic, religious or nationalistic reasons that undermine their own reproductive self-determination.

Oddly, though, there was little attention paid to the coercion involved in forcing women to have pregnancies they did not want, which were and continue to be today, multiples larger. The disproportionate emphasis on coercive family planning helped to develop a strategy during the ICPD process for positioning issues about pregnancy and childbearing under a broad area of health problems that are particular to women, with the new title 'reproductive health'. As this term became widely accepted, the term 'family planning' became politically incorrect to use by itself in the policy and philanthropic communities (Campbell and Bedford, 2009: 3104).

This shift brought about the cessation of an extraordinary period of international cooperation and investment, whose targeted efforts, beginning in the mid-1960s, to extend rights-based contraceptive assistance to high-fertility countries, brought about a decline in fertility rates in those countries from an average of six children per woman in 1965 to fewer than three by 2008. Following this period of intensive international assistance for voluntary family planning in the 1970s and 1980s, since 1995 international funding for family planning has decreased by 35 per cent and still falls far short of meeting the global unmet need for contraception (Sinding, 2008).

To this day, the shift in focus since the Cairo Consensus has resulted in censoring of discourse and action surrounding overpopulation as a driving force underlying increasingly urgent environmental concerns (Campbell and Bedford, 2009; Kopnina and Washington, 2016; Kuhlemann, 2019; Coole, 2021). It is aided by elements of the political left who are suspicious of any interventions for demographic purposes (Roche, 2020) and argue with some justification that the environmental impacts of high fertility populations in the developing world are a small fraction of those in wealthy nations, and that even to raise environmental concerns in association with high fertility countries amounts to 'racism' (Kopnina and Washington, 2016).

But these narratives have not just constrained our ability to address ecological degradation. They have also harmed the very women for whose benefit they are supposedly disseminated. The report arising from the Cairo Consensus stated:

All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so (UN, 1994).

This emphasis on individual rights assumes that the fertility choices made 'freely' by women and couples are actually based upon their individual preferences. It assumes that once the 'information, education, and means' for family planning are provided, individuals will make authentic reproductive choices. The 'right to choose' approach assumes that:

Free choice and voluntarism now exist and that they are marred only by incomplete distribution of contraceptives ...[It fails to take] into

account that at present, reproductive behaviour is under stringent institutional control and that this control constitutes, in many respects, a coercive pronatalist policy (Blake, 1974: 85).

Here we argue that, although continued lack of contraceptive access certainly does thwart women's reproductive empowerment – with 257 million women globally facing an unmet need for contraception, contributing to nearly half of all pregnancies being unintended (UNFPA, 2022) – it is far from the only factor impeding realisation of true reproductive autonomy.

Pronatalism exerts its influence in many forms

For a full understanding of factors impacting fertility, reproductive autonomy and population growth, we must account for the pervasiveness of pronatalism.

Pronatalism is a social bias toward having children. No doubt because of its importance to human survival as a species it operates via a wide variety of mechanisms, ranging from the subtle to the overt, and from 'freely-chosen' to the coercive. Its measures are a cheap way of ensuring that people have children. Its premise is that reproduction is normal and 'natural' (Purdy, 2019: 113).

Pronatalist assumptions and pressures permeate every aspect of life for most women in cultures across the globe. Pronatalist discourse ranges from pressures for children or grandchildren exerted by family members, to religious messaging that encourages large families while stigmatising the childfree, to political restrictions on contraceptive use and abortion bans (Bajaj, 2022). In most cultures, voluntarily childless women are considered not just abnormal but dangerous, as they pose a threat to patriarchy by defying the institution of motherhood (Rich, 1995).

The authority and force of pronatalism are based on the premise that there exists a universal biological urge to procreate. Yet, fluctuating birth rates over time and across societies indicate that any 'urge' for biological offspring is largely socially constructed (Hollingworth, 1916; Carroll, 2012). In fact, women's stated preferences for number and timing of children vary in accordance with the norms of the community in which they reside (Dasgupta and Dasgupta, 2017).

Reproductive decision making is powerfully shaped by conformity with pronatalist social norms most often upheld by patriarchal religious and community leaders, as well as by politicians with economic, nationalist or military interests in the foreground. Given that the number of children that women desire is a social construct within a hegemonic framework of pronatalism – which is, so to speak, the water in which we are swimming – we must deconstruct that cultural landscape in order to illuminate the fertility level that women anywhere in the world might truly desire outside this construct (Hollingworth, 1916; Purdy, 2019).

Familial, cultural and social pronatalism

Some of the most intense pronatalist pressures women encounter are those that originate within their own families and generally stem from a desire to maintain the family's genealogical legacy. These pressures result in extreme social stigmatisation for women who cannot or do not fulfil this expectation. In diverse cultures across the world, childlessness and struggles with fertility result in feelings of abnormality, marginalisation and stigmatisation for women (Wells and Heinsch, 2019). Childless women in cultures as diverse as India (Hussain, 2009), Ghana (Ofosu-Budu and Hanninen, 2020), Nigeria (Naab et al., 2019), Gambia (Dierickx et al., 2018), Jamaica (Sargent and Harris, 1992) Australia (Turnbull et al., 2016) and China (Fu et al., 2014) are subject to stigmatisation, social isolation, negative economic consequences and marital neglect, abuse and divorce. For rural Punjabi childless women in Pakistan, the failure to produce a child is perceived as a communicable disease that warrants social isolation (Qamar, 2018). For many women, pronatalist pressure from their partners may be so strong, and so in opposition to their own desires to limit reproduction, that they engage in covert use of contraceptives (Heck et al., 2018).

Beyond pressures from their own families, women experience powerful pressure to reproduce from popular media and culture. Product advertising is full of images that paint motherhood as idyllic, and although the motivation may be simply to sell more product, the effect is to reinforce the cultural narrative that motherhood is the only complete manifestation of womanhood (Gotlib, 2016). Women's magazines, as well as the proliferation of mommy blogs and parenting sites, glorify and sentimentalise parenthood. Celebrity gossip fixates on the latest actor or influencer to exhibit a baby bump, and popular movies and television programmes frequently use pregnancy to 'complete' the character arc of a female

protagonist (Kaklamanidou, 2018). Neoliberal feminism has only advanced this narrative, as its advocacy for women to ‘have it all’ embodies the assumption that motherhood is mandatory to fulfilment (Rottenberg, 2017). Meanwhile, seldom does popular culture glorify or even mention the experience of those who are happily childfree.

The result of this popular cultural fixation on pregnancy, motherhood and ‘family’ as defined by the presence of biological children results in the marginalisation of single adults, childfree people, LGBTQ+ people, adoptive families and families that do not include offspring (Latchford, 2019; Bajaj and Ware, 2022). Widespread religious and cultural stigma surrounding abortion, which includes public protests around abortion clinics, misinformation that conflates contraceptives with abortifacients, and the growing scarcity of abortion providers even in those countries in which it is still legal, adds to the psychological burden of women as they wade through the already emotionally fraught landscape of carrying a pregnancy to term, and constrains women’s reproductive choice and autonomy (Adair and Lozano, 2022).

One perspective that has been largely missing from these cultural narratives until recently is that of parents who regret their choice. While women without children are frequently warned of the possibility of regretting their absence – so frequently, in fact, that they may experience regret simply due to the power of suggestion (Alexander et al., 1992) – only recently has our cultural narrative begun to include the stories of those who regret being parents. A proliferation of popular media articles (e.g. Karklin, 2022; Mateo, 2022; Njoki, 2022), and sites like the popular Facebook Group ‘I Regret Having Children’ and the Reddit group ‘Regretful Parents’ has only recently begun to break through the powerful cultural taboo on parental regret, which is reinforced through societal judgement of women who defy the paradigm of women finding fulfilment in parenthood (Hollingworth, 1916; Donath, 2015). The mere existence of their regret is enough to bring extraordinary guilt and shame upon women who experience it, regardless of how completely they may love and provide for their children (Donath, 2015).

Medicalised pronatalism

Many individuals undoubtedly feel an authentic desire for children, and experience grief and loss as a result of infertility. But these feelings of inadequacy

are compounded by the enormous cultural stigma surrounding childlessness. The multi-billion dollar fertility industry has capitalised on this stigma, and contributed to the pronatalist pressures childless people experience and the sense of inferiority surrounding adoption and non-biological motherhood (Bell, 2019; Latchford, 2019).

Initially a medical specialty focused strictly on infertile couples, in-vitro fertilisation and other Assisted Reproductive Technologies (ART) in 2021 accounted for a \$25 billion global industry. While undoubtedly of enormous value in helping infertile and LGBTQ+ people realise their reproductive desires, this industry also markets itself aggressively to a much broader population, offering expanded fertility services – many of which are of dubious clinical validity (Patrizio et al., 2022). Many studies have found the websites and marketing of the industry to be full of misleading claims, while ‘survivors’ of ART endure enormous financial, emotional and physical duress (Tsigdinos, 2022). The industry continues to capitalise on the sense of ‘biological fault’ experienced by infertile women (Wells and Heinsch, 2019), successfully exploiting the cultural glorification of biological motherhood to grow at an annual rate of nine per cent, with projected growth to a global \$41 billion industry by 2026 (Patrizio et al., 2022). Meanwhile, adoption continues to decline (Bell, 2019).

This stigmatisation of infertility has allowed the industry to manufacture demand for its own services. Prior to the advent of reproductive technologies, infertility was viewed primarily as a social condition (Becker and Nachtigall, 1992). Since 1975, however, infertility has been medicalised and its definition broadened to include couples who have been trying to conceive for only one year, in contrast to the earlier criterion for diagnosis which was five years of trying to conceive without success (Madge, 2011). This medicalisation of the circumstance in which sexual intercourse does not result in pregnancy reinforces the message that there is something wrong with women and couples who do not or cannot conceive, and fuels the urgency many couples feel around becoming pregnant at all costs. The medical profession is but one particularly influential sector of a society whose bias for biological motherhood exerts powerful pressure upon women to endure great expense and physical discomfort to choose ART over adoption, which was once considered the obvious solution to infertility (Nandy, 2017; Bell, 2019; Latchford, 2019).

The notion of the 'biological clock' adds to a sense of urgency surrounding motherhood. The term first emerged in the mainstream press in the United States in the late 1970s, at a time of enormous social change where the breakdown of gender segregation, occasioned by the entry of large numbers of women into the workforce, created a need for new norms to regulate gender and reproduction along received pathways. The 'biological clock' became a culturally significant concept that helps to streamline women's lives along a traditional, culturally sanctioned pathway (Amir, 2006).

The 'biological clock' that some women claim to hear ticking is also a 'social clock' reminding them that whatever else may be going on in their lives, motherhood is their destiny, the road to social acceptance and integration (Gimenez, 2019).

While based in the biological fact of diminished fecundity as women age, the term has become a convenient trope that allows avoidance of earnest exploration of a woman's true desires in favour of invoking an urgent and time-sensitive 'biological' imperative. Yet there is no evidence of such an imperative, otherwise fertility rates all over the world would be consistent and high, and rates of childfree adults would not have climbed in recent decades in countries where women have some freedom of reproductive choice (Carroll, 2012). The longing for meaning that many women – and men – feel around midlife is attributed by a pronatalist society to the 'biological clock', when, in fact, many other experiences besides childbirth can provide the sense of meaning and purpose that is sought (Stade, 2022). The biological clock notion has conveniently been exploited by the ART industry to market technologies such as egg freezing to increasingly younger women (Wyndham et al., 2012). Meanwhile neoliberal feminism has increased demand for such technologies with its insistence that career need not come at the expense of motherhood (Rottenberg, 2017).

While medicalised pronatalism fuels a sense of urgency among women who may be ambivalent about having children, it is also used to police the fertility of women who want none. These women may find themselves unable to locate a doctor willing to perform sterilisation, instead finding only practitioners who paternalistically assure them that they will regret having made that choice (Lalonde, 2018; McQueen, 2019).

For those women who do undergo pregnancy and childbirth, medicalised pronatalism continues to exert a powerful influence over the narratives that surround those experiences. Postpartum depression has increasingly been medicalised (Regus, 2007), signalling that the sadness and regret experienced by new mothers is solely a medical condition that must be treated, rather than a rational response to the sleeplessness, physical pain, loss of autonomy and dread of a radically changed future that are part of the postpartum experience. The prominence of medicalised postpartum depression narratives in popular culture serves to marginalise true feelings of ambivalence about motherhood, undermine frank and open examination of parental regret, and ensure that it is erased from the stories that reach young people considering parenthood.

Religious pronatalism

Religion is a pervasive element of most cultures, and the majority of religious traditions have strongly pronatalist teachings. Many branches of Christianity and Islam, the two largest religions in the world, include the moral imperative to procreate in order to fulfil religious duty. Conservative Christianity exalts women who fulfil that role and the babies they produce and shames women who cannot or do not fulfil it, while also pushing for coercive measures including the Catholic ban on modern forms of contraception (Carroll, 2012; de la Croix and Dellavalde, 2018) and bans or restrictions on abortion in many countries (Graff et al., 2019).

Judaism is also at its foundation a highly pronatalist tradition, with the Biblical commandment to 'be fruitful and multiply', as well as Biblical narratives depicting the suffering of infertile women, exerting a powerful push toward procreation for religious Jews (Raucher, 2021). The Holocaust gave rise to additional pronatalist pressures, with religious leaders calling for high fertility to enable Jews to 'replenish the Earth', while in Israel a combination of nationalism, the religious establishment and patriarchal 'familism' have so strongly promoted pronatalism that Israel has one of the highest fertility rates in the industrialised world (Courbage and Portogese, 2000; Fargues, 2000; Donath, 2015).

The recent ascendancy of right-wing populism across the globe has amplified the longstanding influence of religion in perpetuating gender inequality and pronatalist cultural norms. An alliance among right-wing nationalists, populists, traditional conservatives and religious fundamentalists has enabled these elements

to rise to prominence, giving them political power in countries as diverse as the Philippines, Hungary and the United States to enact increasingly strict abortion and other pronatalist policies (Graff et al., 2019). Central to these movements is a narrative that exalts masculinity, oppresses women and LGBTQ+ communities, and hinges on traditional gender roles to fuel demographic growth of desired ethnic groups (Gökarıksel et al., 2019). In Modi's India, this narrative also invokes threats of a surging Muslim majority, when in actuality the Muslim population had remained a steady minority for over fifty years (Quraishi, 2021). A similar insidious alliance between fundamentalist religion, white-supremacist ideology and right-wing populism animates recent calls for elevated fertility in Poland (Graff et al., 2019) and among white Germans (Gökarıksel et al., 2019), and fuels rhetoric in the United States about the displacement of the White race (Farivar, 2022).

Tribal, nationalistic and state-sponsored pronatalism

Wherever religion is highly embedded in the affairs of the state, religious pronatalism may be indistinguishable from nationalistic pronatalism. In Israel, religious pronatalism serves nationalistic ends as it seeks to advance the state's goal of Jewish demographic superiority to Palestinians; this 'demographic war' with Palestinians is among the factors underlying Israel's status as the foremost user of reproductive technologies in the world, wherein the state actually finances women's use of these technologies to give birth to their first two children (Raucher, 2021; Donath et al., 2022).

Palestinian fertility is shaped by similar socio-political influences, which are encapsulated in Palestinian leader Yasser Arafat's famous quote 'the womb of the Arab woman is my strongest weapon' (Mor and Rezek, 2017). Palestinians exhibit continued high fertility patterns despite high levels of education and low levels of infant mortality, which in other developing countries are predictors of lowered fertility (Pell, 2016).

State-sponsored pronatalism for economic and political purposes is far from unique to religious states. Women's reproductive capacity is frequently used as a tool to realise demographic, economic and nationalist goals. In Romania, for example, the Ceauşescu government in 1966 responded to below-replacement fertility by restricting access to abortion while implementing a number of other pronatalist policies; these policies resulted in an immediate spike in birth rate

(Hodgson, 2013). Similarly, following the War of Independence in the early twentieth century, Turkey turned to strong pronatalist policies to increase birth rates; when high birth rates started to threaten the economy in the 1960s, the government once again intervened to legalise contraception and abortion. The highly nationalistic Erdoğan government has now reinstated abortion bans and other pronatalist policies to arrest declining fertility rates (Dayi and Karakaya, 2019; Telli et al., 2019).

In Russia, President Vladimir Putin has recently revived the Stalin-era 'Mother Heroine' award in response to low birth rates, an honour that confers a substantial cash payment to women once their tenth child turns one year old (Bridger, 2007; Pavlova and Guy, 2022). This policy builds upon long standing Soviet and post-Soviet pronatalist policies with a goal of increasing the birth rate to grow the labour force and strengthen the nation (Rivkin-Fish, 2010). In this case, as with Turkey, religion has acted in concert with nationalistic and economic concerns to amplify pronatalist policies; the Russian Orthodox Church has been heavily influential in proposals to restrict abortion (Balmforth, 2015).

Pronatalism serves economic ends by ensuring a steady supply of workers, consumers and taxpayers. Its proponents also cite the need for high fertility rates to spur innovation, based on the assumption that it will automatically spring from a larger pool of potential inventors (Corfe and Bhattacharya, 2021) – while ignoring that the women stuck caring for large broods of offspring will likely experience constraints in the realisation of their innovative spirit. Popular figures such as Elon Musk, who has nine living children of his own and 103 million followers on Twitter, contribute to pronatalist discourse with statements like 'Doing my best to help the underpopulation crisis', and 'Population collapse is the biggest threat to civilization' (Neal and Neal, 2022).

Although rapid population growth by the middle of the last century led a number of countries to adopt national policies intended to limit fertility, the emergence of ageing populations and low birth rates in the latter half of the century has led many developed countries to adopt pronatalist policies (UNDESA, 2021). Ageing populations are increasingly viewed with alarm by economists, who are apparently unable to imagine a means of supplementing social security coffers (such as, to list only the most obvious, increasing taxation of the wealthy (Götmark

et al., 2018)) that does not involve coercing or bribing women to produce ever-growing cohorts of wage earners and taxpayers (Corfe and Bhattacharya, 2021).

As fertility has declined in developed countries, state-sponsored pronatalism has reached a fever pitch. Media coverage and popular literature have fanned the flames with sensationalist coverage that frames fertility decline as a 'collapse' or 'crisis' of existential proportions (Bricker and Ibbitson, 2020; Gordon, 2022; Mitter, 2022; Wallace, 2022). British newspapers in the early 2000s framed women's reproductive decisions as a matter of responsibility to protect the nation's identity from the looming threat posed by immigrants. In Italy, coverage of low fertility rates has questioned the morality and rationality of women who make that choice (Brown and Ferree, 2005) while political candidates in the United States have raised similar questions (Bruenig, 2021).

More than fifty countries now have policies to increase birth rates. Indeed, the number of countries with explicitly pronatalist policies – ranging from tax incentives and baby bonuses to abortion bans – rose from ten per cent in 1976 to 28 per cent in 2015 (UNDESA, 2021). In Iran, following a national family planning effort that led to significantly diminished fertility by 2006, political instability and economic sanctions have brought economic hardship and renewed pronatalist policies (Farvardin, 2020). In China, whose one-child policy in place from 1980–2016 is often invoked to warn against the dangers of 'population control', a two-child policy implemented for the explicit purpose of advancing GDP growth has recently been replaced by a three-child policy (Golley, 2017; Tatum, 2021).

In Hungary, concerns about preserving national identity, particularly against the influx of refugees in 2015, have prompted state policies offering financial incentives to heterosexual couples with children, including debt reduction and tax incentives to families with three or more children (UNDESA, 2021; Fodor, 2022).

In Poland, parents receive monthly financial payments for every child after the first (Dildar, 2022), while in Japan, state intentions of raising the low national birth rate to 1.8 resulted in the appointment of an obstetrician as Special Advisor for Low Birth Rate Countermeasures and Childrearing Support from 2013–2020 (Fassbender, 2021). Child tax credits paid to the primary caregiver, and federal policies mandating maternity leave, have the effect in cultures as disparate as

Canada and India of both encouraging childbirth, and reinforcing traditional gender roles in which a married woman cares for children while her spouse continues to work (Bhambhani and Inbanathan, 2020). While child tax credits and parental leave policies can irrefutably address socioeconomic disparities and reduce child poverty, these noble intentions might obscure motivations that are fundamentally pronatalist.

Several countries are so invested in raising birth rates for nationalistic reasons that they have resorted to state sponsorship of assisted reproductive technologies. In Iran (Tremayne and Akhondi, 2016), Turkey (Gürtin, 2016), India (Madge, 2011; Nandy, 2017) and Hungary (UNDESA, 2021), in addition to Israel, state-sponsored IVF treatment is marketed to women of reproductive age to encourage them to contribute children for the strength of the nation.

While many government entities enact policies that encourage biological parenthood, most have erected enormous barriers to adoption (Nandy, 2017). In addition to the exorbitant expense, prospective adoptive parents must endure lengthy waiting periods and bureaucratic effort to adopt a child, a process that ostensibly is in place to ensure suitable adoptive parents – although none of these barriers are raised to people considering biological procreation (Latchford, 2019). Thus, the incentive structure in place militates against couples who for environmental or other reasons would prefer to take care of an already-existing needy child, instead of bringing yet another child into the world.

Restrictions on abortion are an enormous part of our intensely pronatalist cultural landscape. Globally, 26 countries – impacting five per cent of women of reproductive age – restrict abortion altogether, while another 95 countries – impacting 36 per cent of women of reproductive age – allow abortion only to save the life or health of the mother (Center for Reproductive Rights, 2022). Restrictive abortion policies, which are highly correlated with high national fertility and unintended pregnancy rates (UNDESA, 2014; Bearak et al., 2020), are increasingly likely in countries where low fertility has been achieved and has persisted.

In these countries, demographic arguments are exploited by those who oppose abortion for religious or ideological reasons. The Vatican itself has joined the chorus of voices condemning abortion for its impacts on countries' social and

economic wellbeing, calling for abortion restrictions to stave off a 'demographic winter' brought on by low fertility rates (Hodgson, 2013).

In industrialised countries, state-sponsored pronatalism most often takes the form of reproductive policies seen as 'liberal' and 'family-friendly', such as parental leave, affordable child care, and part-time work for women with children. While these policies are undoubtedly desirable from a human rights framework, for many countries, their motivation is less humanistic than demographic.

Pronatalism in marginalised and colonised populations

Pronatalism emerges in particularly complex ways in communities impacted by genocide, slavery, eugenics and colonialism. Israel's pronatalism in part proceeds from calls to repopulate following the Holocaust (Fargues, 2000). Similarly, in Black communities in the United States, pronatalism has emerged in part as a response to the eugenics movement, the later phases of which targeted Blacks with forced sterilisation in the 1950s and 1960s, and to slavery itself in which Black women's reproduction was a tool for enriching the enslavers and propagating the institution (Kerr, 2016; Bajaj and Ware, 2022). In Puerto Rico, following the US government's egregious forced sterilisation of approximately one-third of Puerto Rican women in the middle of the twentieth century, many women are now opting for voluntary sterilisation as a convenient form of permanent contraception. Some feminists have propagated the narrative that this choice is doing the work of colonists – an argument that is handily wielded by religious leaders, giving them cover to promote pronatalism as a corrective measure for past reproductive injustices (Briggs, 1998). Similarly, India's coercive family planning programme in 1975–1976 that resulted in at least eight million sterilisations has, like China's one-child policy, become an object of universal condemnation (Gwatkin, 1979). On top of the reproductive and physical abuse of those who were already the most marginalised in Indian society, this programme definitively rendered any prospective family planning discourse suspicious. The overcorrection of grievous past injustice has only fortified the existing culture of coercive pronatalism that persists throughout much of India.

Suppression of population efforts has harmed women

It is clear that the many ways in which pronatalism permeates our political and cultural landscape have an undeniable impact on the fertility decisions made

by individuals, and on the population growth that results from these collective decisions – and hence on our increasingly urgent environmental predicament.

But it is also abundantly clear that the Cairo Consensus' de-emphasis on population and demographic concerns, the consequent withdrawal of support for family planning, and the ongoing denial of the importance of population stabilisation and reduction, have been harmful to the women and vulnerable populations it was intended to serve. Targeted aid to provide access to family planning, in addition to its success in increasing contraceptive use and reducing fertility, has been found to reduce maternal deaths, improve women's health and autonomy, increase household earnings, pre-empt conflict and political instability and reduce poverty (Bongaarts et al., 2012; Potts, 2014). Nearly all future population growth will occur in less developed countries, where women's status is already poor. Rapid population growth is producing large numbers of poorly educated youth in these countries, with little hope of improved economic prospects – conditions that are likely to increase violence and conflict, complicate governance and worsen the lives of women. It also degrades the natural environment and ecosystem services that are so vital to quality of life, especially for vulnerable populations in the developing world (Potts, 2014; Kopnina and Washington, 2016).

While criticism of family planning for demographic ends arises from an abundance of caution to avoid any hint of reproductive coercion preventing women from bearing children they want, there has been little attention to the much greater prevalence of reproductive coercion in the opposite direction: pronatalism that forces women to bear children they may not want. The suppression of the population conversation and of funding for family planning have directly abetted these pronatalist forces by denying women the means to plan their desired family size (Kopnina and Washington, 2016).

Contrary to the assumptions of those who demonise open discourse and advocacy surrounding family planning, there is every indication that the small family size it enables is itself a benefit for women. In cultures where improved education and contraceptive access for women has resulted in lowered fertility, staggering amounts of national investment in pronatalist incentives are insufficient to compel women to go back to the high fertility rates they have left behind. Countries such as Iran (Tremayne and Akhondi, 2016), China (Golley, 2017) and Japan (UNDESA, 2015) achieved lowered fertility as a result of improved conditions for women

and access to family planning, and are attempting unsuccessfully to convince women to reverse the trend. The failure of these attempts to produce the desired demographic goals does not mitigate the harm to women's autonomy and reproductive health of increasingly coercive pronatalist measures.

This failure suggests that the 'free and responsible' reproductive choices championed by the Cairo Consensus tend, in the presence of real reproductive and economic autonomy for women, toward lower fertility, a choice that has been described as women's 'latent desire' for fewer children (Campbell and Bedford, 2009).

Meanwhile, the diminishment of funding for contraception and reproductive healthcare services has denied women the ability to realise their latent desire. Contrary to the dominant discourse that 'population control' is what must be minimised to achieve reproductive autonomy, given current realities, a far more useful pursuit might be a project to neutralise pronatalism (Purdy, 2019) in addition to restoring direct efforts toward universal provision of family planning.

Conclusion

Taken together, pronatalist messages and policies, and religious, social and cultural constraints are an enormous force limiting the autonomy of reproductive decisions in the world today. These pressures complicate and belie the notion, invoked at the ICPD, that any choice about the number and spacing of children can be considered 'free'.

In an environment so shaped by pronatalism, that 'choice' is a poor foundation for reproductive policy discussions and women's rights. And by silencing discussions about overpopulation, representatives of the international environmental conservation and development community are themselves carrying water for pronatalist and patriarchal forces that insist women's primary and inarguable function is to bear children.

While the population taboo arises from a worthy concern for women's reproductive rights that have so frequently been subjugated to other concerns deemed more pressing, we do women no favours by refusing critical examination of population growth and its root causes. On the contrary, frank discussions of the role of population size and growth in causing environmental destruction –

along with healthy policy discourse on how best to neutralise the pronatalist forces that undermine reproductive autonomy – are essential to full realisation of reproductive rights as well as environmental sustainability across the globe.

Acknowledgements

The authors wish to express their profound gratitude to Dr Kristyn Brandi, Dr Eileen Crist, Dr Philip Cafaro, Dr Orna Donath, Robert Engelman, Dr Laura Purdy, Dr David Samways, the Editor, and to the anonymous reviewers for their critical comments and immense input in reviewing this paper.

References

Adair, L. and N. Lozano. 2022. 'Adaptive choice: Psychological perspectives on abortion and reproductive freedom'. *Women's Reproductive Health* 9 (1): 1–26. <https://doi.org/10.1080/23293691.2021.1999624>.

Alexander, B.B., R.L. Rubinstein, M. Goodman and M. Luborsky. 1992. 'A path not taken: A cultural analysis of regrets and childlessness in the lives of older women'. *The Gerontologist*, 32 (5): 618–626. <https://doi.org/10.1093/geront/32.5.618>.

Amir, M. 2006. 'Bio-temporality and social regulation: The emergence of the biological clock'. *Polygraph: An International Journal of Culture and Politics* 18: 47–72.

Bajaj, N. 2022. 'Dismissal of "population alarmism" is rooted in pronatalist ideology'. *In-Depth News*, 3 November. <https://www.indepthnews.net/index.php/opinion/5709-dismissal-of-population-alarmism-is-rooted-in-pronatalist-ideology> (accessed 5 November 2022).

Bajaj, N. and A. Ware (Hosts). 2022. 'Dr. Kimya Nuru Dennis: The unique challenges of being Black and childfree'. (No. 75) [Audio podcast episode] In *The Overpopulation Podcast. Population Balance*, 24 May. <https://www.populationbalance.org/episode-75-the-unique-challenges-of-being-black-and-childfree> (accessed 1 September 2022).

Balmforth, T. 2015. 'Russian patriarch calls for abortion curbs, touts conservative values'. *Radio Free Europe Documents and Publications*, 22 January. <https://www.rferl.org/a/russia-religion-patriarch-abortion/26807767.html> (accessed 1 September 2022).

- Bar-On, Y.M., R. Phillips and R. Milo. 2018. 'The biomass distribution on Earth'. *Proceedings of the National Academy of Sciences* **115** (25): 6506–6511. <https://doi.org/10.1073/pnas.1711842115>.
- Bearak, J., A. Popinchalk, B. Ganatra, A.-B. Moller, Ö. Tunçalp, C. Beavin, L. Kwok and L. Alkema. 2020. 'Unintended pregnancy and abortion by income, region, and the legal status of abortion: Estimates from a comprehensive model for 1990–2019'. *The Lancet Global Health*, **8** (9). [https://doi.org/10.1016/s2214-109x\(20\)30315-6](https://doi.org/10.1016/s2214-109x(20)30315-6).
- Becker, G. and R.D. Nachtigall. 1992. 'Eager for medicalisation: The social production of infertility as a disease'. *Sociology of Health and Illness* **14** (4): 456–471. <https://doi.org/10.1111/1467-9566.ep10493093>.
- Bell, A.V. 2019. 'Trying to have your own first; it's what you do: The relationship between adoption and medicalized infertility'. *Qualitative Sociology* **42** (3): 479–498. <https://doi.org/10.1007/s11133-019-09421-3>.
- Bhambhani, C. and A. Inbanathan. 2020. 'Examining a non-conformist choice: The decision-making process toward being childfree couples'. *International Journal of Sociology* **50** (5): 339–368. <https://doi.org/10.1080/00207659.2020.1797265>.
- Blake, J. 1972. 'Coercive pronatalism and American population policy' in R. Parke Jr. and C. Westoff (eds), *Aspects of Population Growth Policy* pp. 85–108. Washington, DC: US Commission on Population Growth and the American Future, USGPO.
- Bongaarts, J., J. Cleland, J. Townsend, J. Bertrand and M. Gupta. 2012. 'Executive summary – family planning programs for the 21st Century: Rationale and design'. <https://doi.org/10.31899/rh11.1017>.
- Bradshaw, C.J., P.R. Ehrlich, A. Beattie, G. Ceballos, E. Crist, J. Diamond, R. Dirzo, A.H. Ehrlich, J. Harte, M.E. Harte, G. Pyke, P.H. Raven, W.J. Ripple, F. Saltré, C. Turnbull, M. Wackernagel and D.T. Blumstein. 2021. 'Underestimating the challenges of avoiding a ghastly future'. *Frontiers in Conservation Science* **1**. <https://doi.org/10.3389/fcosc.2020.615419>.
- Bricker, D.J. and J. Ibbitson. 2019. *Empty Planet: The Shock of Global Population Decline*. First ed. New York: Crown.

Bridger, S. 2007. 'Heroine mothers and demographic crises: The legacy of the late Soviet era'. In R. Kay (ed.), *Gender, Equality and Difference During And After State Socialism. Studies in Central and Eastern Europe*, pp. 105–122. London: Palgrave Macmillan. https://doi.org/10.1057/9780230590762_6.

Briggs, L. 1998. 'Discourses of "forced sterilization" in Puerto Rico: The problem with the speaking subaltern'. *Differences* 10 (2): 30–66. <https://doi.org/10.1215/10407391-10-2-30>.

Brown, J.A. and M.M. Ferree. 2005. 'Close your eyes and think of England'. *Gender & Society* 19 (1): 5–24. <https://doi.org/10.1177/0891243204271222>.

Bruenig, E. 2021. 'Invasion of the baby-haters'. *The Atlantic*, 11 August. <https://www.theatlantic.com/ideas/archive/2021/08/jd-vance-childless-left-culture-wars/619705/> (accessed 1 September 2022).

Campbell, M. and K. Bedford. 2009. 'The theoretical and political framing of the population factor in development'. *Philosophical Transactions of the Royal Society B: Biological Sciences* 364 (1532): 3101–3113. <https://doi.org/10.1098/rstb.2009.0174>.

Carroll, L. 2012. *The Baby Matrix: Why Freeing Our Minds From Outmoded Thinking About Parenthood & Reproduction Will Create a Better World*. United States: LiveTrue Books.

Center for Reproductive Rights. 2022. The World's Abortion Laws. <https://reproductiverights.org/maps/worlds-abortion-laws/> (accessed 1 September 2022).

Chaurasia, A. 2020. 'Population effects of increase in world energy use and CO2 emissions: 1990–2019'. *The Journal of Population and Sustainability* 5 (1): 87–125. <https://doi.org/10.3197/jps.2020.5.1.87>.

Coole, D. 2021. 'The toxification of population discourse. A genealogical study' *The Journal of Development Studies* 57 (9): 1454–1469. <https://doi.org/10.1080/00220388.2021.1915479>.

Corfe, S. and A. Bhattacharya. 2021. 'Baby bust and baby boom: Examining the liberal case for pronatalism'. *Social Market Foundation*. <https://www.smf.co.uk/publications/baby-bust-and-baby-boom/> (accessed 1 September 2022).

- Courbage, Y. and J. Portugese. 2000. 'Fertility policy in Israel. The Politics of Religion, gender, and nation'. *Population (French Edition)* **55** (2): 401. <https://doi.org/10.2307/1535043>.
- Crist, E., C. Mora and R. Engelman. 2017. 'The interaction of human population, food production, and biodiversity protection'. *Science* **356** (6335): 260–264. <https://doi.org/10.1126/science.aal2011>.
- Crist, E., W.J. Ripple, P.R. Ehrlich, W.E. Rees and C. Wolf. 2022. 'Scientists' warning on population'. *Science of The Total Environment* **845**: 157166. <https://doi.org/10.1016/j.scitotenv.2022.157166>.
- Dasgupta, A. and P. Dasgupta. 2017. 'Socially embedded preferences, environmental externalities, and reproductive rights'. *Population and Development Review* **43** (3): 405–441. <https://doi.org/10.1111/padr.12090>.
- Dayi, A. and E. Karakaya. 2021. 'Neoliberal health restructuring, rising conservatism and reproductive rights in Turkey: Continuities and changes in rights violations', in A. Dayi, S. Topçu and B. Yazar (eds), *The Politics of the Female Body in Contemporary Turkey: Reproduction, Maternity, Sexuality*, pp. 17–42]. London: I.B. Tauris. <https://doi.org/10.5040/9780755617432.ch-001>.
- de la Croix, D. and C. Delavallade. 2018. 'Religions, fertility, and growth in Southeast Asia'. *International Economic Review* **59** (2): 907–946. <https://doi.org/10.1111/iere.12291>.
- Dierickx, S., L. Rahbari, C. Longman, F. Jaiteh and G. Coene. 2018. "'I am always crying on the inside": A qualitative study on the implications of infertility on women's lives in urban Gambia'. *Reproductive Health* **15** (1). <https://doi.org/10.1186/s12978-018-0596-2>.
- Dildar, Y. 2022. 'The effect of pronatalist rhetoric on women's fertility preferences in Turkey'. *Population and Development Review* **48** (2): 579–612. <https://doi.org/10.1111/padr.12466>.
- Donath, O. 2015. 'Regretting motherhood: A sociopolitical analysis'. *Signs: Journal of Women in Culture and Society* **40** (2): 343–67. <https://doi.org/10.1086/678145>.
- Donath, O., N. Berkovitch and D. Segal-Engelchin. 2022. "'I kind of want to want": Women who are undecided about becoming mothers'. *Frontiers in Psychology* **13**. <https://doi.org/10.3389/fpsyg.2022.848384>.

Fargues, P. 2000. 'Protracted national conflict and fertility change: Palestinians and Israelis in the twentieth century'. *Population and Development Review* **26** (3): 441–82. <https://doi.org/10.1111/j.1728-4457.2000.00441.x>.

Farvardin. 2020. 'Reproductive politics in Iran: State, family, and women's practices in postrevolutionary Iran'. *Frontiers: A Journal of Women Studies* **41** (2): 26. <https://doi.org/10.5250/fronjwomestud.41.2.0026>.

Farivar, M. 2022. 'What is the Great Replacement Theory?' *Voice of America*, 18 May. <https://www.voanews.com/a/what-is-the-great-replacement-theory-/6578349.html> (accessed 1 September 2022).

Fassbender, I. 2021. *Active Pursuit of Pregnancy: Neoliberalism, Postfeminism and the Politics of Reproduction in Contemporary Japan*. Leiden: Brill. https://doi.org/10.1163/9789004499553_007.

Fodor, Éva. 2022. *The Gender Regime of Anti-liberal Hungary*. London: Palgrave Macmillan.

Fu, B., N. Qin, L. Cheng, G. Tang, Y. Cao, C. Yan, X. Huang, P. Yan, S. Zhu and J. Lei. 2015. 'Development and validation of an infertility stigma scale for Chinese women'. *Journal of Psychosomatic Research* **79** (1): 69–75. <https://doi.org/10.1016/j.jpsychores.2014.11.014>.

GFN. 2022. 'Measure what you treasure'. Global Footprint Network <https://www.footprintnetwork.org/> (accessed 1 September 2022).

Gimenez, M.E. 2019. *Marx, Women, and Capitalist Social Reproduction: Marxist Feminist Essays*. Chicago: Haymarket Books.

Golley, J. 2017. 'Population and the economy: The ups and downs of one and two'. *China Story Yearbook 2016: Control*. Canberra: The Australian National University, ANU Press. <https://doi.org/10.22459/csy.06.2017.03>.

Gordon, N. 2022. 'China's population will start shrinking sooner than expected, threatening its economy years ahead of schedule'. *Fortune*, 25 July. <https://fortune.com/2022/07/25/china-population-decline-collapse-crisis-2025-sooner> (accessed 1 September 2022).

Gotlib, A. 2016. "'But you would be the best mother": Unwomen, counterstories, and the motherhood mandate'. *Journal of Bioethical Inquiry* **13** (2): 327–347. <https://doi.org/10.1007/s11673-016-9699-z>.

Graff, A., R. Kapur and S.D. Walters. 2019. 'Introduction: Gender and the rise of the global right'. *Signs: Journal of Women in Culture and Society* **44** (3): 541–560. <https://doi.org/10.1086/701152>.

Gwatkin, D. R. 1979. 'Political will and family planning: The implications of India's emergency experience'. *Population and Development Review* **5** (1): 29. <https://doi.org/10.2307/1972317>.

Gökarıksel, B., C. Neubert and S. Smith. 2019. 'Demographic fever dreams: Fragile masculinity and population politics in the rise of the global right'. *Signs: Journal of Women in Culture and Society* **44** (3): 561–87. <https://doi.org/10.1086/701154>.

Götmark, F., P. Cafaro and J. O'Sullivan. 2018. 'Aging human populations: Good for us, good for the Earth'. *Trends in Ecology & Evolution* **33** (11): 851–62. <https://doi.org/10.1016/j.tree.2018.08.015>.

Gürtin, Z.B. 2016. 'Patriarchal pronatalism: Islam, secularism and the conjugal confines of Turkey's IVF boom'. *Reproductive Biomedicine & Society Online*, **2**: 39–46. <https://doi.org/10.1016/j.rbms.2016.04.005>.

Heck, C.J., S.A. Grilo, X. Song, T. Lutalo, N. Nakyanjo and J.S.Santelli. 2018. 'It is my business: A mixed-methods analysis of covert contraceptive use among women in Rakai, Uganda'. *Contraception* **98** (1): 41–46. <https://doi.org/10.1016/j.contraception.2018.02.017>.

Hodgson, D. 2013. 'How problematic will liberal abortion policies be for pronatalist countries?', in A. Kulczycki (ed.), *Critical Issues in Reproductive Health*, pp. 153–176. Heidelberg: Springer Dordrecht. https://doi.org/10.1007/978-94-007-6722-5_8.

Hollingworth, L.S. 1916. 'Social devices for impelling women to bear and rear children'. *American Journal of Sociology* **22** (1): 19–29. <https://doi.org/10.1086/212572>.

Hussain, S. 2009. 'Motherhood and female identity: Experiences of childless women of two religious communities in India'. *Asian Journal of Women's Studies* **15** (3): 81–108. <https://doi.org/10.1080/12259276.2009.11666074>.

IPCC, 2022: *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van

Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.]. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781009157926>.

Kaklamanidou, B.-D. 2018. 'The voluntarily childless heroine: A postfeminist television oddity'. *Television & New Media* **20** (3): 275–293. <https://doi.org/10.1177/1527476417749743>

Karklin, D. 2022. 'The women who wish they weren't mothers: An unwanted pregnancy lasts a lifetime'. *The Guardian*, 16 July. <https://www.theguardian.com/lifeandstyle/2022/jul/16/women-who-wish-they-werent-mothers-roe-v-wade-abortion> (accessed 1 September 2022).

Kerr, C.-G. 2016. *How Pronatalism Became Black: The Path from Black Antinatalism to Black Pronatalism*. Amherst: Amherst College.

Kopnina, H. and H. Washington. 2016. 'Discussing why population growth is still ignored or denied'. *Chinese Journal of Population Resources and Environment* **14** (2): 133–143. <https://doi.org/10.1080/10042857.2016.1149296>.

Kuhlemann, K. 2019. 'The elephant in the room', in N. Almiron and J. Xifra (eds), *Climate Change Denial and Public Relations: Strategic Communication and Interest Groups in Climate Inaction*, pp. 74–99. London: Taylor & Francis. <https://doi.org/10.4324/9781351121798-6>.

Lalonde, D. 2018. 'Regret, shame, and denials of women's voluntary sterilization'. *Bioethics* **32** (5): 281–88. <https://doi.org/10.1111/bioe.12431>.

Latchford, F.J. 2019. *Steeped In Blood: Adoption, Identity, and the Meaning of Family*. Montreal: McGill-Queen's University Press.

Madge, V. 2011. 'Infertility, women and assisted reproductive technologies'. *Indian Journal of Gender Studies* **18** (1): 1–26. <https://doi.org/10.1177/097152151001800101>.

Mateo, D. 2022. "I had no choice": The people who regret becoming parents'. *Neptune Pine*, 16 July. <https://neptunepine.com/i-had-no-choice-the-people-who-regret-becoming-parents/> (accessed 1 September 2022).

McQueen, P. 2019. 'A defence of voluntary sterilisation'. *Res Publica* **26** (2): 23755. <https://doi.org/10.1007/s11158-019-09439-y>.

- Mitter, R. 2022. 'Baby bust: China's looming demographic disaster'. *The Spectator*, 6 August. <https://www.spectator.co.uk/article/baby-bust-chinas-looming-demographic-disaster> (accessed 1 September 2022).
- Mor, T. and Y. Rezek. 2017. 'Pro-natalism policy, demography and democracy – Nonlinear Dynamics Analysis'. *Proceedings of the 2nd International Conference on Complexity, Future Information Systems and Risk*. <https://doi.org/10.5220/0006367301240129>.
- Naab, F., Y. Lawali and E.S. Donkor. 2019. "'My mother in-law forced my husband to divorce me": Experiences of women with infertility in Zamfara State of Nigeria' *PLOS ONE* **14** (12). <https://doi.org/10.1371/journal.pone.0225149>.
- Nandy, A. 2017. *Motherhood and Choice: Uncommon Mothers, Childfree Women*. New Delhi: Zubaan.
- Neal, Z.P. and J.W. Neal. 2022. 'More than 1 in 5 Us adults don't want children'. *The Conversation*, 3 August. <https://theconversation.com/more-than-1-in-5-us-adults-dont-want-children-187236> (accessed 1 September 2022).
- Njoki, L. 2022. 'The brutally honest truth about having kids that no one tells you'. *The Good Men Project*, 19 July. <https://goodmenproject.com/featured-content/the-brutally-honest-truth-about-having-kids-that-no-one-tells-you/> (accessed 1 September 2022).
- Ofori-Budu, D. and V. Hanninen. 2020. 'Living as an infertile woman: The case of southern and northern Ghana'. *Reproductive Health* **17** (1). <https://doi.org/10.1186/s12978-020-00920-z>.
- Patrizio, P., D.F. Albertini, N. Gleicher and A. Caplan. 2022. 'The Changing World of IVF: The pros and cons of new business models offering assisted reproductive technologies'. *Journal of Assisted Reproduction and Genetics* **39** (2): 305–13. <https://doi.org/10.1007/s10815-022-02399-y>.
- Pavlova, U. and J. Guy. 2022. 'Putin revives Stalin-era "Mother Heroine" award for women with 10 children'. *CNN*, 18 August. <https://www.cnn.com/2022/08/18/europe/putin-mother-heroine-award-decree-intl/index.html> (accessed 1 September 2022).

Pell, S. 2016. 'Reproductive decisions in the lives of West Bank Palestinian women: Dimensions and contradictions'. *Global Public Health* **12** (2): 135–55. <https://doi.org/10.1080/17441692.2016.1151541>.

Potts, M. 2014. 'Getting family planning and population back on track'. *Global Health: Science and Practice* **2** (2): 145–51. <https://doi.org/10.9745/ghsp-d-14-00012>.

Purdy, L. M. 2019. 'Pronatalism is violence against women: The role of genetics', in W. Teays (ed.), *Analyzing Violence Against Women*. pp. 113–29. Switzerland: Springer Nature. https://doi.org/10.1007/978-3-030-05989-7_9.

Qamar, A.H. 2018. 'The social value of the child and fear of childlessness among rural Punjabi women in Pakistan'. *Asian Journal of Social Science* **46** (6): 638–67. <https://doi.org/10.1163/15685314-04606003>.

Quraishi, S.Y. 2021. *The Population Myth: Islam, Family Planning and Politics in India*. Uttar Pradesh, India: HarperCollins.

Raucher, M. 2021. 'Jewish pronatalism: Policy and praxis'. *Religion Compass* **15** (7). <https://doi.org/10.1111/rec3.12398>

Rees, W.E. 2020. 'Ecological economics for humanity's plague phase'. *Ecological Economics* **169**: 106519. <https://doi.org/10.1016/j.ecolecon.2019.106519>.

Regus, P. 2007. 'The Emerging Medicalization of Postpartum Depression: Tightening the Boundaries of Motherhood'. Thesis, Georgia State University. <https://doi.org/10.57709/1062357>.

Rich, A. 1995. *Of Woman Born: Motherhood as Experience and Institution*. United Kingdom: W.W. Norton and Company.

Ripple, W.J., K. Abernethy, M.G. Betts, G. Chapron, R. Dirzo, M. Galetti, T. Levi, P.A. Lindsey, D.W. Macdonald, B. Machovina, T.M. Newsome, C.A. Peres, A.D. Wallach, C. Wolf, and H. Young. 2016. 'Bushmeat hunting and extinction risk to the world's mammals'. *Royal Society Open Science* **3** (10): 160498. <https://doi.org/10.1098/rsos.160498>.

Rivkin-Fish, M. 2010. 'Pronatalism, gender politics, and the renewal of family support in Russia: Toward a feminist anthropology of maternity capital'. *Slavic Review* **69** (3): 701–24. <https://doi.org/10.1017/s0037677900012201>.

- Roche, J. 2020. 'Marx, population and freedom'. *The Journal of Population and Sustainability* **5** (1): 31–46. <https://doi.org/10.3197/jps.2020.5.1.31>.
- Rottenberg, C. 2017. 'Neoliberal feminism and the future of human capital'. *Signs: Journal of Women in Culture and Society* **42** (2): 329–48. <https://doi.org/10.1086/688182>.
- Samways, D. 2022. 'Population and sustainability: Reviewing the relationship between population growth and environmental change'. *The Journal of Population and Sustainability* **6** (1): 15–41. <https://doi.org/10.3197/JPS.63772239426891>.
- Sargent, C. and M. Harris. 1992. 'Gender ideology, childrearing, and child health in Jamaica'. *American Ethnologist* **19** (3): 523–37. <https://doi.org/10.1525/ae.1992.19.3.02a00060>.
- Sinding, S.W. 2008. 'What has happened to family planning since Cairo and what are the prospects for the future?' *Contraception* **78** (4). <https://doi.org/10.1016/j.contraception.2008.03.019>.
- Sinding, S.W. 2016. 'Reflections on the changing nature of the population movement'. *The Journal of Population and Sustainability* **1** (1): 7–14. <https://doi.org/10.3197/jps.2016.1.1.7>.
- Stade, K. 2022. 'I am not a slave to the biological clock'. *Ms. Magazine*, 11 July. <https://msmagazine.com/2022/07/11/women-biological-clock-child-free-world-population-day/> (accessed 1 September 2022).
- Tatum, M. 2021. 'China's three-child policy'. *The Lancet* **397** (10291): 2238. [https://doi.org/10.1016/s0140-6736\(21\)01295-2](https://doi.org/10.1016/s0140-6736(21)01295-2).
- Telli, P., T. Cesuro lu and F.T. Aksu. 2019. 'How do pronatalist policies impact women's access to safe abortion services in Turkey?' *International Journal of Health Services* **49** (4): 799–816. <https://doi.org/10.1177/0020731419855877>
- Tremayne, S. and M.M. Akhondi. 2016. 'Conceiving IVF in Iran'. *Reproductive Biomedicine & Society Online* **2**: 62–70. <https://doi.org/10.1016/j.rbms.2016.07.002>.
- Tsigdinos, P.M. 2021. 'An IVF survivor unravels "fertility" industry narratives'. *Journal of Marketing Management* **38** (5–6): 443–59. <https://doi.org/10.1080/0267257x.2021.2003847>

Tucker, C. 2021. 'It's time to revisit the Cairo consensus'. *The Journal of Population and Sustainability* 5 (2): 63–73. <https://doi.org/10.3197/jps.2021.5.2.63>.

Turnbull, B., M.L. Graham and A.R. Tabet. 2016. 'Pronatalism and social exclusion in Australian society: Experiences of women in their reproductive years with no children'. *Gender Issues* 34 (4): 333–54. <https://doi.org/10.1007/s12147-016-9176-3>.

UN. 1994. *Report of the International Conference on Population and Development*. United Nations: https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/icpd_en.pdf (accessed 1 September 2022).

UNDESA. 2014. *Abortion Policies and Reproductive Health Around the World*. United Nations Department of Economic and Social Affairs: <https://www.un.org/en/development/desa/population/publications/pdf/policy/AbortionPoliciesReproductiveHealth.pdf> (accessed 1 September 2022).

UNDESA. 2015. *Government Response to Low Fertility in Japan*. United Nations Department of Economic and Social Affairs: https://www.un.org/en/development/desa/population/events/pdf/expert/24/Policy_Briefs/PB_Japan.pdf (accessed 1 September 2022).

UNDESA. 2021. *World Population Policies 2021: Policies Related to Fertility*. United Nations Department of Economic and Social Affairs: https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesa_pd_2021_wpp-fertility_policies.pdf (accessed 1 September 2022).

UNFPA. 2022. *Nearly Half of All Pregnancies Are Unintended – a Global Crisis, Says New UNFPA Report*. United Nations Population Fund: <https://www.unfpa.org/press/nearly-half-all-pregnancies-are-unintended-global-crisis-says-new-unfpa-report#> (accessed 1 September 2022).

Wallace, T. 2022, 'Europe faces ageing population nightmare in absolute collapse'. *The Telegraph*, 13 July. <https://www.telegraph.co.uk/business/2022/07/13/europe-faces-ageing-population-nightmare-absolute-collapse/> (accessed 1 September 2022).

Wells, H. and M. Heinsch. 2019. 'Not yet a woman: The influence of socio-political constructions of motherhood on experiences of female infertility'. *The British Journal of Social Work* 50 (3): 890–907. <https://doi.org/10.1093/bjsw/bcz077>.

Wyndham, N., P.G. Marin Figueira and P. Patrizio. 2012. 'A persistent misperception: Assisted reproductive technology can reverse the aged biological clock'. *Fertility and Sterility* 97 (5): 1044–47. <https://doi.org/10.1016/j.fertnstert.2012.02.015>.