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PEER REVIEWED ARTICLE

Public Perceptions on Population: US Survey Results

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Abstract

The Center for Biological Diversity conducted a paid, self-selected, national online survey on the knowledge, attitudes, behavioural intentions and norms around population growth to inform a theory of change that highlights education and reproductive healthcare as solutions. We surveyed 899 people across the US. The sample was recruited via MTurk and Survey Monkey was used to collect the data. Results were segmented by demographics to assist in building culturally sensitive, inclusive and effective campaigns advocating for rights-based solutions to population growth. Results demonstrated that the public draws a correlation between the number of people on the planet and the alarming rate of animal extinction.

Keywords: population; wildlife; perceptions; survey; segmentation

Background

Our growing population is taking a devastating toll on wildlife and the environment (Bologna and Aquino, 2020). The effects can be seen on the climate (Stephenson et al., 2010), ecosystems (O'Bryan et al., 2020) and biodiversity (Ceballos et al., 2015). Over the past fifty years, as human populations have doubled, wildlife populations have plummeted by more than half (World Wildlife

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Fund, 2020). Human population pressure imperils wild plants and animals and the habitat they need to survive in myriad ways, including agriculture, grazing, fossil fuel development, logging, urban sprawl, climate change, invasive species and pollution (Czech et al., 2000; Díaz et al., 2019; Ganivet, 2019; World Wildlife Fund, 2020). Researchers have warned that, in order to avoid climate catastrophe and disastrous biodiversity loss, we must slow population growth and decrease consumption (Ripple et al., 2017; Díaz et al., 2019; Bradshaw et al., 2021).

Currently over 200,000 people are added to the planet every day, but the rate of growth varies by region. Europe has the lowest total fertility rate of 1.61 children per woman, followed by North America (1.75), Latin American and the Caribbean (2.04), Asia (2.15), Oceania (2.36) and Africa (4.44) (United Nations, Department of Economic and Social Affairs, 2019). Meanwhile, a 2019 UN report on biodiversity loss says a million species are at risk of extinction in the coming decades due to human activity (United Nations, 2019). Fifty per cent of the world's habitable land has been converted for crops or grazing (Ritchie and Roser, 2019) contributing to a 68 per cent reduction in wildlife population sizes across the globe since 1970 (World Wildlife Fund, 2020).

There is little doubt that humans are responsible for the species extinction crisis we are currently experiencing. While our impact has accelerated since industrialisation (Ceballos et al., 2015), with 94 per cent of species loss occurring in just the past century (Ceballos et al., 2020), this is not a new phenomenon. Human colonisation patterns can serve as predictors of increased extinction rates going back thousands of years (Andermann et al., 2020). The presence of people affects wildlife in positive and negative ways. In response to the sounds of humans, pumas left their prey, took longer to return to their prey and reduced their overall feeding time by more than half (Smith et al., 2017). Similarly, hearing humans affected badgers' feeding regimes – when they started, their vigilance, time spent foraging and number of badgers feeding (Clinchy et al., 2016). Such responses have cascading implications for whole ecosystems. Alternatively, land managed by Indigenous people and local communities can help maintain biodiversity and experience a lower decline in nature compared to other areas (Díaz et al., 2019). Traditional practices of species-diverse farming, habitat restoration and prevention of deforestation and other extractive processes help protect ecosystems (Díaz et al., 2019; Project Drawdown, 2020).

Our addiction to fossil fuels, massive habitat destruction and unsustainable consumption not only drives the extinction and climate crises but also disproportionately harms Black, Indigenous and other communities of colour that face outsized threats to their air, drinking water and neighbourhoods (Sellers, 2020). The disparity between those contributing to climate change via carbon dioxide emissions and those experiencing the effects most drastically is also seen on the global scale. The impact of a region is rarely proportional to its population size. North America makes up five per cent of the global population but is responsible for nineteen per cent of consumption-based carbon dioxide emissions, which includes direct emissions, plus the emissions caused by the production of imported goods and minus the emissions of exported goods. Asia has sixty per cent of the global population and is responsible for 52 per cent of emissions, and Europe has ten per cent of the global population and is responsible for eighteen per cent of emissions. In the regions threatened by some of the worst impacts of climate change, such as sea-level rise and high temperatures, emissions are significantly lower particularly in relation to population. Latin America and the Caribbean has nine per cent of global population and six per cent of emissions, Africa has sixteen per cent and three per cent respectively, and Oceania just 0.5 per cent of population and 1.3 per cent of global emissions (Le Quéré et al., 2018; Ritchie and Roser, 2020).

Affluence influences consumption, both individually and systemically, and has been deemed an environmental threat in and of itself, inspiring dedicated warnings from experts (Wiedmann et al., 2020). A country's affluence expands its impact beyond its own borders. The land and ocean footprint of nations increased by a third for each doubling of income. This increase came primarily from imports, which grew proportionally to income, demonstrating the disproportionate global environmental and economic impact wealthier countries have because of higher consumption (Weinzettel et al., 2013). Consumption per capita has been increasing over time, while the Earth's ability to support this decreases. Some researchers argue that overconsumption drives unsustainable economic growth (Barrett et al., 2020). Although consumption rates and destructive production practices, particularly in the energy and agriculture sectors, have exceeded the rate of population growth in recent decades, it cannot be ignored that global population has more than doubled over the past fifty years, increasing ecological demands to meet basic needs. Thus, we argue that global population growth and the associated uptick in level of consumption are inherently intertwined and both

put pressure on the environment equally. Even though consumption patterns appear to be inversely related to fertility rate, it doesn't mean that one is a bigger threat than the other; both must be addressed since they are interacting threats.

Solutions exist for reducing consumption and related ecological impacts while conserving biodiversity; however, this paper will focus on the solutions to population growth. Education, empowerment and gender equity can slow population growth and improve environmental and health outcomes. Project Drawdown lists the education of women and girls and family planning as top climate change solutions that can save more than 85 gigatons of carbon dioxide emissions by 2050, since women with more years of education have fewer and healthier children and actively manage their reproductive health (Project Drawdown, 2020).

Having one less child is one of the most effective ways for individuals in the United States to reduce their greenhouse gas emissions (Wynes and Nicholas, 2017). In fact, it's more effective at reducing emissions over a lifetime than many other personal actions, like recycling and driving a hybrid car, combined (Wynes and Nicholas, 2017). Yet government resources on climate change from the European Union, United States, Canada and Australia fail to educate people about this solution, instead focusing recommendations on lower-impact actions (Wynes and Nicholas, 2017).

Despite the cross-disciplinary evidence demonstrating the links between human population growth and environmental crises, the topic is often treated as controversial. Diana Coole, professor of political and social theory at the University of London, analysed five perspectives found predominantly in high-income countries that drive the pushback on population advocacy work. They include population-shaming (population work is inherently racist), population-scepticism (population density is beneficial), population-diclinism (population isn't an issue because growth rates are slowing), population-decomposing (only addressing the components of population pressures, rather than population growth as a whole) and population-fatalism (the problem is too big and complicated to even try to solve). Population-shaming and population-scepticism are especially powerful because they, respectively, make the work morally untouchable and attempt to dismiss the issue by invoking pro-growth arguments (Coole, 2013).

The lack of acknowledgment of population growth as an environmental problem also creates a self-perpetuating knowledge gap. One study analysed this gap by surveying educators about their perspectives on the topic and found that lack of expertise is among the reasons for hesitancy about discussing population growth in their classes (Alkaher and Carmi, 2019).

Despite these barriers to discussing human population growth, many people are making the connection between family planning and the environment. In one study, nearly sixty per cent of climate-concerned respondents reported being 'very' or 'extremely concerned' about the carbon footprint of having children (Schneider-Mayerson and Leong, 2020). More than 96 per cent of respondents were 'very' or "'extremely concerned' about the wellbeing of their current, future or hypothetical children in a world altered for the worse by climate change (Schneider-Mayerson and Leong, 2020). Another study found that participants cited the unsustainable number of people on the planet as a major concern about starting a family, in addition to how human population growth contributes to overconsumption (Helm et al., 2021).

The most effective and ethical solutions to population growth are those that advance human rights, such as education for all, voluntary family planning, universal access to contraception and reproductive healthcare, including abortion (Engelman and Johnson, 2019; Guillebaud, 2016; Liu and Raftery, 2020; Vollset et al., 2020). When people have the ability to choose if and when to have children, they tend to have smaller families. And when there is gender equity, including girls staying in school and having equal opportunities, they tend to delay starting a family, increase the length of time between births and have fewer children overall, which also benefits the planet.

Objective and Scope

In the winter of 2019, the Center for Biological Diversity conducted a nationally representative survey to analyse awareness, knowledge, beliefs, attitudes, perceptions, actions, behavioural intention and norms/morality around the topic of population. By including questions about population growth in the survey, we hoped to understand whether the public draws a correlation between the number of people on the planet and the alarming rate of animal extinction and to use the results to help us inform a theory of change. For campaigning organisations, such

as The Center for Biological Diversity, creating an internal theory of change can help in building effective campaigns to reach people, no matter where they fall on the scale of understanding. Each question in the survey corresponded to a step in our draft theory of change which includes:

1. Knowledge: Move people from total unawareness of the issue to becoming aware and increase their knowledge of issue.

2. Attitudes: Alter people's attitudes and perceptions of the issue, measured by an increase in awareness and knowledge.

3. Norms/Morality: Amplify positive social norms, some specific to morality, related to the issue so that people begin to see and hear the norms more regularly.

4. Behaviour Change: Help people prepare to change their behaviour by increasing their behavioural intentions around the issue. Support the removal of barriers to action, leading one to finally act at both the individual and systemic levels.

Methods

Survey sampling plan

We surveyed 899 people distributed evenly across each of the fifty US states and the District of Columbia proportionate to the US Census Bureau's 2018 Current Population Survey estimates to achieve statistically accurate results (95 per cent confidence level). To calculate a minimum sample size for a 95 per cent confidence level, we used the Sample Size Calculator available online at OpenEpi2 (Dean et al., 2013). We assumed a large population (N = 1,000,000), a fifty per cent frequency in the population of each measure with +/- 3.5 per cent confidence limits and a design effect of 1.00. Given these criteria, a 95 per cent confidence level required a minimum of 784 survey respondents. Given available resources, we were able to fund a total of 899 surveys, after quality control removals (detailed below). Therefore, the 95 per cent confidence level margin of error for an 899 individual survey is less than +/- 3.5 per cent. The sample was recruited online via the Amazon Mechanical Turk (MTurk) platform (Available at: www.mturk.com) using both an English and Spanish survey instrument; and Momentive Inc. Survey

Monkey (Available at: www.momentive.ai) was used to collect the data. We paid respondents between $0.60 and $1 to take the eight-minute survey. In short, we employed a stratified voluntary response sampling method.

Survey content

The survey contained questions about population, consumption, voluntary family planning and climate change. Some of the questions were also included in a previous survey, conducted in 2013, allowing us to gauge change over time. Specifically, we asked two knowledge questions, thirteen new attitude/perception questions, five previous attitude/perception questions, two barrier and benefit questions, fourteen behavioural intention/behaviours conducted questions, two social norming/morality questions, two quality control questions and twelve demographic questions. This article summarises the subset of questions about population. The survey asked respondents to indicate the importance of a variety of social issues and tested basic knowledge around population growth. Finally, it asked whether people were comfortable talking about population and what types of actions they'd already taken or would be willing to take to advocate around the issue. Demographic questions included age, gender identity, race, state, political affiliation, income, education and religion, as well as whether respondents already have children and if they plan to have more. This broad range of demographic questions, as well as the variety of questions around knowledge, perceptions and willingness to take action, allowed for an in-depth analysis of how different audiences may vary on these issues.

Survey analysis

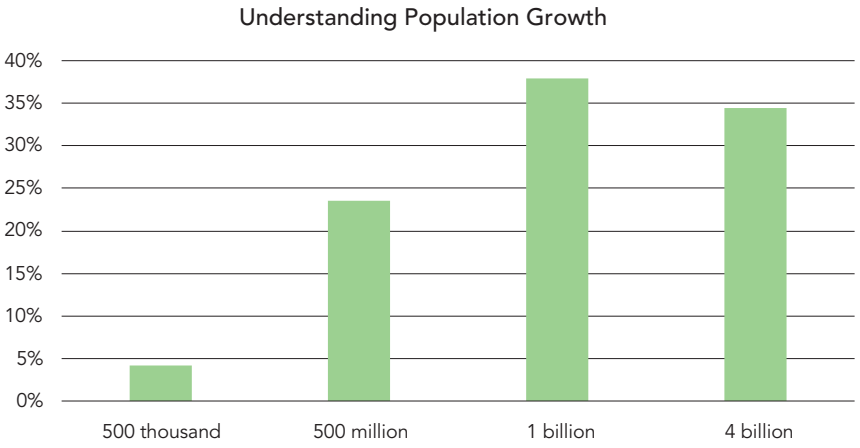
We used a series of basic statistical approaches to conduct survey analysis using SPSS. Demographics of the sample were summarised with univariate (descriptive) statistics, in particular frequencies and proportions for categorical variables. We treated Likert Scale-styled items categorically. We further described subpopulations of our survey sample with bivariate statistics ('crosstabs'). We implemented several quality-control (QC) measures into our survey. We eliminated respondents who completed the survey in under four minutes, as it could not be taken thoughtfully in less time than that. We asked respondents' age and birth year at separate points within the survey. This allowed us to compare the birth-year derived age with the reported age and we eliminated respondents whose stated age and birth-year derived age deviated by more than one. We also removed those who failed the attention check questions.

Results

The survey was broken down into categories to help build a theory of change cycle to inform future Center for Biological Diversity campaigns. The theory of change included increasing awareness of these interconnected issues, altering attitudes and perceptions around the topics, and increasing behavioural intention that leads to action, advocacy and a change of social norms. As such, certain questions were about population knowledge level, morality, norms and actions. Below is a summary of key findings related to population growth.

Knowledge: As shown in Chart 1, only 34 per cent of respondents knew that four billion people have been added to the world's population since 1970. Four per cent answered 500,000, 24 per cent answered 500 million, 38 per cent answered one billion.

Chart 1: Knowledge: Approximately how many people do you think have been added to the world's population since 1970?



Attitudes: Respondents were asked to rank the issue most important to them from a list of social and environmental concerns. According to Chart 2, lack of healthcare access was the most critically important topic (43 per cent) for respondents, followed by the climate crisis (37 per cent). Human population growth was ranked last.

Chart 2: Attitudes: Indicate the level of importance each topic is to you

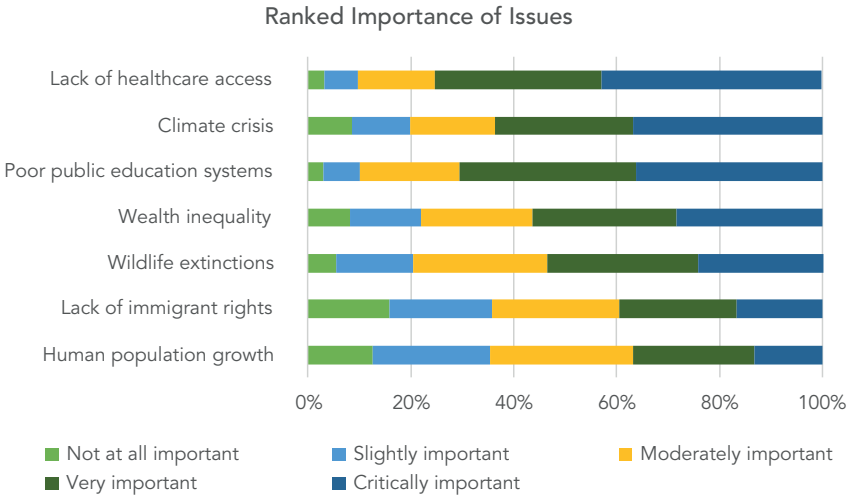


Figure 1: Attitudes: What do you think is primarily responsible for the rapid loss of species biodiversity?

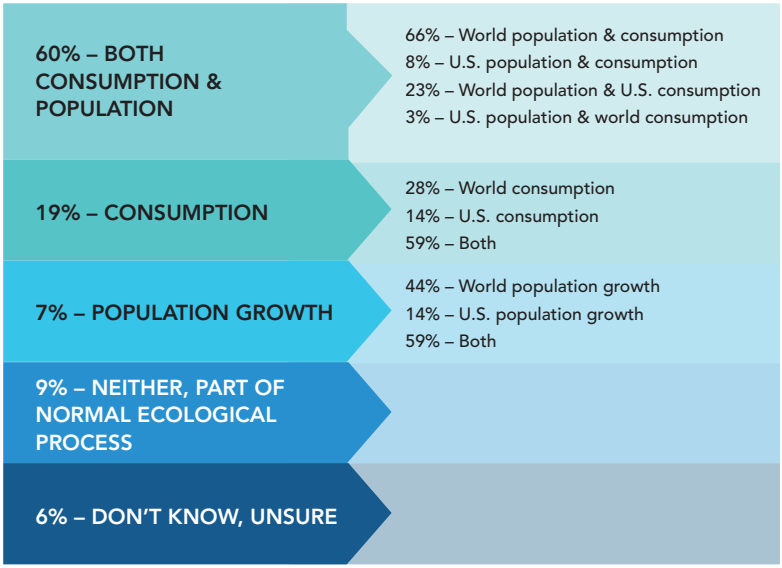


Figure 1 summarises the main question: what is responsible for the rapid loss of species biodiversity? Sixty per cent of respondents said both population growth and consumption levels are responsible for the rapid loss of species biodiversity. Using the responses from this question, there were additional Survey Monkey logic based sub-questions. Of this sixty per cent, 66 per cent believed the world's population and consumption are at fault. Of the seven per cent that believed population to be the only issue, 44 per cent believed world population growth is the primary cause, twelve per cent believed US population growth is the main cause, and 44 per cent believed it is both world and US population growth.

Some of the questions were duplicative of survey questions used in 2013. Each of these questions showed large statistically significant changes in attitudes from 2013 to 2019. As shown in charts 3, 4 and 5, nearly three-quarters of respondents (73 per cent) thought the world's population is growing too fast which is a 23 per cent increase over 2013 survey results. The same number (73 per cent) somewhat agreed or strongly agreed that human population growth is driving other animal species to extinction, a thirteen per cent increase over 2013 survey results. Finally, two out of three respondents (67 per cent) somewhat agreed or strongly agreed that stabilising population growth will help protect the environment, a thirteen per cent increase over 2013 survey results.

Chart 3: Attitudes: In 2018 the world population reached 7.6 billion. The world's population is projected to reach 11 billion by the end of the century. Do you think the world's population is growing

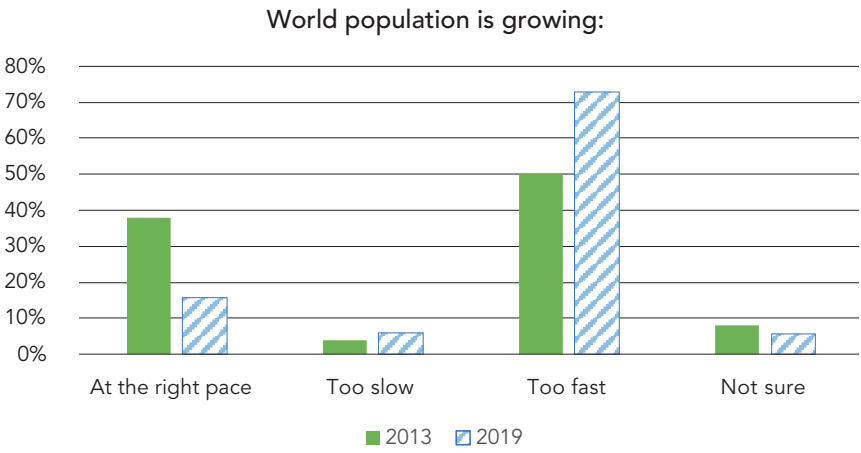


Chart 4: Attitudes: Rate whether you agree or disagree with the statement 'Human population growth is driving other animal species to extinction'.

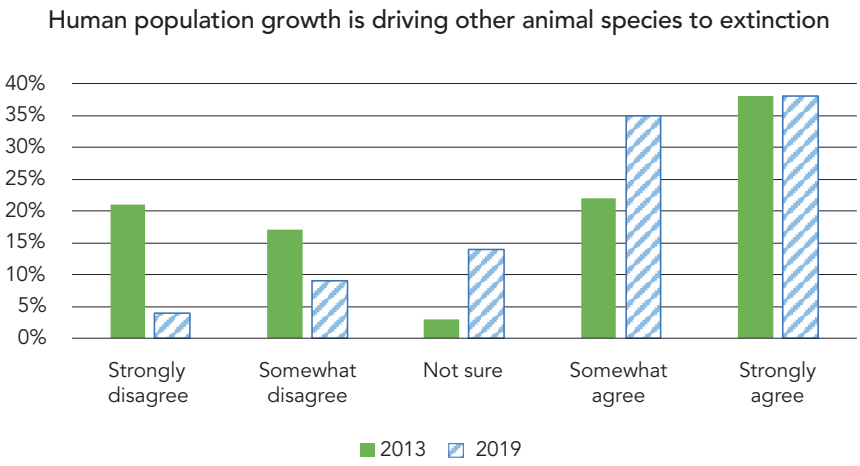
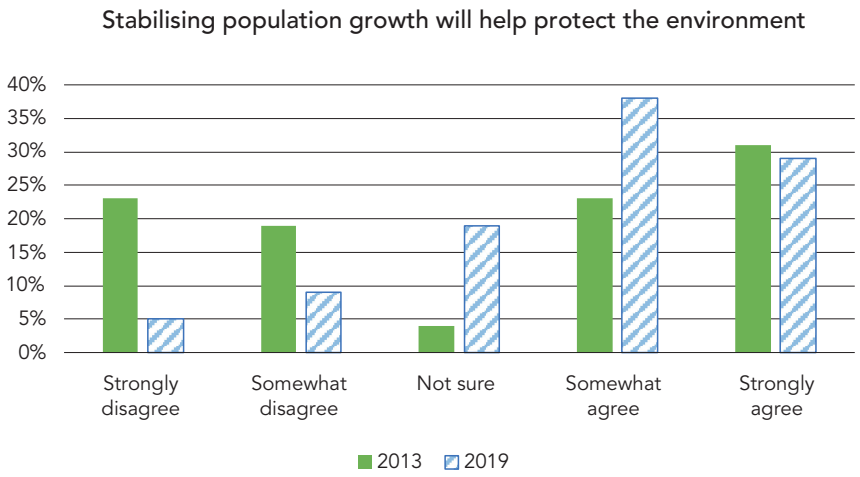


Chart 5: Attitudes: Rate whether you agree or disagree with the statement 'Stabilising population growth will help protect the environment'.



Norms/Morality: The vast majority (85 per cent) of respondents felt a moral responsibility to prevent wildlife extinctions and, using this question, the following crosstabs were calculated. As noted in Table 1, of the 85 per cent that believed society has a moral responsibility to prevent wildlife extinctions:

- Two out of three (65 per cent) indicated both population and consumption are primarily responsible for the rapid loss of species biodiversity. This was a five per cent increase over responses from the total sample.

- Two-thirds (67 per cent) felt no challenge discussing the topic of population growth with others. This was a ten per cent increase over responses from the total sample.

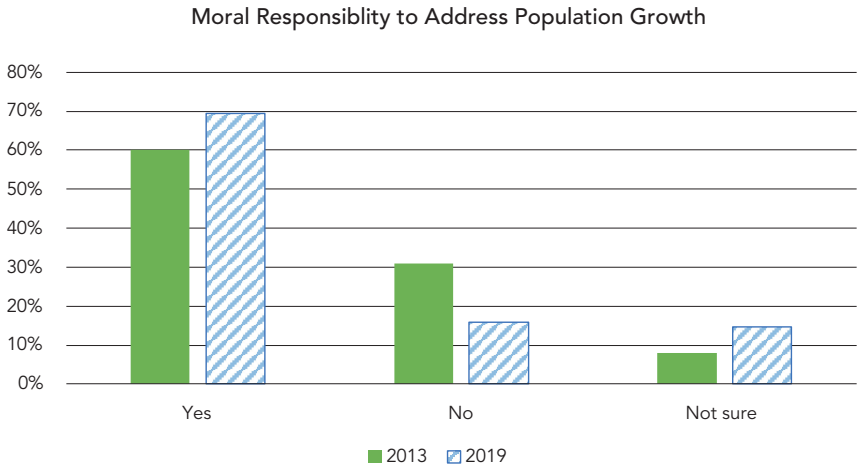
- One-third (34 per cent) voted for policymakers who acknowledge that population pressures impact the environment. This was a three per cent increase over responses from the total sample.

Table 1: Norms/Morality Crosstab Results

Of the 85% that believed society has a moral responsibility to prevent wildlife extinctions:	**Per cent**	**Per cent increase over responses from total sample**
Indicated both population and consumption are primarily responsible for the rapid loss of species biodiversity.	65%	5%
Felt no challenge discussing the topic of population growth with others.	67%	10%
Voted for policymakers who acknowledge that population pressures impact the environment.	34%	3%

As noted in Chart 6, more than two thirds (69 per cent) of respondents said that, if widespread wildlife extinctions are unavoidable without slowing human population growth, our society has a moral responsibility to address population growth. This was a nine per cent increase over 2013 survey results – the lowest positive change among the questions that were asked in both the 2013 and 2019 surveys. Among those who felt a moral responsibility to address population growth, 72 per cent felt no challenge discussing the topic with others and 33 per cent were more likely to vote for policymakers who acknowledge that population pressures affect the environment. Those who felt a moral responsibility to address population growth were 27 per cent more likely to vote for policymakers who support reproductive rights.

Chart 6: Norms/Morality: If widespread wildlife extinctions are unavoidable without slowing human population growth, do you think our society has a moral responsibility to address population growth?



Actions: The survey included many behavioural questions on both behavioural intention and actions already taken, some of which are noted by the Overpopulation Project (The Overpopulation Project, n.d.), and ranged from easy-to-do to harder-to-do. Generally, one-third of respondents said they were willing to act if they had more information on how to act. The population-specific actions offered in the survey and summarised below and in Chart 7 are:

1. Educate myself about population growth

2. Write population issue opinion pieces for local news media and

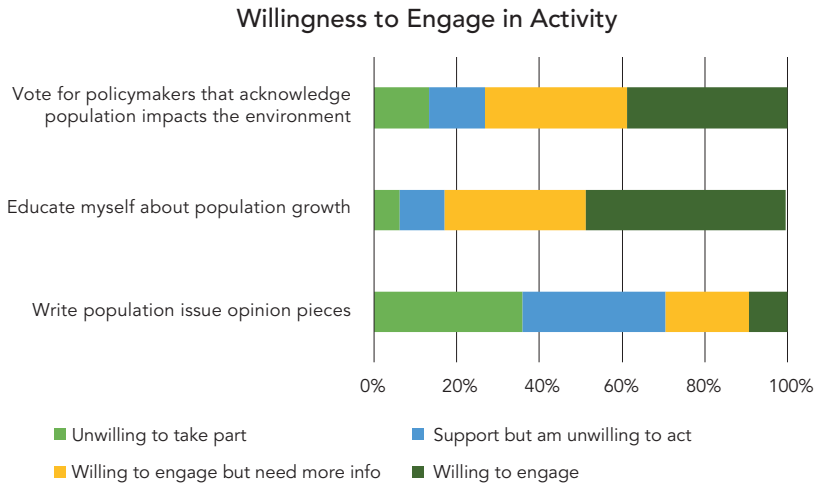
3. Vote for policymakers that acknowledge that population pressures impact the environment.

1. Educate myself about population growth.
According to survey respondents, 48 per cent were willing to educate themselves about population growth, and 34 per cent were willing to but needed more information. Nearly half (48 per cent) said they had done this in the past. However, only nineteen per cent of respondents had both educated themselves on population growth and could correctly answer the number of people added to the planet since 1970. So past education is not necessarily a reliable indication of knowledge.

2. Write population issue opinion pieces for local news media.
This activity was the lowest-scoring action. Only nine per cent of respondents were willing to write population issue opinion pieces for the local news media. The number jumped to twenty per cent who said they were willing to but needed more information. Only three per cent of respondents said they had done this in the past. Predictably, those who wrote opinion pieces were more likely to say they felt no challenge discussing the topic of population growth (92 per cent versus 66 per cent among overall respondents). It is important to note that only 32 respondents, or 3.5 per cent of the sample, stated they wrote population opinion pieces. Thus, any conclusions drawn from this small sample size must be stated with caution.

3. Vote for policymakers who acknowledge that population pressures impact the environment.
The final behaviour asked in the population section was about voting. Thirty-nine per cent were willing to vote for policymakers who acknowledge that population pressures affect the environment, and 34 per cent were willing to but needed more information. One in 3 (31 per cent) said they have done this in the past.

Chart 7: Actions: Respondents' willingness to take population-related actions



According to the survey, two thirds (66 per cent) of respondents felt no challenge discussing the topic of population growth with others. For the 34 per cent who preferred not to discuss it, the top barrier was that they felt it was too complicated. Other barriers are listed below in Table 2.

Table 2: Rationale for not wanting to discuss population growth with others

Survey response options	Per cent
I feel the topic of population growth is too complicated for me to confidently discuss with others.	28%
I feel the political climate today makes population growth too challenging to discuss with others.	16%
I feel my peers would not appreciate discussing population growth with me.	13%
The topic of population growth is not important enough to me to discuss.	12%
I feel the topic of population growth is too personal to discuss with others.	11%

Survey response options	Per cent
I feel the topic of population growth is difficult to discuss because I have concerns about its potential impact on immigrants, people of color or other marginalised communities.	9%
I hesitate to discuss the topic of population growth because others may think I am prejudiced against immigrants, people of color or other marginalised communities.	7%
Other: Write-in responses included: 'Difficult to discuss with those who want larger families', 'I am in favour of more people', and 'Should not be discussed at all.'	4%

These results are not the same across various demographic views. The following highlights statistically different results for age, gender, income and race/ethnicity.

Age: Survey respondents of typical reproductive age (men and women under age 45) were more concerned with the climate crisis, lack of immigrant rights and wealth inequality than those who are older. They were eleven per cent more likely to say that human population growth is making climate change worse. However, compared to their elders, they were more likely to say the topic of population growth is difficult to discuss because they have concerns about its potential impact on immigrants, people of colour or other marginalised communities. These challenges, however, did not stop them from educating themselves about population growth. Those aged 44 and younger self-reported that they had educated themselves about population growth – thirteen per cent more than older survey respondents.

Gender: There also appeared to be a gender gap related to the level of concern about population growth, as only forty per cent of women educated themselves about the topic, compared to 55 per cent of men, though only 23 per cent of these men knew the correct number of people added to the planet since 1970. Women were more likely than men to highly rank lack of healthcare access as a critically important issue (47 per cent vs 39 per cent).

Income: People making under $50,000 a year placed greater importance on lack of healthcare access than those making over $50,000.

Race/Ethnicity: Racial and ethnic differences are evident throughout the survey data. Black respondents were eighteen per cent less likely to believe the world's population is growing too fast. Also, Black respondents were five per cent more likely – and Latinx respondents ten per cent more likely – to say they preferred not to discuss population growth with others because they felt their peers would not appreciate discussing it. Finally, Black respondents felt lack of healthcare access was twenty per cent more critically important than other topics, and Latinx respondents felt poor education systems were fourteen per cent more critically important than other topics.

Discussion

This survey is not without its limitations. For one, as mentioned above, a stratified voluntary response sampling method through Amazon's MTurk was used. Random sampling methods are preferred when conducting surveys. Despite this, we deployed measures to ensure geographic (state level) representativeness. Furthermore, our racial and ethnic sample composition roughly approximated that of the US population as a whole. As such, we believe we have quality data from which to draw meaningful conclusions. Future research could include analysing the data per US state and overlaying that with conservation maps and family planning access data, conducting message testing to understand what resonates, facilitating social listening to learn about influencers and/or conducting focus groups to collaboratively design a campaign.

These survey results are informing a theory of change with the goal of altering attitudes and getting more people to act and advocate for rights-based solutions to population growth. One hurdle in this work is the need to destigmatise conversations around population, sex and family planning. The results show that respondents are located throughout the change cycle. For example, only a third understand the exponential growth of human population, indicating that an increase in awareness is still needed.

In relationship to norms, the result that nearly three out of four respondents understood that human population is driving the extinction crisis is a strong social norm that could be used in intervention messaging to show positive attitudinal momentum. The result that seventy per cent of respondents thought we have a moral responsibility to prevent wildlife extinctions, if they are unavoidable without slowing human population growth, can be similarly used.

Behavioural intention for some actions is high, but for other actions is low. For example, over eighty per cent of respondents were willing to educate themselves about population growth, and 73 per cent were willing to vote for policymakers who acknowledge that population pressure impacts the environment. But 34 per cent preferred not to discuss population growth, and the main reason (28 per cent) was that the topic was too complicated. For actions that are low, addressing the barriers discussed in the background section can increase willingness to take action.

It's important to acknowledge that the rights and dignity of women and Black, Indigenous and other people of colour were, and continue to be, violated in the name of population control, causing long-term harm and reproductive oppression. These violations include China's one-child policy (Phillips, 2015), testing the first birth control pill on Puerto Rican women living in public housing projects in the 1950s and 1960s (Vargas, 2017), the 25–50 per cent of Native American women sterilised in the 1970s (Blakemore, 2016), the nearly 150 female inmates sterilised in California prisons between 2006 to 2010 (Ko, 2016) and, recently, forced hysterectomies in ICE detention centres (Narea, 2020). These atrocities underscore the importance of supporting reproductive rights and justice allies and ensuring any population-related advocacy and solutions are equitable and fair.

Although this history can be hard to face, when it is swept under the rug or avoided it allows the topic to be co-opted by extremists. By addressing population in a respectful, rights-focused way, advocates of slowing human population growth can make it clear that xenophobia and prejudice should play no role in policymaking. Because population, consumption and extraction/production are global issues that transcend national borders, US immigration policies should recognise that immigration is a human right and rooted in human dignity. Regardless, the rights of immigrants should not be compromised, and equitable treatment for all should be a goal.

Conclusion

Center for Biological Diversity projects, informed by this research, aim to help people talk sensitively and sensibly about the systemic barriers to reproductive and environmental justice that hurt people and the planet and the solutions that lie in voluntary family planning, comprehensive sex education, gender empowerment and racial, ethnic and religious equity.

The differential results of this survey suggest that future campaigns regarding population growth need to be adapted to various demographics and identities and built in cooperation with impacted communities. The findings show overlapping support for systemic changes to healthcare and education systems across demographics. Advocates of curbing population growth can achieve their goal – with popular support – through advocating for greater sexual and reproductive health and comprehensive sexual education for everyone.

This survey data helps unravel the binary thinking that environmental degradation is solely caused by either population momentum or consumption, along with either/or thinking that individual actions are not part of systems change. Much of the data was segmented by demographics, allowing us to better understand current and future audiences. These results will support creating culturally sensitive, inclusive and effective campaign messages, tactics and strategies that highlight education and reproductive healthcare for all. They also support a draft theory of change that includes increasing awareness of these interconnected issues, altering attitudes and perceptions around the topics, increasing behavioural intention – which leads to action – and advocating for, and ultimately changing, social norms.

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