Do Americans understand how air pollution from fossil fuels harms health?

Most Americans (73%) are aware that air pollution from the use of fossil fuels harms the health of Americans. However, only about half (55%) are able to name even one such health impact, Additionally, the most frequently cited health impacts are general (e.g., breathing problems, respiratory illness) rather than specific (e.g., asthma). This according to the results of our recent *Climate Change in the American Mind* survey (December, 2018).

In the survey conducted by the Yale Program on Climate Change Communication and the George Mason University Center for Climate Change Communication, a nationally representative sample of 1,114 Americans were asked: "In your view, does air pollution from the use of fossil fuels harm the health of Americans?" Seventy-three percent of participants said "yes," 9% answered "no," and 17% percent answered "don't know."

Participants who answered "yes" were then asked the open-ended follow-up question: "To the best of your knowledge, what health problems are caused by air pollution from the use of fossil fuels?" Slightly more than half (55%) of all participants named at least one health problem related to air pollution from the use of fossil fuels. Non-specific references to respiratory problems (e.g., "breathing problems," "respiratory illness") were given most frequently (35%), followed by asthma (20%), and non-specific references to cancer (14%).[1] A total of one in three participants either responded that they don't know (20%) or did not provide a response to the question (13%).

The results indicate that Americans are particularly unaware of [neurological health problems](#) caused by exposure to air pollution from the use of fossil fuels. Only one percent of participants responding to the open-ended question cited neurological health problems, and no respondents mentioned a number of other health conditions linked to air pollution, including [diabetes](#), [kidney disease](#), or [weakening of the bones](#).

Air pollution-related health problems identified by respondents (open-ended)

	%
General respiratory problems	35
Don't know	20
Asthma	16
Other cancer	14
No response	13

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[1] Total responses sum to more than 55% because some respondents named more than one health problem.

Air pollution doesn't harm health	9
Poor air quality	6
Lung cancer	5
COPD	5
Heart disease	3
Other	3
Allergies	3
Birth defects/premature birth	1
Skin irritation	1
Special populations affected	1
Climate change	1
Eye irritation	1
Neurological problems	1
Unintelligible	1
Death	1
Black lung	0
Immune deficiencies	0
Diabetes	--
Kidney disease	--
Weakening of bones	--

Note: *N* = 1,114. The total of "don't know" responses includes 17% of respondents who said "don't know" to the initial closed-ended item and an additional 3% who said "don't know" to the open-ended follow-up item. "0" denotes that at least one participant, but less than 0.5% of the full sample, provided this response; "--" indicates that no participants provided this response. COPD = chronic obstructive pulmonary disease.

Among respondents who said that air pollution from the use of fossil fuels causes health problems, an additional set of question was also asked. First, we asked "Do you think that some groups of Americans are more likely than other Americans to experience health problems caused by air pollution from the use of fossil fuels?" In response, 56% of participants said they think some groups of Americans are more affected by air pollution from the use of fossil fuels than others, while 4% said no group is at higher risk, and 12% indicated that they "don't know."[2]

Participants who responded that they did think some groups of Americans are more affected by air pollution from the use of fossil fuels than others were then asked the open-ended follow-up question: "Which groups of Americans do you think are more likely than other Americans to experience health problems caused by air pollution from the use of fossil fuels?" Nearly half of participants (48%) named at least one group. Seniors were mentioned most often (15%),

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[2] Percentages are based on the full sample of Americans (*N* = 1,114).

followed by those who live or work in polluted areas (13%), children (8%), people who live in cities (8%), people who are sick or disabled (7%), those in low-income households (7%), infants and very young children (3%), those with weak immune systems (2%), minorities (2%), people living in specific geographic locations (1%), and coal miners (1%).

Many of these responses align with scientific findings. According to the American Lung Association, children and teenagers, older adults, people who have low incomes, people who work or exercise outdoors, people who live or work near busy highways, and people with lung diseases, cardiovascular diseases, or diabetes are all at higher risk of suffering health problems from air pollution.

Populations identified by respondents as being vulnerable to the health impacts of air pollution (open-ended)

	%
Seniors	15
Don't know	13
No response	9
Live/work in polluted area	9
Children/young	8
City dwellers	8
Sick and disabled	7
Poor/low income	7
No groups are more vulnerable than others	4
Babies/very young	3
Low immunity	2
Other	2
Minorities	2
All people are vulnerable	1
Specific region	1
Coal miners	1
Smokers	0
Women	0
Unintelligible	0
Disenfranchised	0
Outdoor workers/farmers	0
Uninsured/limited healthcare	0
Rural	0

These findings demonstrate that despite decades of public education about the health effects of air pollution, many Americans are still unable to name a specific health problem caused by air pollution from the use of fossil fuels, and many more Americans are unaware of the full array of serious health problems caused by air pollution from the use of fossil fuels. Many Americans are also unaware that some groups are more likely to be affected by air pollution from fossil fuels than others, and even fewer are able to name which groups are more vulnerable.

Methods

This research note is based on findings from the nationally representative survey, *Climate Change in the American Mind*, conducted by the Yale Program on Climate Change Communication and the George Mason University Center for Climate Change Communication. Interview dates: November 28 – December 11, 2018. Interviews: 1,114 adults (18+), average margin of error +/- 3 percentage points at the 95% confidence level. Percentages are rounded to the nearest whole number.

Two graduate students coded the open-ended responses using coding instructions developed by the lead author. Intercoder reliability statistics for all categories as well as the coding instructions can be found below. Reliability was calculated using the ReCal web service (Freelon, 2010).

Suggested Citation

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References

Freelon, D. (2010). ReCal: Intercoder reliability calculation as a web service. *International Journal of Internet Science, 5*(1), 20-33.

Click here for information about the intercoder reliability test results for the content analyses.

Click here for information about the coding instructions for the perceived health problems from air pollution.

Click here for information about the coding instructions for perceived vulnerable populations from air pollution.