

“Exploring the factors that affect the cognition of climate change among the Z+ Generation.”

Research on the different understanding of climate change among Chinese and Canadian youth.



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What is the greatest threat facing humanity right now? According to the official statement of the United Nations on their website, "Climate Change is the defining issue of our time, and we are at a defining moment."

Current situation

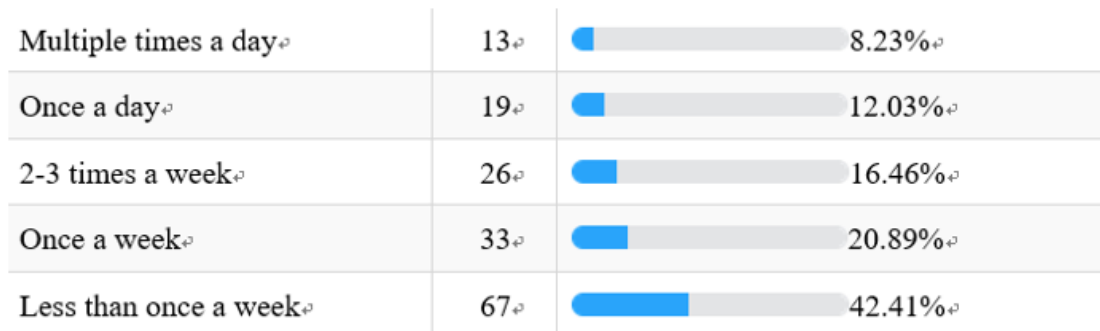
It seems teenagers are also trying to make their voice heard at this defining moment. Early this year, the Guardian and Reuters reported that a Swedish climate activist, also a high school student. Greta Thunberg raised the fire of students' protest against global leaders and policymakers and such protest soon swept through Europe and caused influence even on the other side of the Atlantic in the United States. How about the views and opinions of Chinese and Canadian teenagers when discussing climate change? Do they agree that the governments shall be held accountable for climate change? We are a group of Chinese high school students who are currently in Canada, and this provides us with a unique perspective on this topic.

To achieve our goal, we administered surveys among high school students aged from 15 to 18 in China and Canada. We asked them questions about their understanding of climate change. Along with their opinion regarding the current effort made by media, Non-Governmental Organization (NGO) and various administrations. We then compared the results from these two different groups and analyzed the cause of the differences. So far, we have received roughly 200 responses from both Chinese and Canadian students. Please note that the results of our analysis only suggest some findings and hypothesis among, suggesting our findings may not generalize to a broader population.

Based on the United Nation Sustainable Development Organization, climate change caused disasters have claimed over 1.3 million lives. It also caused economic losses estimated at \$3 trillion around the world from 1998 to 2017. In a campaign called World Scientists' Warning of a Climate Emergency on August 16, 2019, supported by the Oregon State University, over 8000 scientists from all around the globe have signed the statement to warn that "The climate crisis has arrived and is accelerating faster than many scientists expected. It is more severe than anticipated, threatening natural ecosystems and the fate of humanity."

According to our survey, students in China hear more about climate change daily at an average of 0.62 times a day while their Canadian peers report 0.50 times a day. However, we also notice that the individual difference among Chinese students regarding how many times they hear about climate change every day is more significant than that of the Canadian students by calculating the variance. The Net Promoter Score (NPS), a measure of variation, of this indicator from the Chinese students is -52, while that of the Canadian students is -72, leaning more towards the unfrequent side.

How many times do you hear about climate change every day? (Among Canadian Students):



How many times do you hear about climate change every day? (Among Chinese Students):

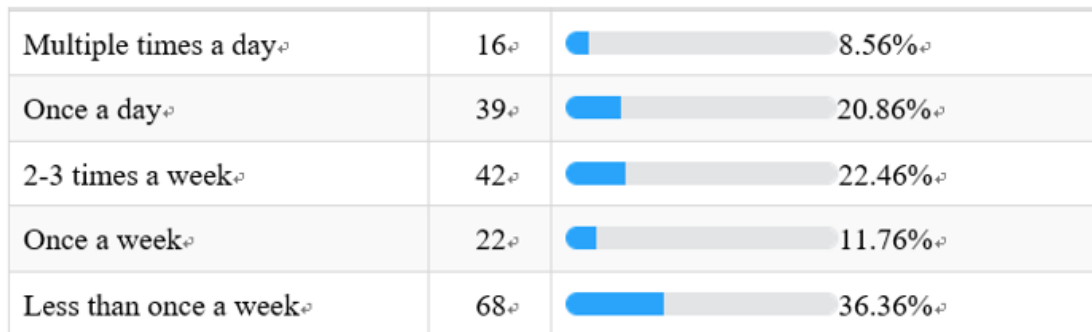


Figure 1

The summary of answers to the question “How many times do you hear about climate change on a daily base?”

Interestingly, we see how cultural difference contributed to the awareness of climate change when Chinese and Canadian interviewees were asking to self-evaluate their familiarity with climate change. On a scale of 1 (*not familiar*) to 10 (*very familiar*) when asking the interviewees to self-evaluate the familiarity of the climate change", the average level report by Chinese students is 5.06, intermediate familiar. While the average level reported by Canadian students is 6.46, more familiar than average, this seems to be contradictory to our previous findings that on average, Chinese students hear more about climate change daily; however, Chinese people usually take modesty as a virtue, and they are more careful when answering the questions of self-evaluation.

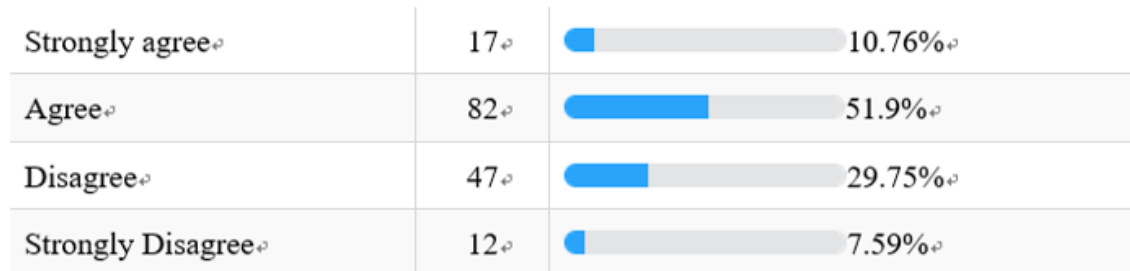
The factors that matter to the cognition and awareness of climate change

The increasing exposure to climate change issue has raised awareness, but at the same time, human beings do not cooperate and deal with this issue as a whole. It is easy to find different policies in different countries and different proposals among different parties in the same country, such as the US.

Government plays an essential role in battling climate change, such as passing regulations and policies that may impact the climate. That said, partisan differences often hinders government officials from working together and making active steps in climate change prevention. In a 2018 Pew Research, we can recognize that 44% of Republicans have the opinion that anti-climate-change policy will not make any change while more than 66% of Democrats believed that the US government was effectively handling the problem of climate change. “One of the biggest things in the U.S. has everything to do with political identity,” said Greg Hutching, Co-founder and President at Lectrolyst, “it has become part of the political identities of the right to say that climate change does not exist.”

According to our survey, students from different political backgrounds do show a distinct difference in proactivity towards climate change. More than 35% of Canadian students believe that political polarization is an essential factor, whereas only 12% of Chinese students think that the difference in regime, ideology or party plays a role. On the other hand, more than 40% of Chinese and Canadian students believe that our ignorance is the most important reason that we are not taking any actions towards climate change. More precisely, people take the importance of solving climate change behind the priority to solve other problems, such as the polarization of wealth or social welfare, ties our hands when reacting to climate change.

My Culture Places Emphasis on the importance of Climate Change? (Among Canadian Students):



My Culture Places Emphasis on the importance of Climate Change? (Among Chinese Students):

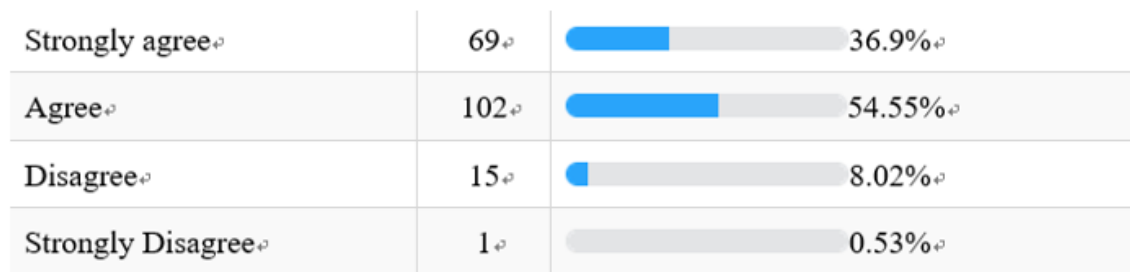


Figure 2

The summary of answers to the question “My culture places emphasis on the importance of climate change?”

Besides the effect of culture and politics, what else factors cause the difference?

When determining the effects of education on the understanding of climate change, we interviewed Dr. David Joiner from Canada and Ms. Lu from China for their opinion. They are both geography educators in their schools. Despite their disparate culture background, they both have experiences addressing climate change to their classes and think this knowledge is essential.

Dr. Joiner has been studying the effects of climate change for over 30 years. After his research while completing his graduate degree at Queen's University, Dr. Joiner firmly believes that humans are causing climate change. Called the “anthropogenic factor” humans are adding on top of the world warming by itself. He believes that there has already been a lot done to help raise awareness on the impacts of climate change, such as the countless reports written.



Photo by: Zuojia Hou

Zuo Jia Hou interviewed Dr. Joiner on his understanding and opinions of climate change.

However, with public awareness campaigns on social media, the accurate information from these original reports is watered down and sometimes becomes exaggerated or distorted. For example, misconceptions on causes of climate change make people take actions on irrelevant factors rather than actual causes. The complexity of climate change often makes it difficult to understand, thus leading to numerous misconceptions about climate change. This can, in turn, hinder climate change advocacy efforts. Unfortunately, as Instagram and Twitter become more and more popular today, more than 50% of the students from our survey said that they learned about global warming through social media. There was a high chance that these students were exposed to inaccurate if not incorrect information.

Challenges are waiting for the teenagers

A research conducted by Vasiliki Papadimitriou (1997) shows that 44.18% of students thought that all environmental pollution is one of the significant causes of climate change. Furthermore, 15.11% of students think that recycling would help battle climate change. According to a report filed by the EU Commission on the relationship between climate change and air pollution in 2010, it remains controversial and uncertain on how air pollution and how the policy to fight air pollution would affect the situation of climate change, indicating that students did not accurately understand the causes of climate change.

Our survey also backs this assumption that many high school students, no matter in China or Canada, only have a vague understanding of the cause of climate change. Our team administered surveys to 350 students in both Chinese and Canadian communities. The data shows that 69.48% of students believe that all environmental pollution is the leading cause of climate change. Additionally, 61.05% think that recycling is a good way to slow down climate change, whereas 72.75% of students think that excessive fossil fuel usage is one of the most important factors that we need to change.

We have past the point of no return: a new United Nations report has shown a global failure to act upon the climate catastrophe. Over the next few decades, the global average temperature will rise along with the sea level. Unless drastic changes were to happen to our current lifestyle, there is little chance that there is anything that could be done to prevent this from happening. There will be more extreme and more frequent weather phenomenon in the future. We have already seen deadly heat strokes affecting many European countries. This will only be more and harsher in the future as the global temperature increases. The future is grim, and unless we take radical action, there will be unforgiving consequences.