



THOUGHT LEADERSHIP BRIEF

Climate Change Anxiety in China

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KEY POINTS

- ▶ Climate change anxiety, marked by negative feelings and significant impairments in functioning, is observed among one fifth to one third of respondents in Chinese research samples.
- ▶ Climate change anxiety may lead to the development of broader mental health issues, such as depression and generalized anxiety.
- ▶ Some sectors in the Chinese public (e.g., the elderly) appear to be more susceptible to the experience of climate change anxiety.
- ▶ Policy strategies aimed to identify susceptible groups and implement effective and scalable interventions are recommended.

ISSUE

The recent reports released by the Intergovernmental Panel on Climate Change converge to an alarming reality: The impacts of climate change are already felt in every corner of the world, and even more severe and intense impacts in the near term appear to be inevitable. For the world to preserve a chance of limiting temperature rise to 1.5 degrees Celsius, a target designated in the Paris Agreement, greenhouse gas emissions should be halved by 2030. The window for action to avoid irreversible outcomes is closing more quickly than previously assumed.

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Against this backdrop, anxiety and worries about the existential and symbolic threats of climate change are increasingly gaining momentum in the public. These negative emotional responses are not only observable among people who are directly affected by the ill impacts of climate change such as weather extremes; they can also be triggered by the mere thought and perception about climate change among individuals who do not yet personally suffer from direct impacts. This emerging phenomenon of fear, worry, and apprehension associated with concerns about climate change is referred to as *climate change anxiety* or, when referring to the ecological crisis more broadly, *eco-anxiety*.

A noticeable gap in the existing research about climate change anxiety is that findings based on populations in the Global South have been lacking. In particular, despite its huge population size and high level of vulnerability of climate change impacts, China has rarely been the focus of previous research. To fill this gap, this paper, informed by a series of recent studies from our research team, examines the phenomenon of climate change anxiety in the public in China.

ASSESSMENT

Prevalence of Climate Change Anxiety

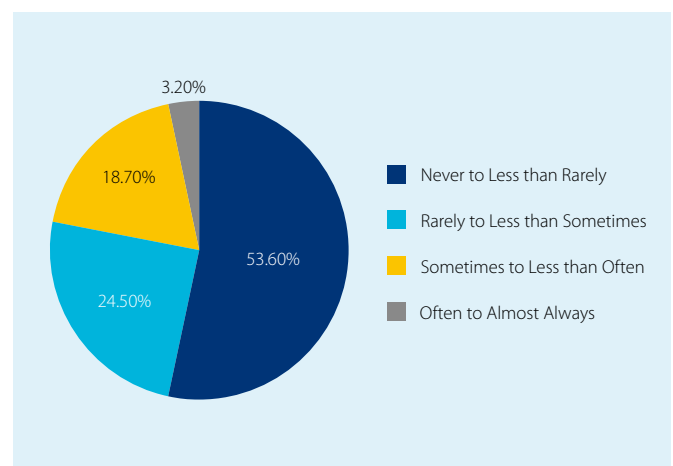
First of all, we tried to understand how prevalent climate change anxiety is among the Chinese public. It should be noted that climate change anxiety can be conceptualized merely as negative feelings toward climate change (i.e., feeling anxious, worried, terrified about climate change) or as symptoms of significant impairments in cognitive and emotional domains and in terms of daily functioning. We obtained data from China regarding both conceptualizations.

In a study conducted in 2023 (Chan, Tam, & Clayton, 2023), with a sample of 1,009 respondents from China, nationally representative in age and gender and diverse in income and education levels, we measured respondents' negative feelings when thinking about climate change. We observed that 36.5% of our respondents

reported feeling tense somewhat, quite a lot, or extremely. Similarly, the percentage for feeling anxious was 37.8%, that for feeling worried was 47.5%, and that for feeling terrified was 31.3%. These response distributions were similar to what we observed with a sample from the United States in the same study.

In a four-country study conducted in 2021 (Tam, Chan, & Clayton, 2023), we measured impairments associated with climate change anxiety among 1,000 respondents from each of the following countries: mainland China, India, Japan, and the United States; the samples were nationally representative in terms of gender and age and diverse in terms of income and education levels. With a validated measure, we observed that over 20% of our Chinese participants reported that they sometimes or more than sometimes experienced cognitive-emotional impairments (e.g., crying, difficulty to concentrate, difficult to sleep) and functional impairments (e.g., undermined ability to work, difficult to have fun with others). In addition, around 3% of the Chinese respondents reported that they often to almost always experienced such impairments (see Figure 1). This level of prevalence was found to be similar to that observed in an Indian sample, and substantially higher than those observed among Japanese and American respondents.

Figure 1. Distribution of Reported Frequency of Functional Impairments Associated with Climate Change Anxiety Among Chinese Respondents (Based on Tam et al., 2023)





In sum, our findings from these two studies suggest that a significant minority of the Chinese public is experiencing climate change anxiety in terms of not only negative feelings but also impairments of their functioning.

Association with Mental Health Outcomes

We then explored whether climate change anxiety impairs people's mental health. In Chan et al. (2023), we observed that respondents who felt more negatively about climate change also reported more intense symptoms of generalized anxiety and depression. In addition, respondents who reported more experience of impairments associated with climate change also experienced stronger generalized anxiety and depression symptoms. This pattern is in line with cross-sectional findings by other research teams obtained in other countries. It suggests that the experience of climate change anxiety is associated with indicators of poor mental health.

We then looked for longitudinal evidence. Our study in China is still ongoing, but in a study conducted in the United States (Chan, Lin, Tam, & Hong, 2024), we measured climate change anxiety and mental outcomes in two waves. We observed a temporal sequence from anxiety-related negative feelings toward the problem of climate change, to cognitive-emotional impairments, and then to functional impairments. Additionally, there was a reciprocal association between negative feelings toward climate change and generalized anxiety. That is, while feeling anxious about climate change emotionally could make people experience more generalized anxiety symptoms over time, the experience of generalized anxiety might also predispose individuals to climate change anxiety.

In all, our existing research evidence points to the possibility that experiencing climate change anxiety could harm Chinese people's mental well-being.

Who Are More Susceptible

Last, we tried to understand what kinds of individuals in China are more susceptible to the experience of climate change anxiety.

In the four-country study (Tam et al., 2023) mentioned above, we examined how climate change anxiety varied across different demographic sectors. We found that in China, impairments associated with climate change anxiety were stronger among male respondents, older respondents, and respondents with higher income; we did not observe any relationship with education levels, however. Interestingly, this pattern was not always observed in the other three countries, suggestive of the need to consider the idiosyncratic circumstances facing the Chinese population. For instance, climate change anxiety-related impairments were more prevalent among younger (rather than older) respondents in India and the United States, and the relationship between impairments and income was negligible in all three other countries.

We explored the role of psychological factors on climate change anxiety in Chan et al. (2023). We found that direct, personal experience of the various climate-related hazards (e.g., flooding, heat waves, extreme precipitation) was associated with higher levels of negative feelings toward climate change and impairments of functioning. Furthermore, we observed that respondents reported higher levels of climate change anxiety if they perceived climate change to be a realistic threat (e.g., threat to personal health, threat to financial safety) and a symbolic threat (e.g., threat to local values and tradition). There was also a consistently positive association between egoistic values and climate change anxiety; that is, respondents who emphasized personal achievement and wealth were more likely to experience climate change anxiety. In the same study, we also found that respondents who held a stronger belief in the capacity of the collective efforts by people in the country to fight climate change reported lower levels of climate change anxiety; this observation hints at a potentially effective strategy to reduce anxiety associated with climate change.

RECOMMENDATIONS

The research findings presented have the potential to significantly impact policy in China. Climate change anxiety is an emerging phenomenon among the Chinese public. While not yet a majority response, a significant proportion of individuals (approximately one fifth to one third of respondents in our samples) report experiencing climate change anxiety. This anxiety is associated with impairments in daily functioning and may lead to the development of broader mental health symptoms, such as depression and generalized anxiety.

Considering the potential impact of climate change anxiety on mental health, we believe that this phenomenon should be given greater attention and recognition by scientists, mental health professionals, and policymakers in China. Specifically, we recommend the development of strategies to identify sectors of the population that are most susceptible to climate change anxiety (e.g., the elderly), and the implementation of effective and scalable interventions aimed at buffering the mental health effects of this experience (e.g., cognitive interventions). Last but not least, it is important to note that experiencing climate change anxiety, as we and other research teams have found, also has the potential to motivate engagement in climate action and support for climate policies. It is imperative for future endeavours to distinguish these multi-faceted impacts of climate change anxiety and consider how to prevent people from developing more serious mental health issues out of it and channel this experience to a more adaptive expression.

Reference:

Chan, H. W., Lin, L., Tam, K-P., & Hong, Y-y. (2024). From negative feelings to impairments: A longitudinal study on the course of development of climate change anxiety. *Manuscript under review*.

Chan, H. W., Tam, K-P., & Clayton, S. (2023). Testing an integrated model of climate change anxiety. *Manuscript under review*.

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Kim-Pong Tam studies how people construe their relationship with nature and the emotional and behavioral implications of such construal. Some examples of his output in this direction include his works on anthropomorphism of nature, connectedness to nature, empathy with nature, and, most recently, gratitude to nature. He also studies the cross-national variability of phenomena regarding environmental attitude and pro-environmental behavior. In his recent projects, he has expanded his interests to include human responses to the problem of climate change, such as climate change anxiety, support for climate policies, and conspiracy theories about climate change. He is currently an Associate Professor in the Division of Social Science at The Hong Kong University of Science and Technology, and an Affiliate Researcher at the Center for Experimental Research in Social Sciences at Hokkaido University.



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