Public perceptions of future threats to humanity: why they matter

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Introduction

There is growing scientific evidence that humanity faces a number of threats that jeopardise our future. Public perceptions of these threats, both of their risks and of reactions to them, are important in determining how humanity confronts and addresses the threats. This paper is based on a study that investigated the perceived probability of threats to humanity and different responses to the threats (nihilism, fundamentalism and activism), in four Western nations: the US, UK, Canada and Australia. Overall, a majority (fifty-four percent) rated the risk of our way of life ending within the next one hundred years at fifty percent or greater, and a quarter (twenty-four percent) rated the risk of humans being wiped out at fifty percent or greater. The responses were relatively uniform across countries, age groups, gender and education level, although statistically significant differences exist.

Almost eighty percent agreed "we need to transform our worldview and way of life if we are to create a better future for the world" (activism). About a half agreed that "the world's future looks grim so we have to focus on looking after ourselves and those we love" (nihilism), and over one-third that "we are facing a final conflict between good and evil in the world" (fundamentalism). The findings offer insight into the willingness of humanity to respond to the challenges identified by scientists, and warrant increased consideration in scientific and political debate.

A defining moment in history?

Scientific evidence and concern are mounting that humanity faces a defining moment in history, a time when we must address growing adversities or else suffer grave consequences. Reputable journals have canvassed the possibilities, including special issues of *Scientific American* (The end, 2010) and *Futures* (Human extinction, 2009). Most focus today is on climate change and its many, potentially catastrophic, impacts; other threats include depletion and degradation of natural resources and ecosystems; continuing world population growth; disease pandemics; global economic collapse; nuclear and biological war and terrorism; and runaway technological change.[1] Threats not linked to human activities are a supervolcanic eruption and an asteroid collision.

Many of these threats are not new; scientists and other experts have warned of the dangers for decades. Nevertheless, the evidence is growing stronger, especially about climate change, and never before have their possible impacts been so powerfully reinforced by actual events, including natural disasters and calamities, and their sustained and graphic media coverage.

Not surprisingly, surveys reveal widespread public pessimism about the future of the world, at least in Western countries, including a common perception of declining quality of life, or that future generations will be worse off.[2] [3] [4] However, there appears to have been little recent research into people's perceptions of how dire humanity's predicament is, including the risk of

the collapse of civilisation, or human extinction. These perceptions have a significant bearing on how societies, and humanity as a whole, will deal with potentially catastrophic futures.

One such study is a 2004 international web survey, which found forty-five percent of six hundred respondents believed humans would become extinct.[5] However, the timeframe here was long: many felt this would happen within five hundred to one thousand years, and some in five thousand years or more. A 2005 survey of one thousand Australians asked which of two scenarios of the world in the 21st century more closely reflected their view.[6] The optimistic scenario was: "By continuing on its current path of economic and technological development, humanity will overcome the obstacles it faces and enter a new age of peace and prosperity." The pessimistic scenario was: "More people, environmental destruction, new diseases and ethnic and regional conflicts mean the world is heading for a bad time of crisis and trouble." Two thirds of respondents (sixty-six percent) chose the pessimistic scenario, less than one quarter (twenty-three percent) the optimistic scenario. Compared to an earlier survey in 1995, pessimism had increased.

A 2011 study on "the Global Megacrisis" includes a bibliography and proposes four scenarios for how humanity deals with the multiple and interconnected threats posed by climate change and other critical issues.[7] Sixty "smart and thoughtful people" rated the relative probabilities of each scenario:

- *Decline to disaster*: World fails to react. More global warming, widespread energy and water shortages, economic depression, conflict, etc. Loss of civilization in many parts of the world (twenty-five percent average probability).
- *Muddling down:* World reacts partially, but problems continue to outdistance policies and technologies, ecological damage continues, increased poverty and conflict (thirty-five percent).
- *Muddling up:* World reacts out of need and the help of information technology/artificial intelligence. Policies and technologies gain on problems. Disaster avoided but some disorder and disappointment (twenty-eight percent).
- *Rise to maturity:* Ideal transition to a humane and responsible global order (twelve percent).

How people react to the possibility of catastrophic futures (as distinct from their perception of their likelihood) will also shape how effectively humanity deals with the grave dangers. People can respond in very different ways to the same perception of threat, including apocalyptic suspicions about the 21st century.[8] [9] The responses include: nihilism (the loss of belief in a social or moral order; decadence rules), fundamentalism (the retreat to certain belief; dogma rules), and activism (the transformation of belief; hope rules). The categories make sharp distinctions between responses to highlight their differences and significance. In reality, the categories are fuzzy, reflecting tendencies or deviations from the norm, with subtle to extreme expressions. They are not mutually exclusive responses, but can overlap, co-exist and change over time in individuals and groups.

This paper is based on an investigation into the perceived probability of future threats to humanity, specifically whether "our existing way of life will end," and whether "humans will be

wiped out," within the next one-hundred years.[10] The study also examined the level of agreement with three pairs of statements reflecting strong and weak nihilistic, fundamentalist and activist responses (while fundamentalism includes secular forms such as neoliberalism or market fundamentalism, the statements focused on religious fundamentalism). It also assessed the association between global fears and levels of personal concern with a range of global or societal and personal issues. The questions comprised one part of a large survey of representative samples, conducted in 2013 and totalling 2,073 people, in the US, UK, Canada, and Australia.

Probability of threats to humanity

Participants were asked: "In your opinion, how likely is it that our existing way of life will end in the next one-hundred years?" and "In your opinion, how likely is it that humans will be wiped out in the next one-hundred years?" Answer options were presented on an 11-point scale from 0 ("no chance, almost no chance") to 10 ("certain, practically certain"). The percentages of participants who believe there is a fifty percent chance or greater that (1) our existing way of life will end and (2) humans will be wiped out are presented by country at Fig. 1 and by age group at Fig. 2 (note: common generational labels have been used for age groupings, however differences could reflect age and/or cohort characteristics). The asterisks (**) in Fig. 1 and Fig. 2 indicate significant differences between groups at the 99 percent level ($p < 0.01$)

Overall, fifty-four percent of respondents believe there is a fifty percent or greater chance of our way of life ending (mean score of 4.73 on an 11-point scale of 0-10, or a forty-seven percent chance it will happen), and twenty-four percent believe there is a fifty percent or greater chance that humanity will be wiped out (mean score 2.47, or a twenty-five percent chance it will happen). Almost three quarters believe there is a thirty percent or greater risk of our way of life ending; thirty percent that the risk is seventy percent or more. Almost four in ten believe there is a thirty percent or greater danger of humanity being wiped out, one in ten that the danger is seventy percent or more.

Opinions were similar across countries and age groups, but statistically significant differences were found in perceived risk that humanity will be wiped out, with higher concern in the US than in the UK (Fig. 1), and higher in the youngest age group than in the oldest (Fig. 2). Few differences were found when other socio-demographic groupings were compared. For example, women were slightly less concerned than men that humans would be wiped out. No significant differences were found on other socio-demographic characteristics such as level of education.

Fig. 1: Proportion believing there is a fifty percent or greater chance of our way of life ending and humans being wiped out, by country
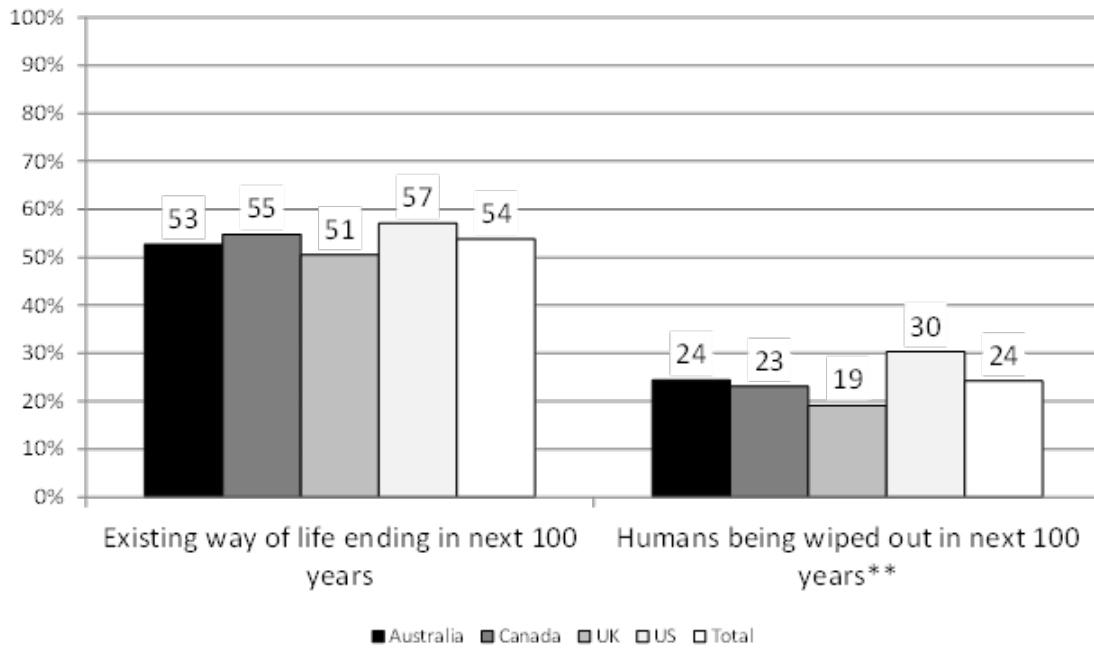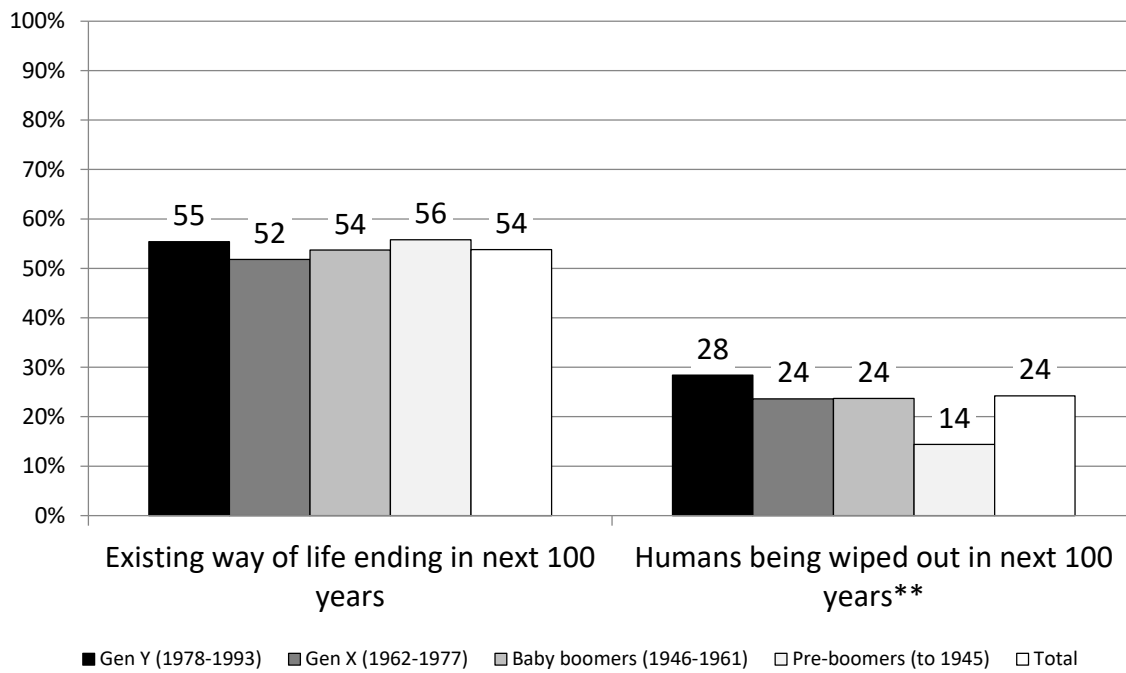

Fig. 2: Proportion believing there is a fifty percent or greater chance of our way of life ending and humans being wiped out, by generation

Beliefs about, and response to, the future

Participants were presented with six statements (reflecting strong and weak nihilist, fundamentalist and activist responses to the future, drawing on the analysis cited above[11] [12]) and asked to indicate the extent to which they agreed with each statement. The statements were:

Nihilism
- Strong: The world's future looks grim so we have to focus on looking after ourselves and those we love.
- Weak: We should enjoy the life we have now, and not worry about what might happen to the world in the future.

Fundamentalism
- Strong: We are facing a final conflict between good and evil in the world.
- Weak: We need to return to traditional religious teachings and values to solve global problems and challenges.

Activism
- Strong: We need to transform our worldview and way of life if we are to create a better future for the world.
- Weak: Hope for the future rests with a growing global movement that wants to create a more peaceful, fair and sustainable world.

The highest level of agreement (indicated by the percentage of people who answered "agree" or "strongly agree" with the statement) was with the two "activism" responses: seventy-eight percent (strong) and sixty-eight percent (weak). Agreement with strong fundamentalism was thirty-six percent; weak fundamentalism, thirty-five percent; strong nihilism, forty-eight percent; and weak nihilism, thirty-four percent. Agreement with the strong and weak fundamentalism and strong nihilism statements was positively correlated with higher perceived risks of our way of life ending and humans being wiped out. Agreement with the weak nihilism statement was positively correlated with the perceived risk that humans would be wiped out, but not with the risk that our way of life would end. Agreement with the strong activism statement was positively correlated with the perceived risk of our way of life ending, but agreement with weak activism was not, and agreement with neither statement was correlated with the risk of humans being wiped out.

The US scored significantly higher agreement than the other three nations on both fundamentalism options, while Canada rated especially high on weak activism. Nihilism tends to fall with age, and fundamentalism (and weak activism) to rise with age. Responses to each pair of statements were positively correlated with each other for both fundamentalism and activism, but not nihilism (suggesting weak nihilism is capturing more than nihilistic inclinations).

Societal and personal concerns and perceived stress

Respondents were asked how concerned they felt, in their everyday life, about twenty-three global or societal issues. They were also asked, thinking about their own personal future, how

concerned they were about nineteen personal issues. The detailed findings are reported in another paper.[13] On average, forty-nine percent were moderately or seriously concerned about the personal issues, with health, wellbeing and financial concerns topping the ranking. Country differences were small, but generational differences were substantial, with concern declining with age for most items. In terms of societal issues, an average of forty-one percent were moderately or seriously concerned, with social and moral issues ranking ahead of economic and environmental matters. Americans were the most concerned with societal issues and Australians the least. Societal concerns increased with age.

The significance of these findings to this paper lies in the positive correlations between perceived risks to humanity and average levels of concern about different issues. The study found positive correlations between average level of concern about societal issues and the belief that our existing way of life will end in the next one-hundred years and that humans will be wiped out in the next one-hundred years. Average levels of concern about personal issues were also correlated with these beliefs. A positive correlation was found between average concern with societal and personal issues. Consistent with its significantly higher perceived risk to humanity compared to other countries (Fig. 1), the US scored a significantly higher average level of concern across all societal issues.

The study also asked respondents about how often they thought or felt about a range of items in the past month to assess their level of personal stress. Borderline positive correlations were found between perceived personal stress and the belief that our existing way of life will end in the next one-hundred years, and stronger positive correlations between perceived personal stress and the belief that humans will be wiped out in the next one-hundred years. Small positive correlations were found between perceived personal stress and average level of concern about societal issues, and medium to strong positive correlations between perceived personal stress and average level of concern about personal issues. These findings strengthen the validity of the results on perceptions of global threats.

Why future perceptions matter, personally and politically

How people rate the risk of catastrophic futures for humanity and how they respond to these perceptions have an important bearing on how humanity confronts these threats. Our study of four developed nations – the US, UK, Canada and Australia – found that over half of respondents rated the risk of our current way of life ending within a century at fifty percent or more; a quarter rated the risk of humanity becoming extinct within a century at the same level. These are surprisingly high probabilities for such extreme historical events. However, the survey findings, taken together, make up an internally consistent and compelling story, as indicated by:

- The relatively high level of agreement with three pairs of "apocalyptic response" statements – nihilism, fundamentalism, and activism (with seventy-eight percent and sixty-eight percent endorsing strong and weak activism, respectively).
- Increased agreement with strong nihilist and fundamentalist responses to the future amongst those who perceive a greater risk to humanity.
- The positive correlations between perceived risk to humanity and levels of concern over societal and personal issues, and levels of perceived personal stress.

- The differentiating characteristics of the US, with its significantly higher proportion of people perceiving serious risk to humanity, greater agreement with fundamentalist responses, and greater concern over societal issues.
- The consistency of findings (significant differences notwithstanding) across countries and across age, sex and education groupings, given that the issues transcend common demographic differences.

Furthermore, the survey findings are consistent with other studies of public perceptions of the future, as discussed in the introduction, and also revealed in more recent social surveys:

- A 2015 paper investigated "societal unease," defined as a latent concern among citizens in contemporary Western countries about the precarious state of society.[14] This concern arose from the "perceived unmanageable deterioration" of five fundamental aspects of society: distrust in human capability to improve things, loss of ideology, decline of political power, decline of community, and socio-economic vulnerability.
- A 2016 survey of twenty-two developed and developing countries shows that people around the world believe "the system" no longer serves them, and that life is getting worse.[15] Across the countries, an average of fifty-seven percent believed their country was in decline; sixty-four percent said traditional parties and politicians did not care about them; sixty-nine percent believed the economy was rigged to advantage the rich and powerful. More believed their generation had a worse life than their parents' generation, and that life for today's youth would be worse than that of their parents, than believed life was getting better.
- A 2016 survey of trust in twenty-eight countries, both developed and developing, found that trust had become a deciding factor in whether a country can function.[16] Corruption, globalisation and technological change were weakening trust in global institutions; there was growing despair about the future and a lack of confidence in the possibility of a better life for one's family. Two thirds of the countries were now "distrusters," with less than fifty percent of people trusting the major institutions of government, business, media and NGOs. Across the countries, only fifteen percent believed the present system was working; and more than two thirds did not have confidence that current leaders could address their country's challenges.
- In a 2018 global poll, people were asked: "Generally speaking, would you say things in this country are heading in the right direction, or are they off on the wrong track?" [17] Globally, the average ratio was sixty percent "wrong track" to forty percent "the right direction." But results varied widely: China did best with only eight percent opting for "wrong direction"; at the other end of the rankings, in Brazil eighty-eight percent made this choice. In Western nations, the proportions ranged from about fifty to seventy percent "wrong direction." Top concerns globally were: financial and political corruption, unemployment, poverty and social inequality, crime and violence, and healthcare.

Our study and the surveys cited above are about subjective perceptions, not objective realities. The findings are strikingly at odds with orthodox conceptualisations and measures of human progress and development, which generally show continuing improvement in the human condition.[18] [19] Nevertheless, they are consistent with wider scientific analyses (which

acknowledge the importance of the subjective); these suggest progress as currently defined is coming at increasing costs to quality of life and the natural environment.

It is true that the findings do not necessarily represent informed assessments of the specific risks. Rather, they are likely to be an expression of a more general uncertainty and fear about the future and a lack of faith in the "official future," which is constructed around notions of material progress, economic growth and scientific and technological fixes to the challenges we face.[20] This loss is important, yet barely registers in current debate and discussion. We have yet to understand its full implications.

The association between threat and response is not simple and linear; there is a dynamic relationship between future expectations, current social realities and personal states of mind.[21] As already noted in the introductory section, people can respond differently to perceptions of threat.[22] Nihilism, fundamentalism and activism all offer benefits to our personal wellbeing and resilience: nihilism through a disengagement and distraction from frightening possibilities and prospects; fundamentalism through the conviction of righteousness and the promise of salvation; and activism through a unity of purpose and a belief in a cause. Yet only activism will allow us to deal constructively with global threats.

At best, the high perception of risk and the strong endorsement of an activist response could drive a much greater effort to confront global threats. At worst, loss of hope and fear of catastrophic futures erodes people's faith in society, affecting their roles and responsibilities as well as their relationship to social institutions, especially government.[23] [24] It can deny us a social ideal to believe in - something to convince us to subordinate our individual interests to a higher social purpose. This drives us back on our own personal resources, reinforcing the self-focus and social alienation of other cultural qualities such as increasing materialism and individualism. Bleak expectations of humanity's future are likely to affect people's health and wellbeing beyond the direct impacts of specific disasters, as suggested in this study by the positive correlations between personal stress and perceived risks to humanity and global concerns (although the evidence is largely correlational and conjectural). For example, a sense of coherence – seeing the world as comprehensible, manageable and meaningful – is associated with wellbeing.[25] Also, people become more stressed and more vulnerable to stress-related illness if they feel they have little control over the causes, do not know how long the source of stress will last or how intense it will be, and interpret the stress as evidence that circumstances are worsening.[26] A positive (reinforcing) feedback can come into play: as our health and wellbeing, and our morale and vitality, decline, it becomes less likely we will have the resolve and resilience to address the challenges we face.[27]

There is a deeply mythic dimension to this situation. Humans have always been susceptible to apocalyptic visions, especially in times of rapid change; we have also needed utopian ideals to inspire us.[28] Our visions of the future are woven into the stories we create to make sense and meaning of our lives, to link us to a broader social or collective narrative. Historians and futurists have emphasised the importance of confidence and optimism to the health of civilisations and, conversely, the dangers of cynicism and disillusion.[29]

Conclusions

There is growing scientific evidence that humanity faces serious risks of a catastrophic coalescence of environmental, social, economic and technological threats within the next one-hundred years. Despite growing political action on specific issues like climate change, globally the scale of our response falls far short of matching the magnitude of the challenges. Closing this gap requires a deeper understanding of how people perceive the risks and how they might respond. Relatively little research has been done on the extent to which we see civilisation, and even humanity itself, as endangered. This study has found that people in four developed nations rate this risk as surprisingly high, especially given what is at stake.

The topic of this paper is largely neglected and underestimated outside Futures Studies. Economics and political science focus on the socio-economic and socio-political dimensions of the near future; environmental sciences focus on biophysical impacts; and health research focuses on individuals and their personal situations. The psycho-social dynamics of the far future warrant more consideration in scientific research and political debate.

Politics has rarely, if ever, been about people's deep desires for a better life and concerns about the future. Increasingly, elections are manipulated through the use of sophisticated marketing tactics and social media to focus on a few, often contrived, issues. Trust in government and other official institutions has eroded. As this disconnect deepens and governments become more detached from the electorate, political incompetence and corruption grow; critical pathways for translating personal choices and preferences into social outcomes are closed off.

These dangers have been graphically demonstrated in Western democracies in the years since our survey. However, there is as yet little sign of anything like the paradigm shift in politics that the survey results suggest is necessary. Instead, politics risks becoming, not fundamentally different, but more dangerously extreme; it has an inherent tendency to do this. We need to strive to ensure that today's political turmoil is only a prelude to the demise of the "official future," and the emergence of a more humane and sustainable vision of where, as societies and as a species, we want to go.

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Note

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