

# INTERNATIONAL SURVEY ON CLIMATE CHANGE STATKNOWS 2019

## PHASE 1 RESULTS LATIN AMERICA



Friday, December 13, 2019

José Antonio Ruelle,  
Chief Technology Officer at  
StatKnows

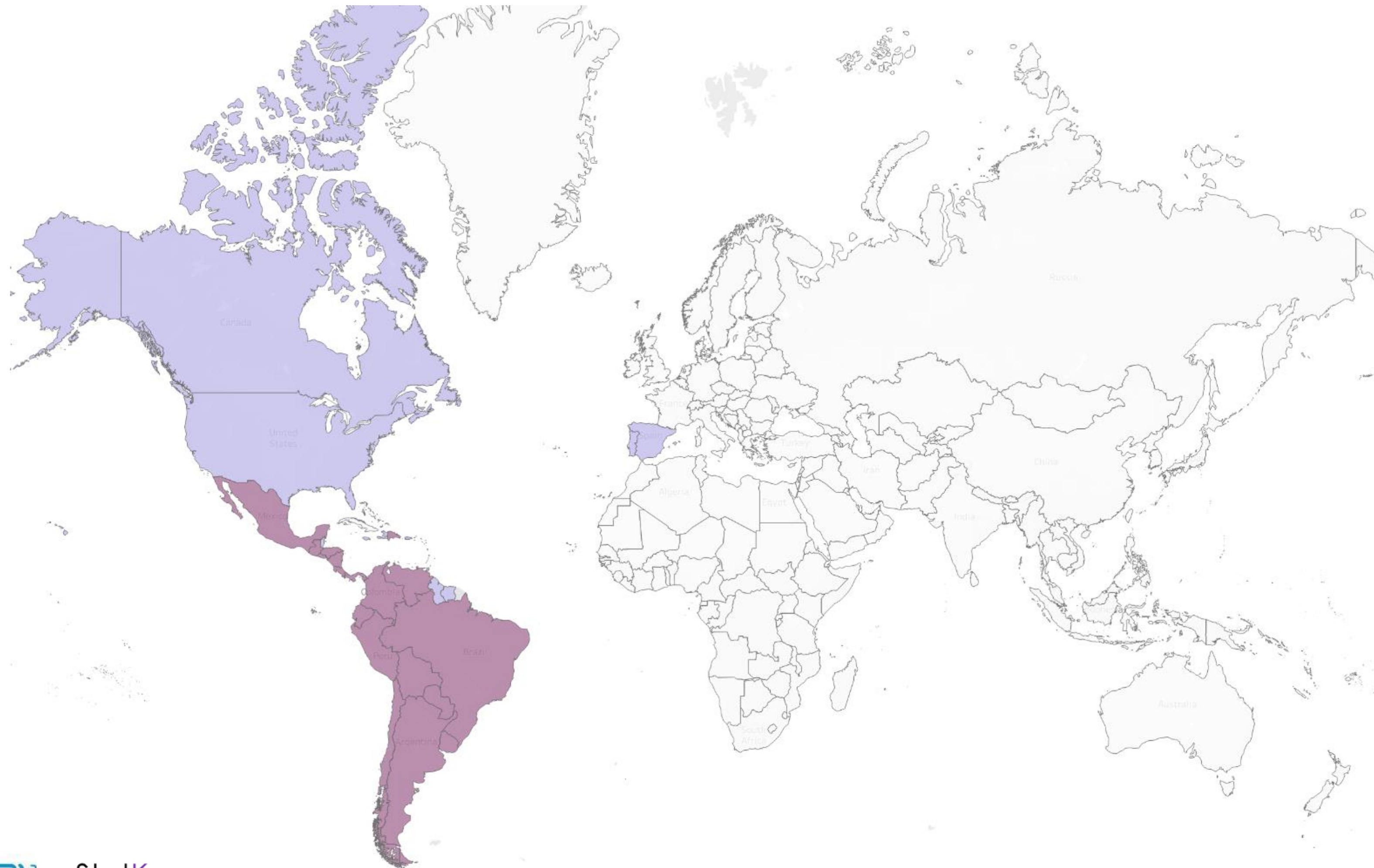
Andrea Rudnick,  
Executive Director at  
(CR)<sup>2</sup>



Center for Climate  
and Resilience Research  
[www.CR2.cl](http://www.CR2.cl)

StatKnows®  
Inteligencia artificial aplicada

# Covers 36 countries in America and the Iberian Peninsula



**Phase 1**  
**Latin America**  
**18 countries**

**Phase 2**  
Results in early 2020:  
**18 other countries**  
**Rest of America + Spain and Portugal**



# Online survey with samples representing the entire population over 18 in each country; not only Internet users.

## Applied artificial intelligence + statistics science.

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StatKnows has a **patented sample inference methodology for online surveys**.

Its algorithms efficiently and systematically browse public information available on the Internet.

This massive search allows it to:

- ✓ identify multiple characteristics of the studied populations,
- ✓ and form samples and ask questions to people who reflect those diverse characteristics.

**Responses are calibrated** with census information and other types of information, so as to properly represent the populations under study.

StatKnows **safeguards personal information**, delivers aggregated and anonymized data, and complies with the new European regulation on this subject (GDPR).



**Questionnaire was created by climate change scientists.**

**Scientists also analyzed the results and participated in the dissemination of the findings.**

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The Center for Climate and Resilience Research (CR)<sup>2</sup> welcomed and joined the StatKnows initiative, providing interdisciplinary scientific knowledge and experience.

**Questions of the National Survey on the Environment and Climate Change** (Chile, 2016) were included, adapted to the digital format.

Questions that aim at identifying **perceptions** on the relationship between climate change and climate management with **poverty, inequality and justice** were included.

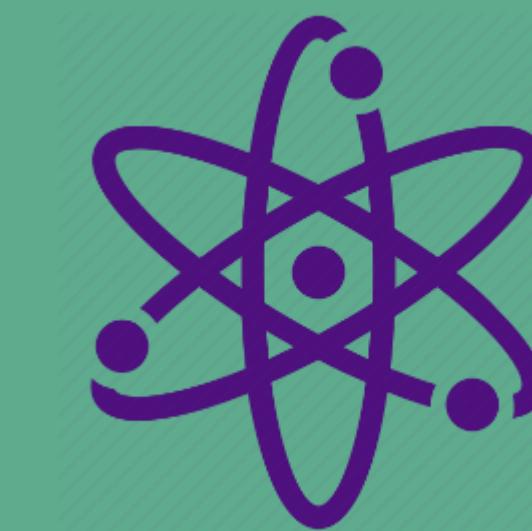
For the analysis of results, it was considered pertinent to group countries by their Human Development Index (HDI), calculated by the UNDP. The HDI includes variables on health (life expectancy), education, and wealth (GDP per capita).



Contribution to scientific research, the development of public policies, and climate action.



A global tool placed at the service of a fundamental global challenge.



This survey was conducted with our own funding.

## UNIVERSE:

**430,411,041 people**

All people over 18 living in the following 18 countries (\*):

Argentina	Honduras
Bolivia	Mexico
Brazil	Nicaragua
Chile	Panama
Colombia	Paraguay
Costa Rica	Peru
Ecuador	Dominican Republic
El Salvador	Uruguay
Guatemala	Venezuela

## SEARCH

with AI to identify population characteristics and form representative samples:

Public information of 43,213,002 people.

## SAMPLE SIZE:

**7,232 people**

## SAMPLE ERROR

**2.8%** estimated at the general level for the total survey. Results per country remain representative, while error in each case is indicated (error per country of between 6.35 and 7.52%).

## RESPONSE RATE:

**62%**

## SAMPLING TYPE:

Stratified probabilistic sampling with allocation proportional to the size of biphasic selection.

## TIME PERIOD OF ADMINISTRATION:

November 14 to 18, 2019

Conducted online using Statknows patented sample inference methodology for online surveys.

Responses were calibrated so as to properly represent both the total and each country's populations.

(\*) In this report, these 18 countries are referred to as Latin America. Cuba is not included due to technical restrictions of the country.




# Three languages

## Spanish

6 → ¿Cuál **cree** usted que es la principal **causa** del cambio climático?

- ☐ A La actividad humana
- ☐ B Los procesos naturales del planeta
- ☐ C La combinación de la actividad humana y los procesos naturales del planeta
- ☐ D Ninguna, el cambio climático no está ocurriendo

### Sexo

- ☐ A  Hombre
- ☐ B  Mujer
- ☐ C  Otro




## Portuguese

6 → Segundo você, qual é a principal **causa** das mudanças climáticas?

Recorte retangular

- ☐ A Atividade humana
- ☐ B Os processos naturais do planeta
- ☐ C A combinação da atividade humana e os processos naturais do planeta
- ☐ D Nenhuma, a mudança climática não está acontecendo

### Sexo

- ☐ A  Homem
- ☐ B  Mulher
- ☐ C  Outro




## Guarani

6 → **Mba'ére**, ndéve guarâ, **oikoha** ararova ñemoambue?

Recorte rectangular

- ☐ A Yvypóra tembiapo rehe.
- ☐ B Arapy oñemboheko rupi ijapopyre'ý apopa'ývaicha.
- ☐ C Yvypóra tembiapo ha arapy oñemboheko rupi ijapopyre'ý apopa'ývaicha ñembojehe'a rehe.
- ☐ D Mavavéva, Ararova ñemoambue noñemohendáiti.

### Méña

- ☐ A  Kuimba'e
- ☐ B  Kuña
- ☐ C  Otro

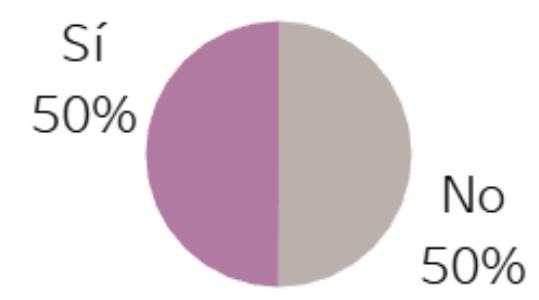
Spanish questionnaire at:  
<https://dmpml.typeform.com/to/g4sQZq?tag=xxxxx>

# Socio-demographic profile

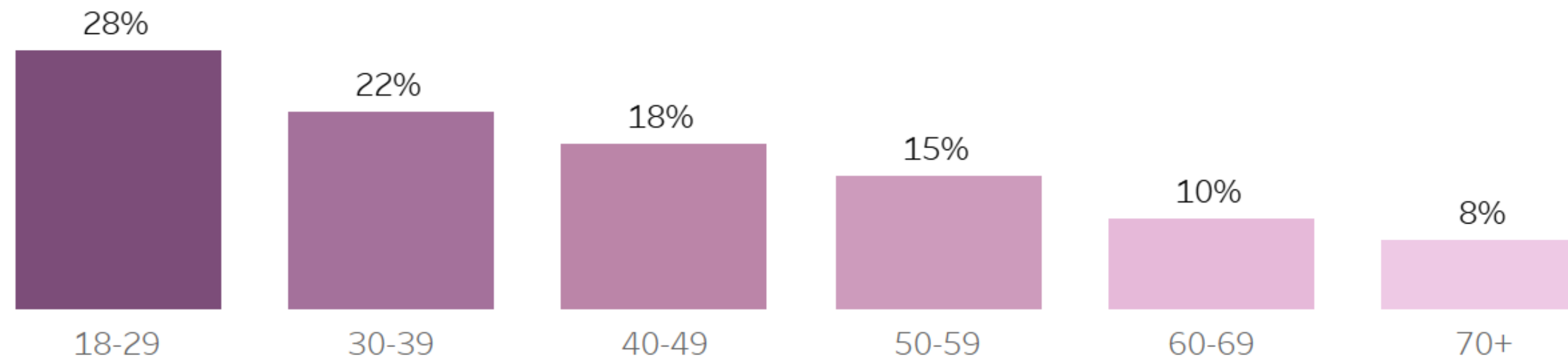
Sex



Do you have children?



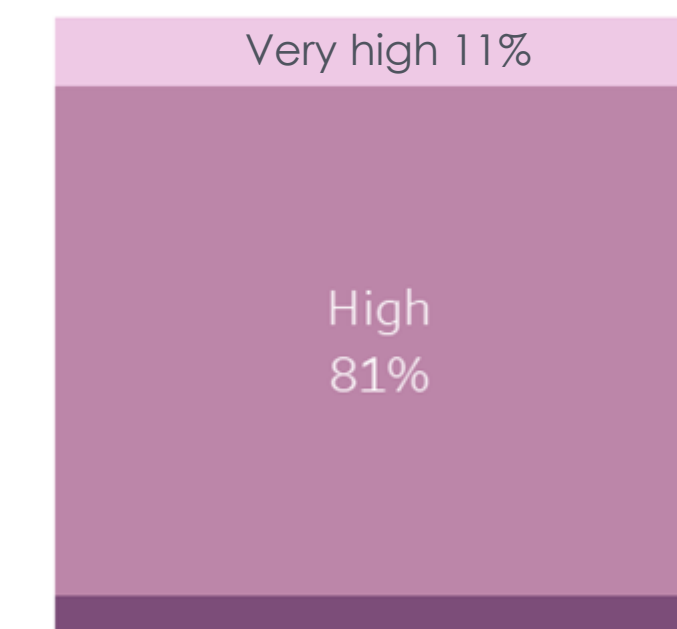
Age group



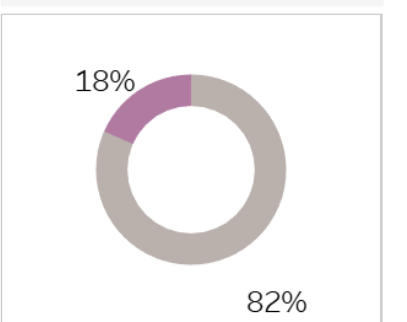
Country



Human development Index



Ecologically minded

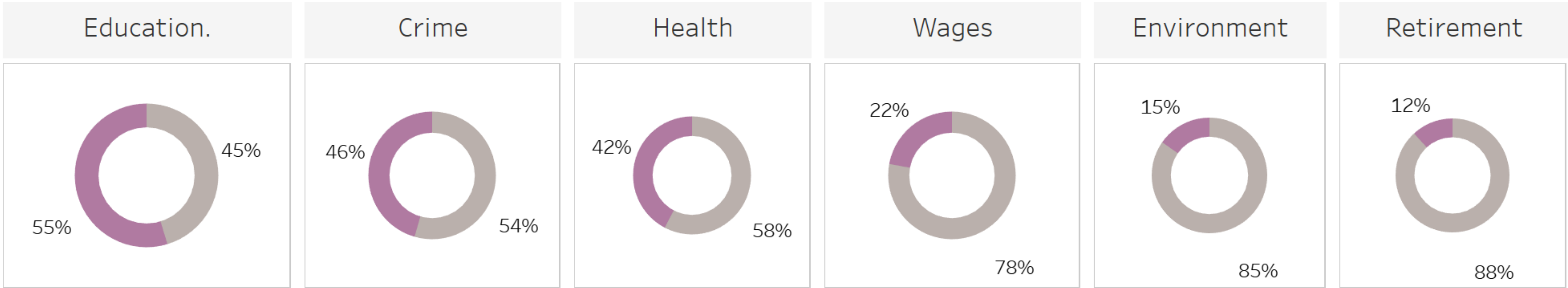


Self-identification



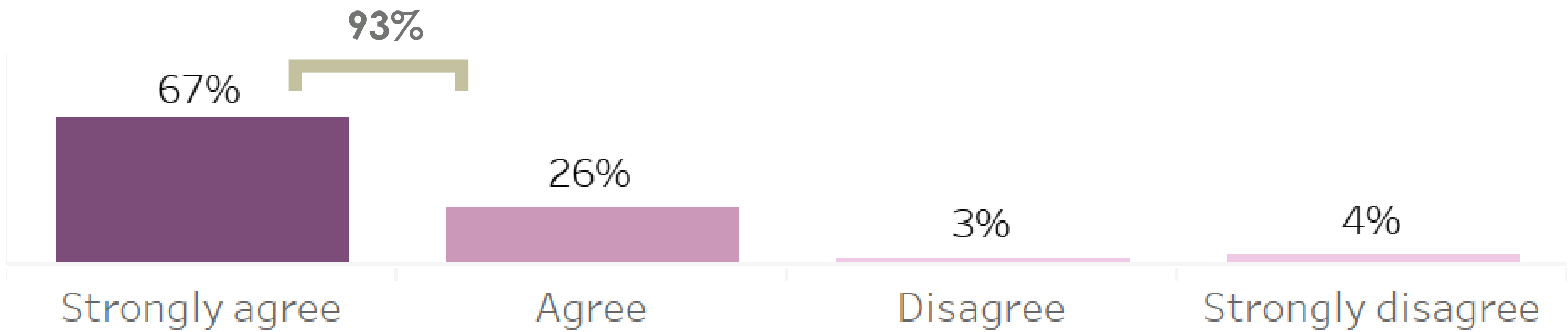
# MAIN FINDINGS

Of these issues, which are the most important for your country? You can choose up to three.



Please indicate how much you agree with the following statement:

***“Climate change must be a priority for my country’s next government.”***

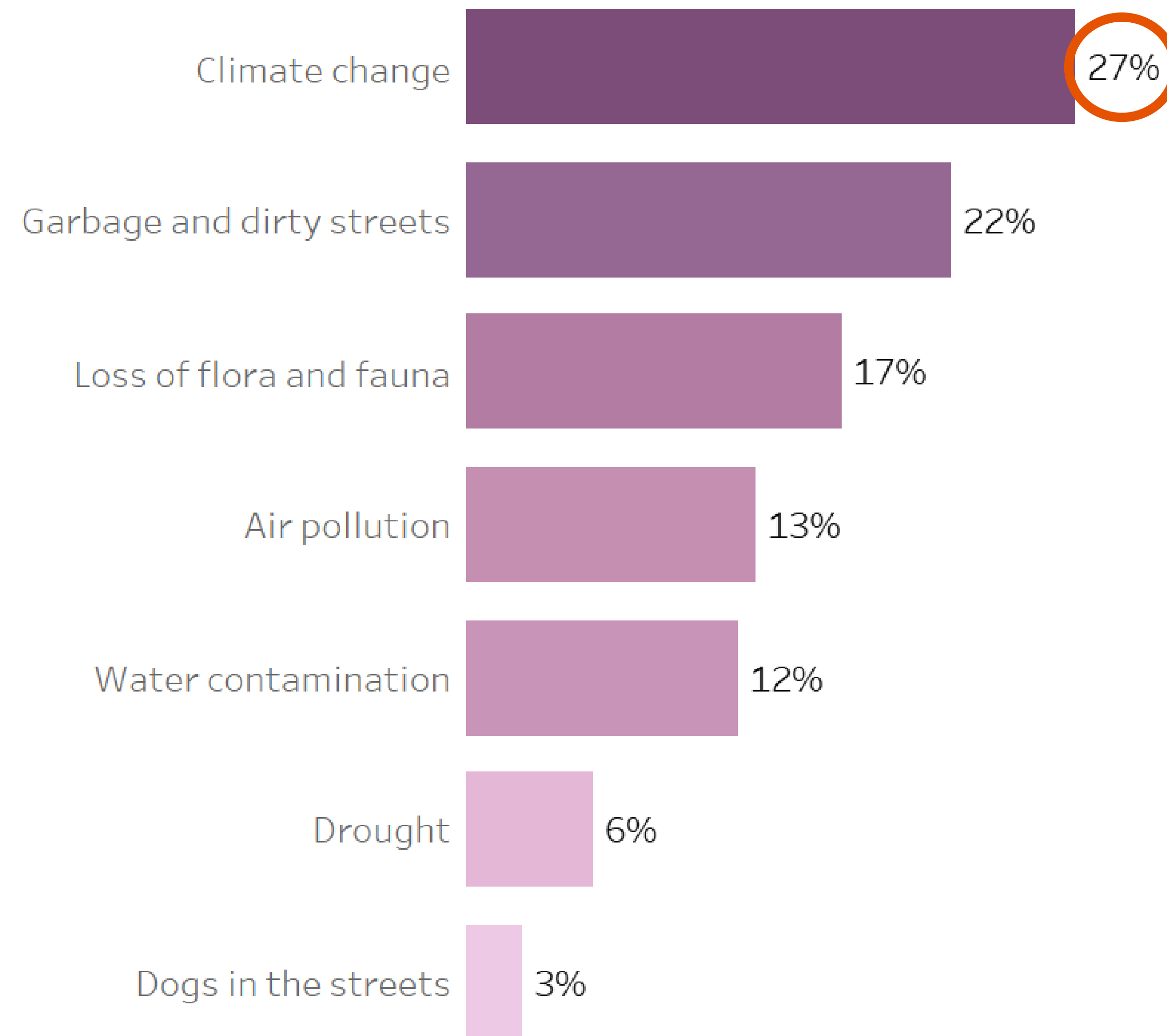


There are issues that stand out over the environment.

However, 93% of Latin Americans believe that "climate change must be a priority for the next government of my country."

**According to your perception,  
what is the main environmental problem that affects you?**

(Choose one)



Climate change (CC) is perceived as the main environmental issue.

CC takes the first spot in 14 out of the 18 countries.

CC reaches higher percentages in Panama (32%) and Costa Rica (31%).

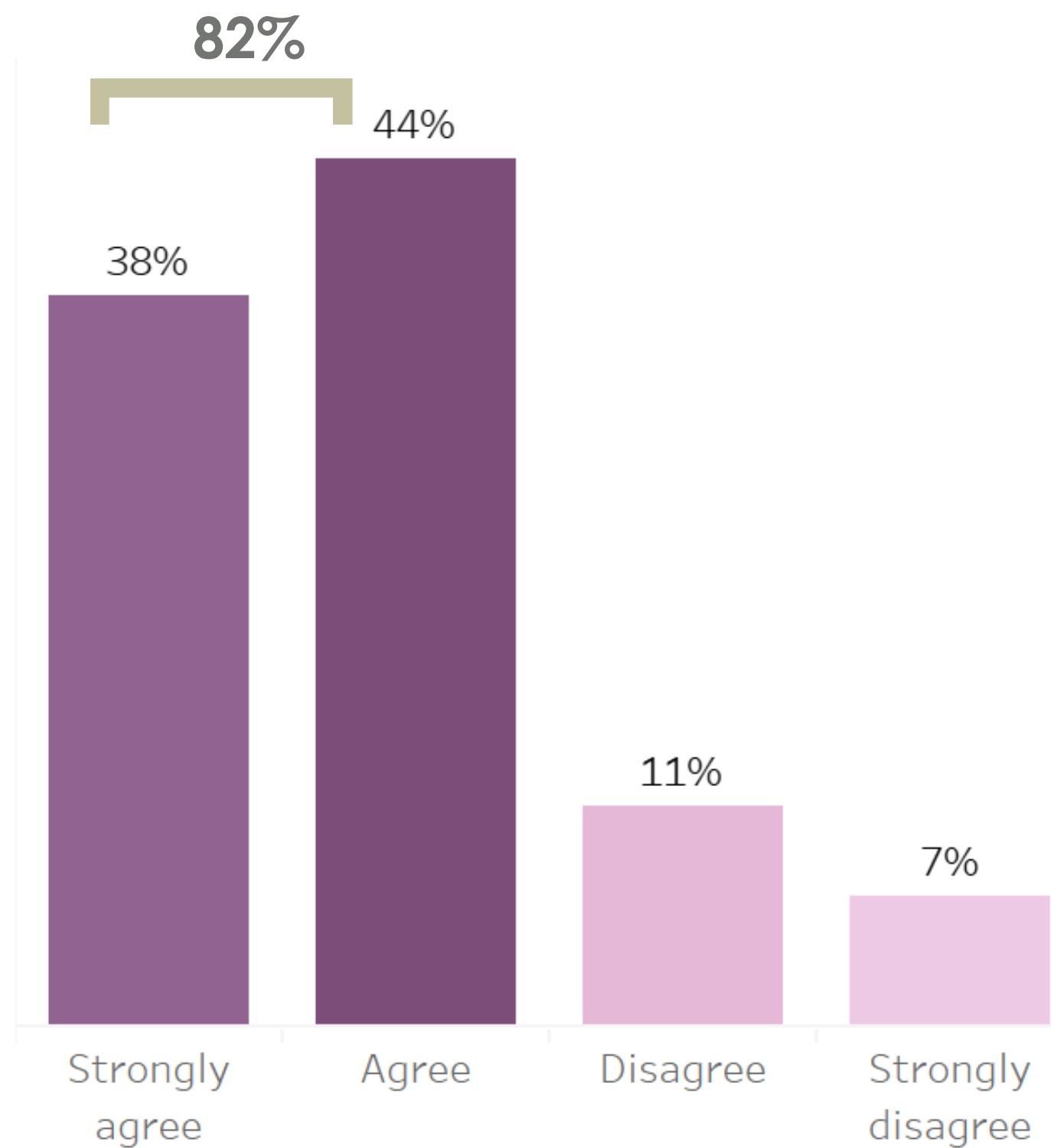
“Garbage and dirty streets” tops CC in the Dominican Republic (35%), Nicaragua (33%) and El Salvador (28%).

“Loss of flora and fauna” tops CC in Bolivia (27%).

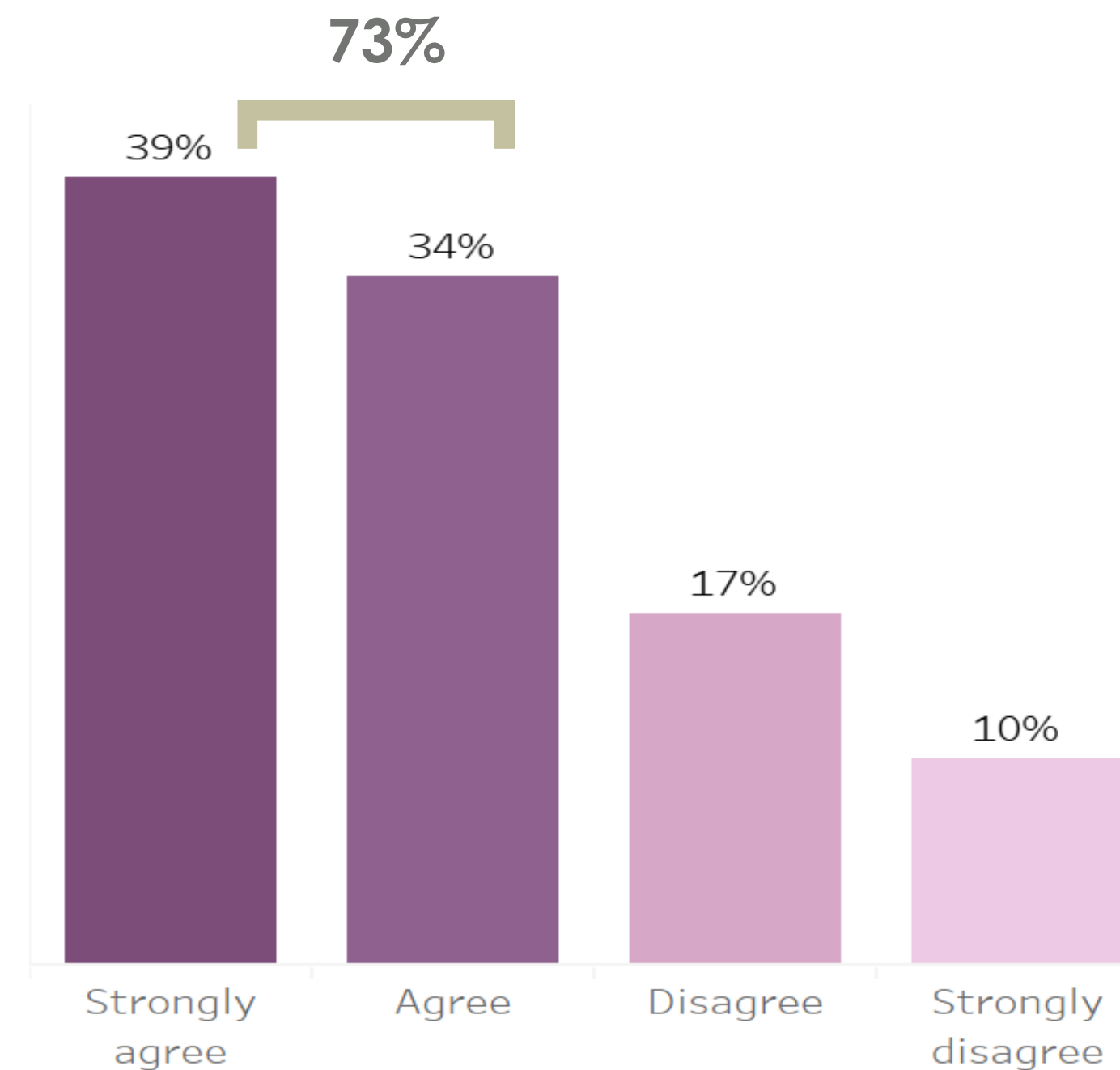


Please indicate how much you agree with the following statements:

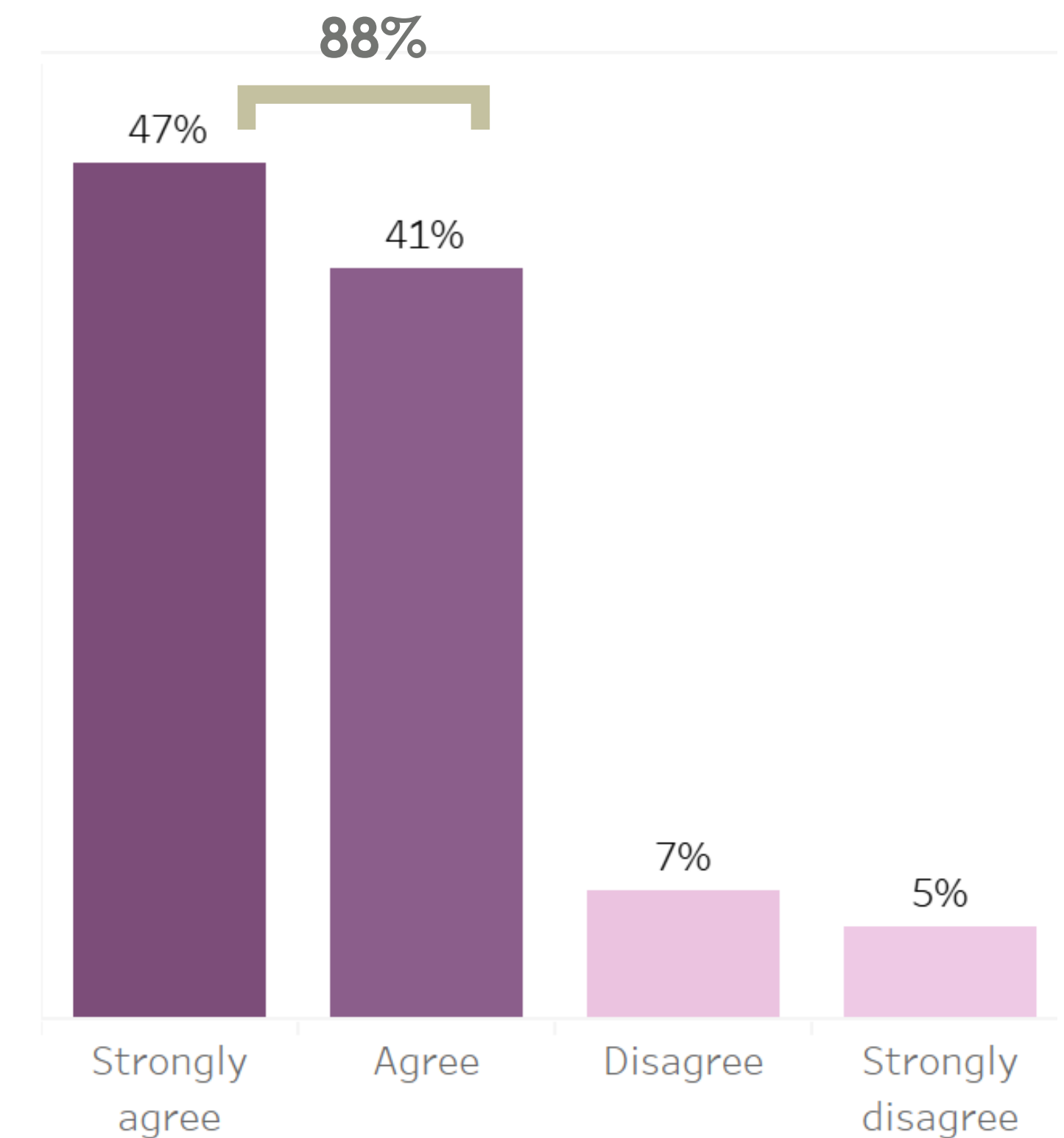
***“Climate change will worsen poverty and inequality in my country.”***



***“The effects of climate change will mostly affect the poorest people.”***



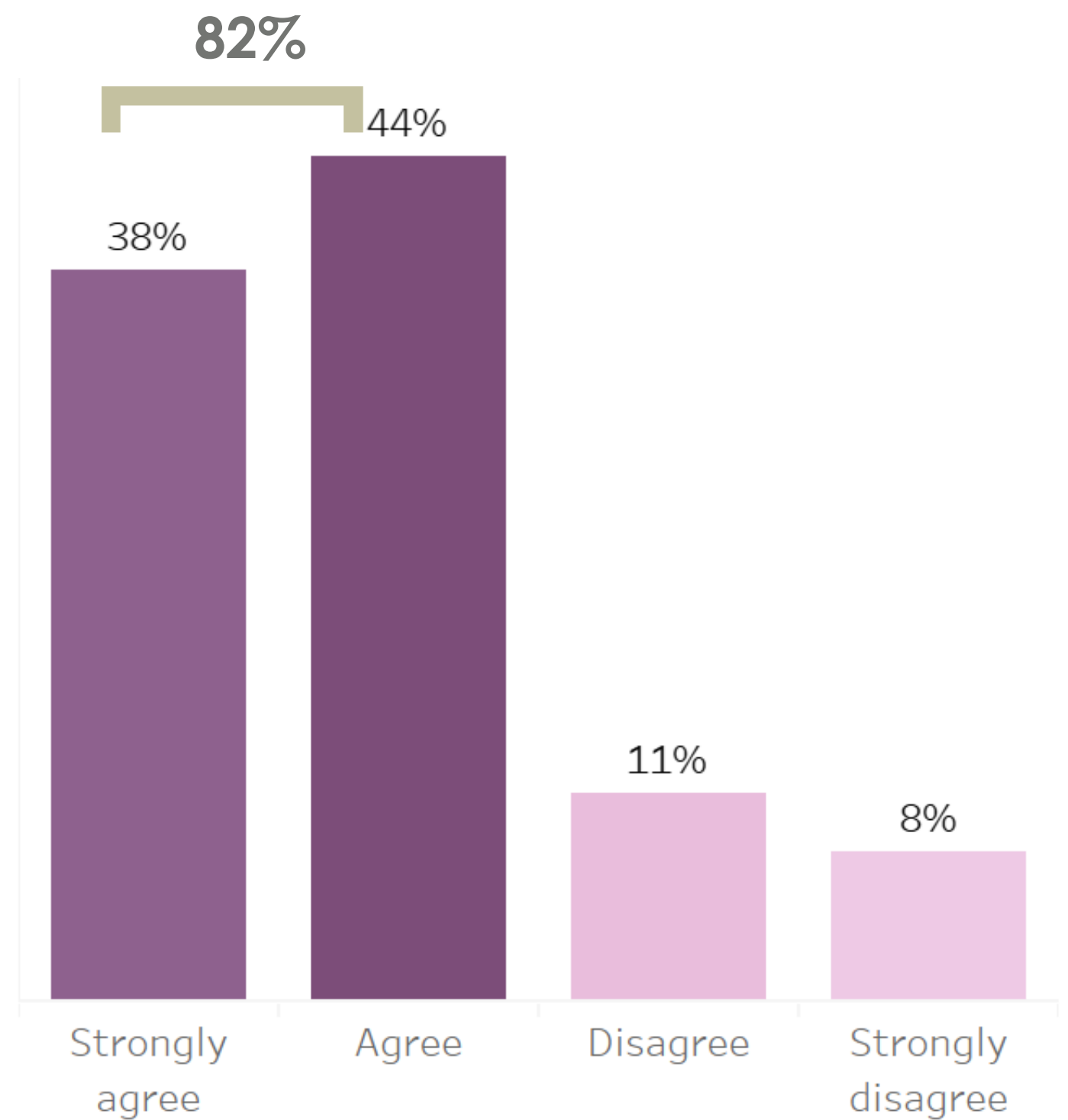
***“Facing climate change is an opportunity to build a more just world.”***



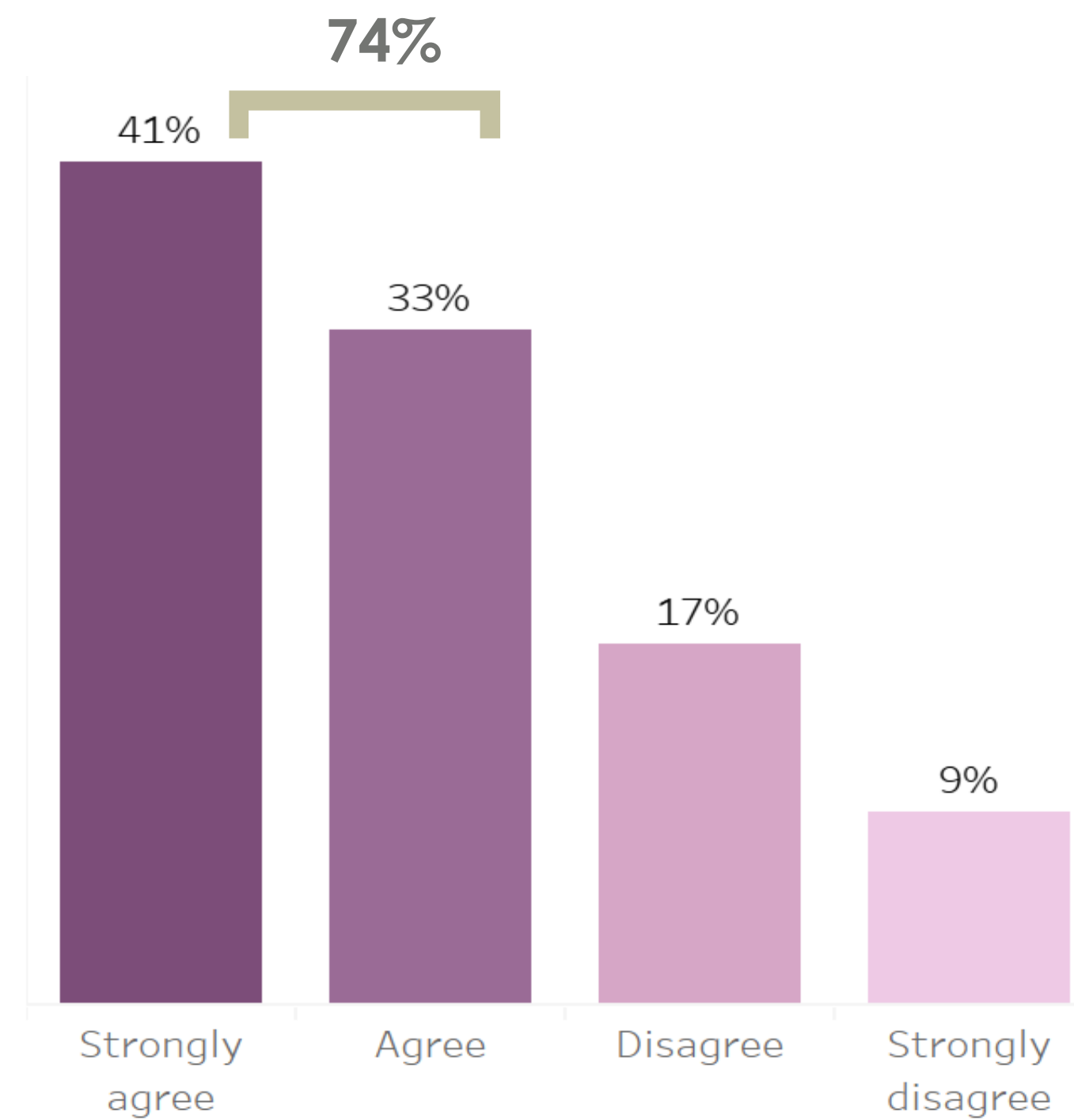
There is consensus that there is a strong relationship between climate change and poverty and inequality.  
There is also agreement that tackling climate change is an opportunity to build a more just world.

Please indicate how much you agree with the following statements:

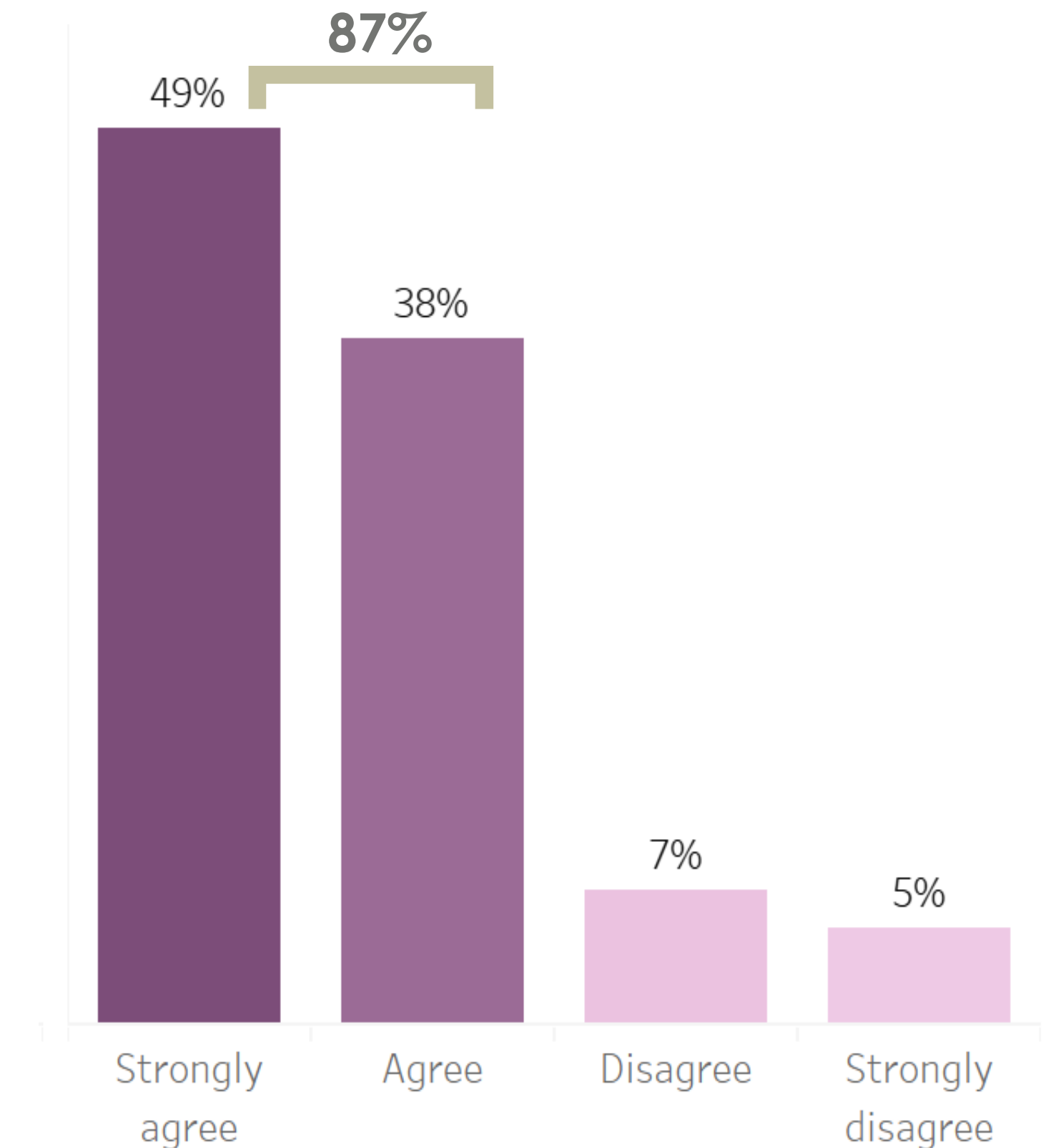
***“Climate change will worsen poverty and inequality in my country.”***



***“The effects of climate change will mostly affect the poorest people.”***



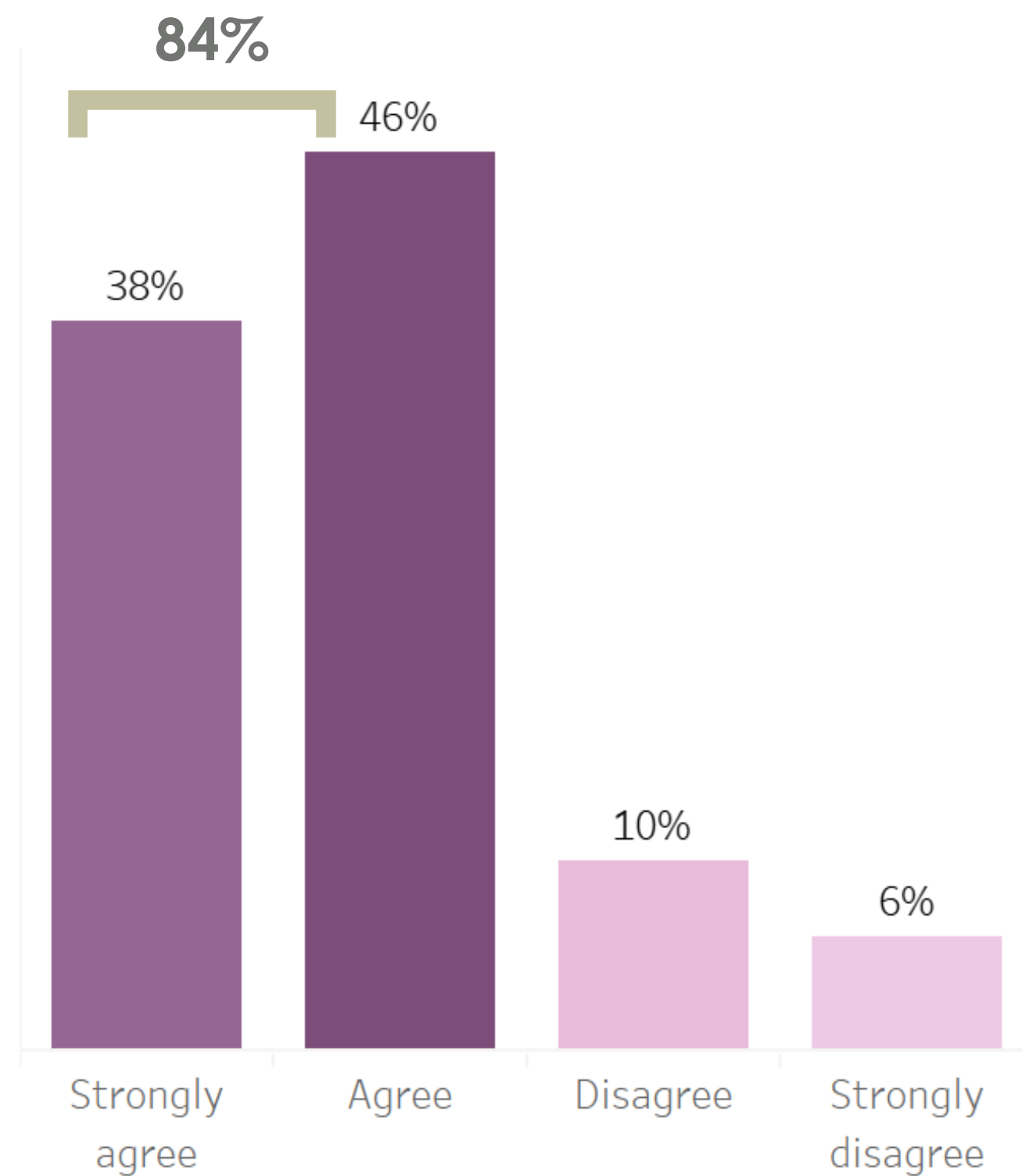
***“Facing climate change is an opportunity to build a more just world.”***



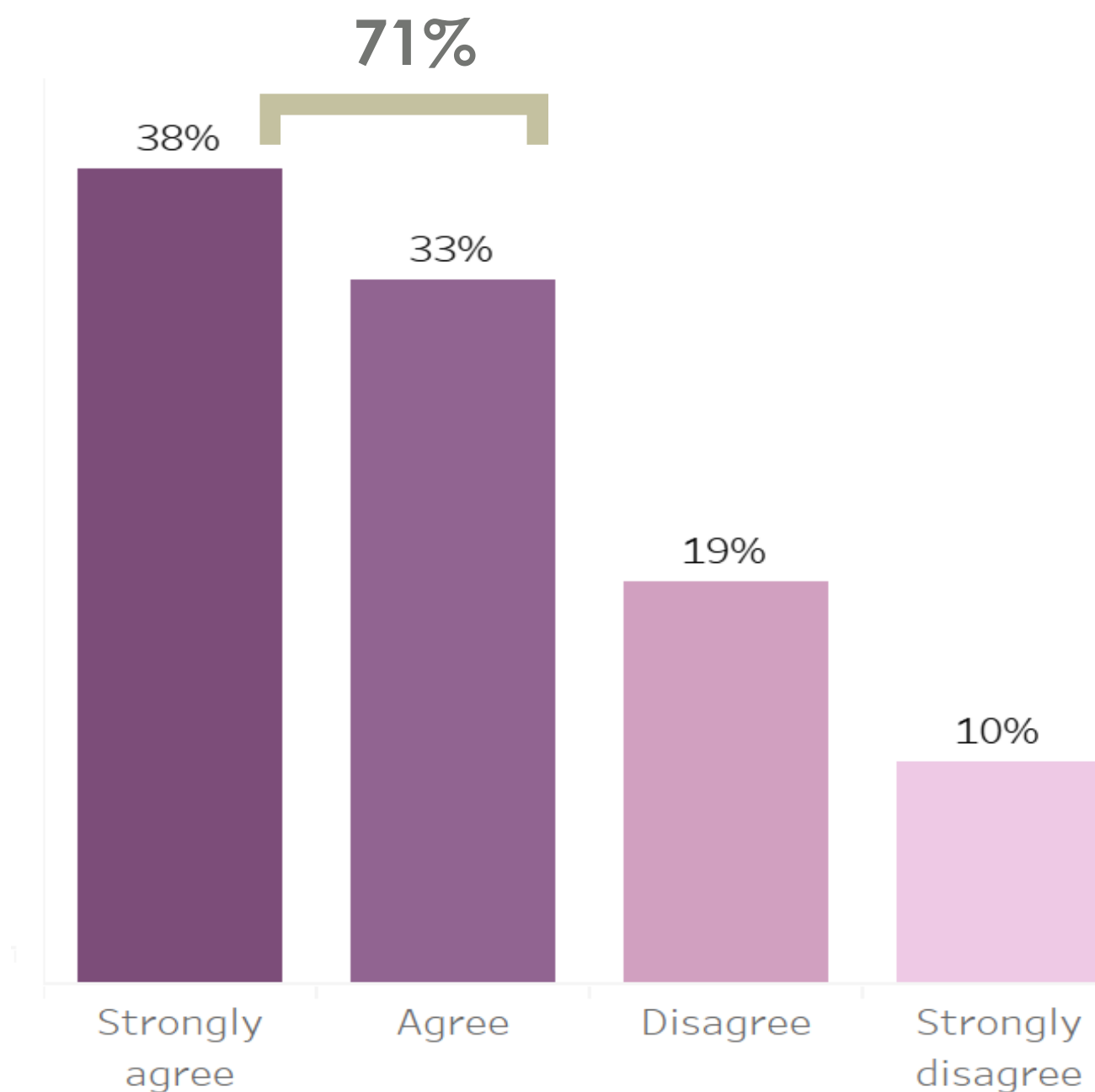
Also in Chile there is consensus that a strong relationship between climate change and poverty and inequality exists.

Please indicate how much you agree with the following statements:

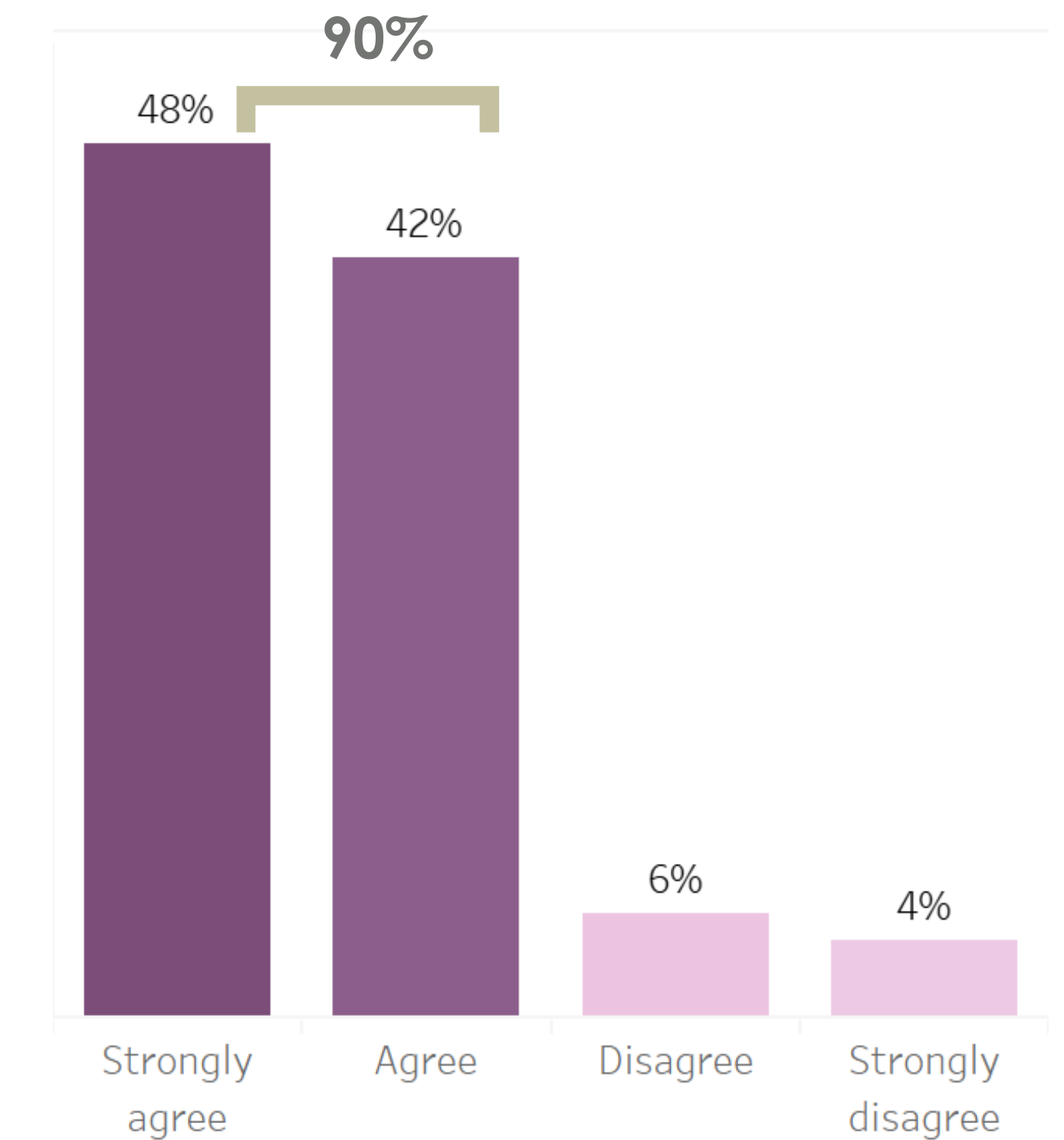
***“Climate change will worsen poverty and inequality in my country.”***



***“The effects of climate change will mostly affect the poorest people.”***



***“Facing climate change is an opportunity to build a more just world.”***

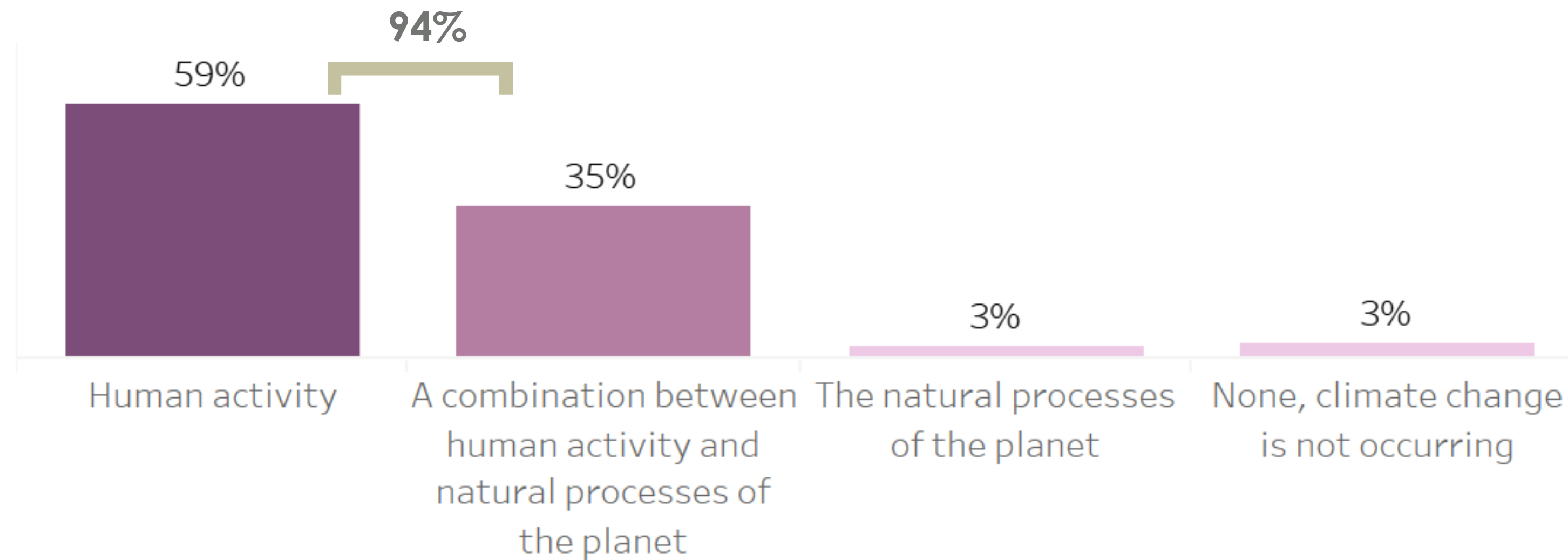


Also in Colombia there is consensus that a strong relationship between climate change and poverty and inequality exists.



## What do you think is the main cause of climate change?

(Choose one)

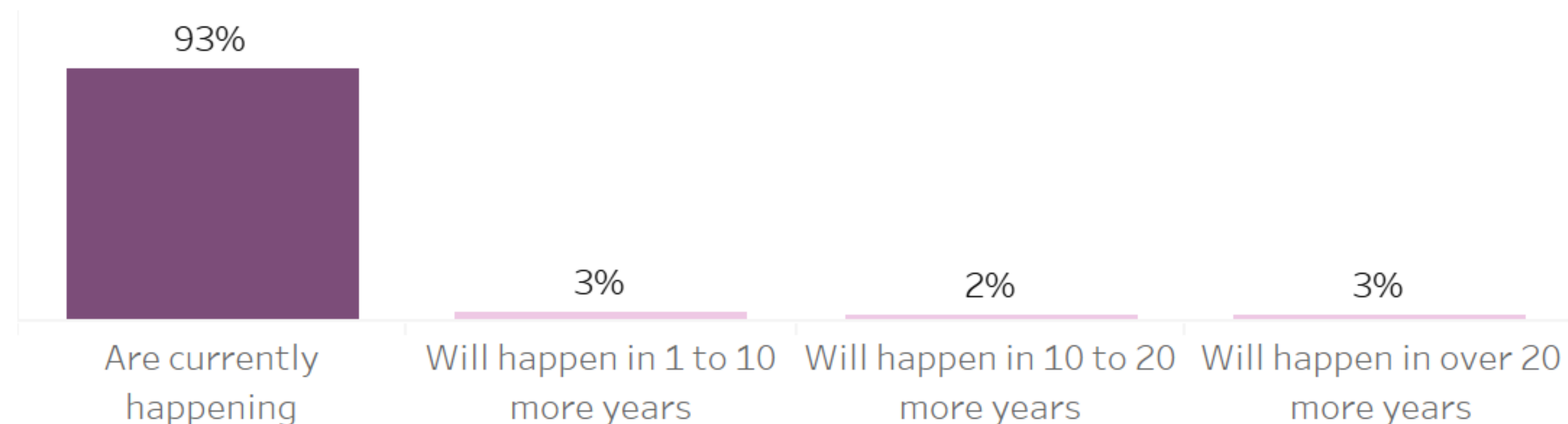


There is broad consensus in Latin America that climate change is caused wholly or partially by human activity.

There is also broad agreement that its consequences are currently occurring.

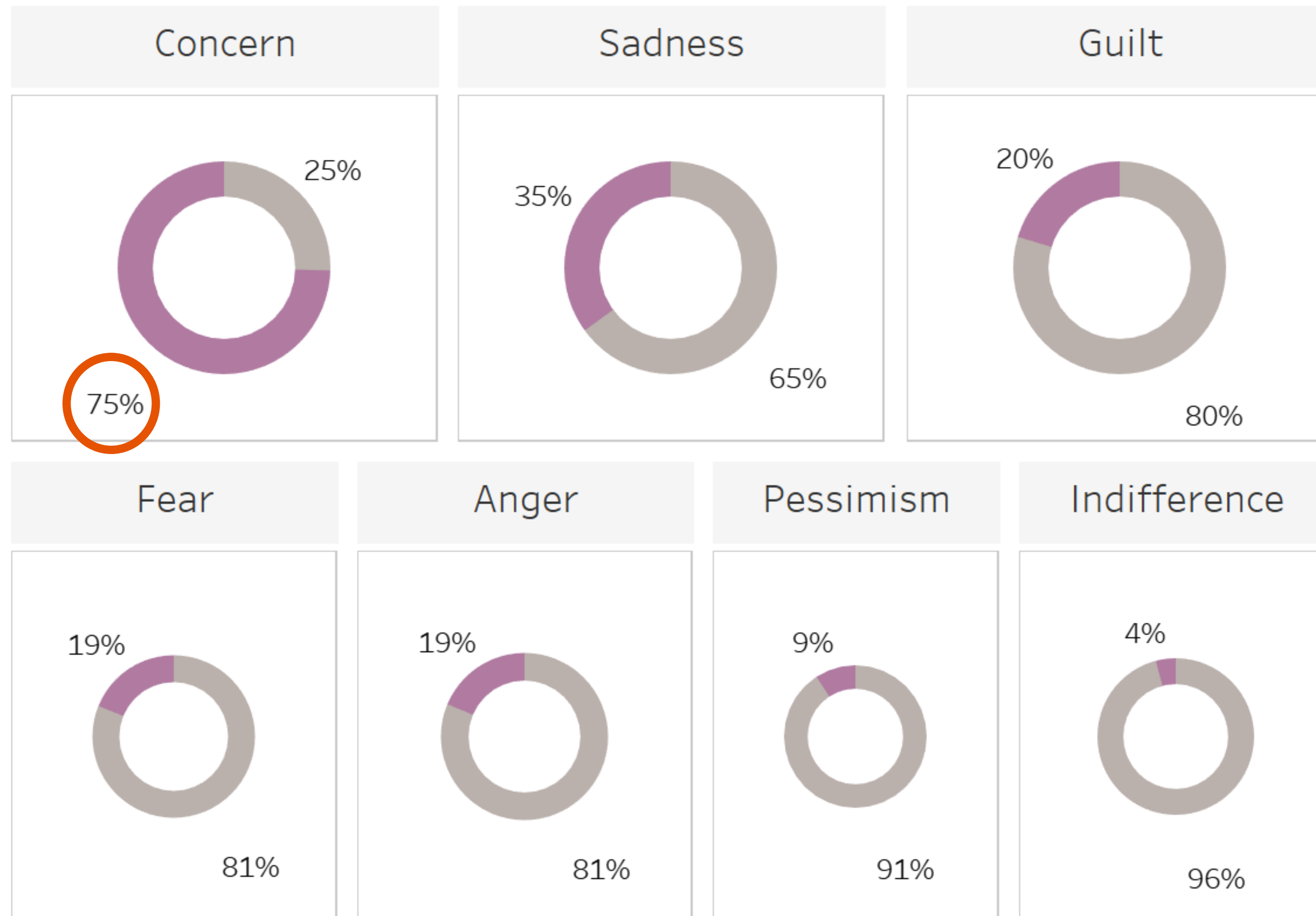
## In your opinion, consequences of climate change ...

(Choose one)



What do you feel when you hear the concept of “climate change”? (Choose up to 3 options)

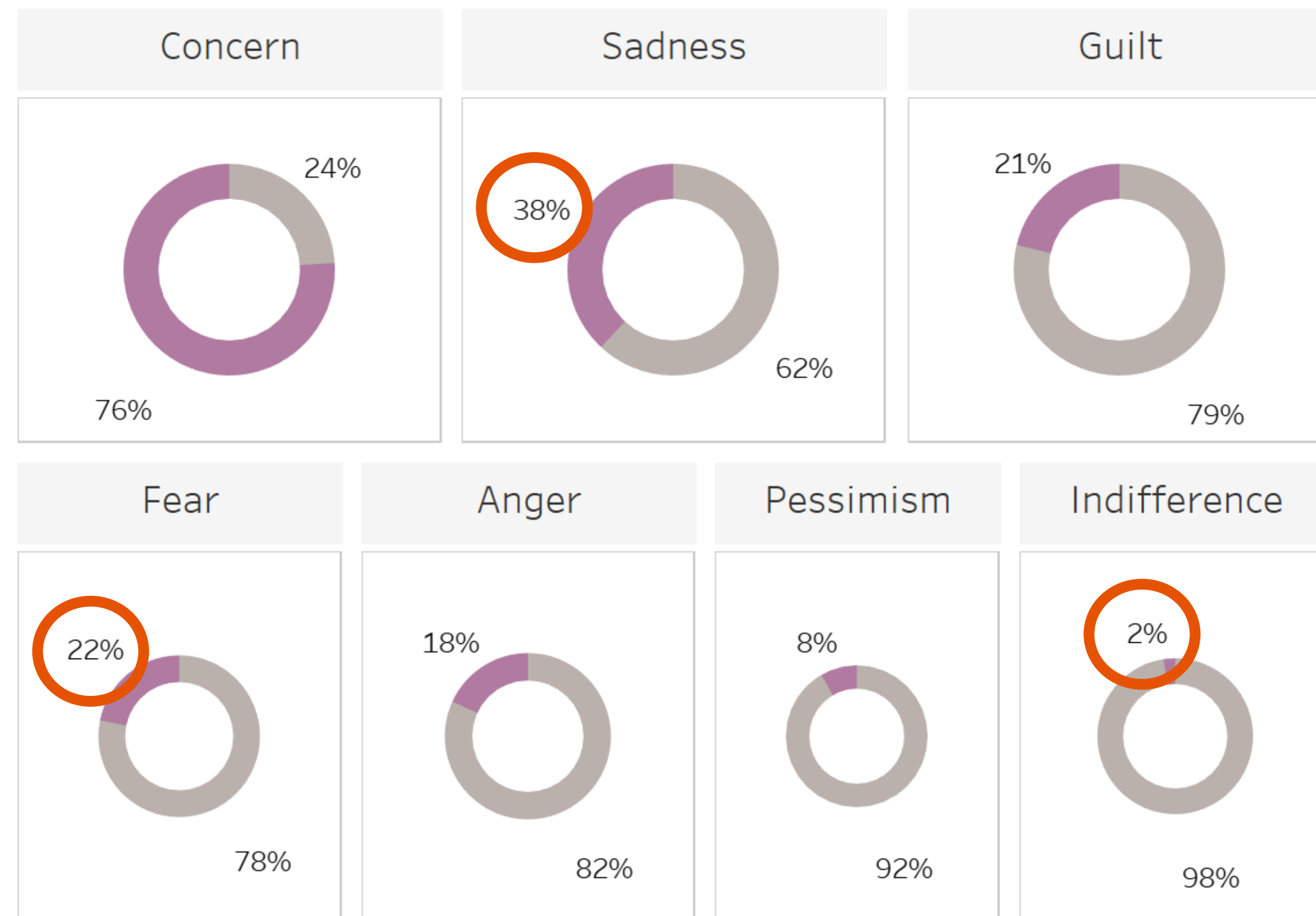
General population



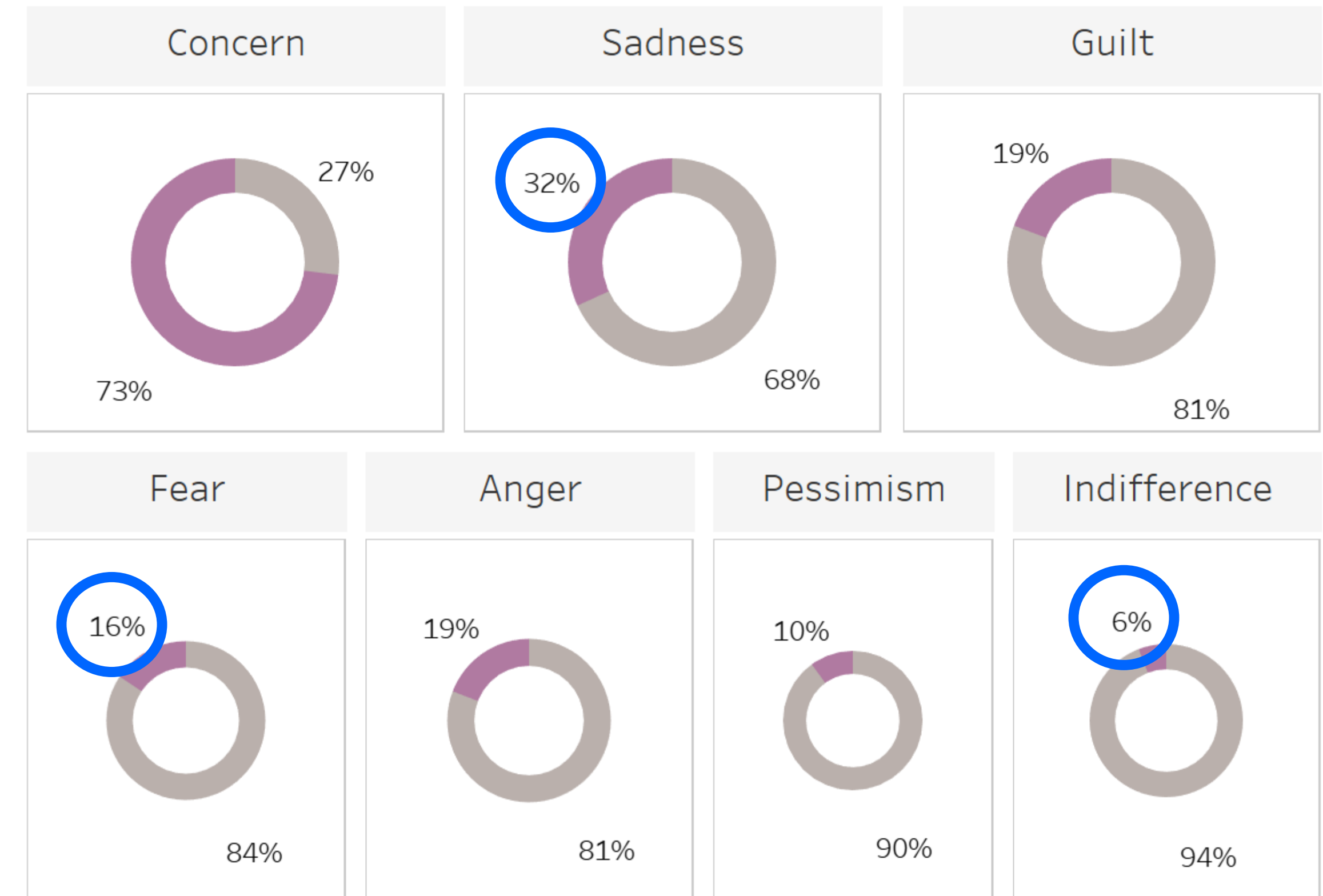
Most people (75%) emotionally associate climate change with concern.

What do you feel when you hear the concept of “climate change”? (Choose up to 3 options)

## Women



## Men

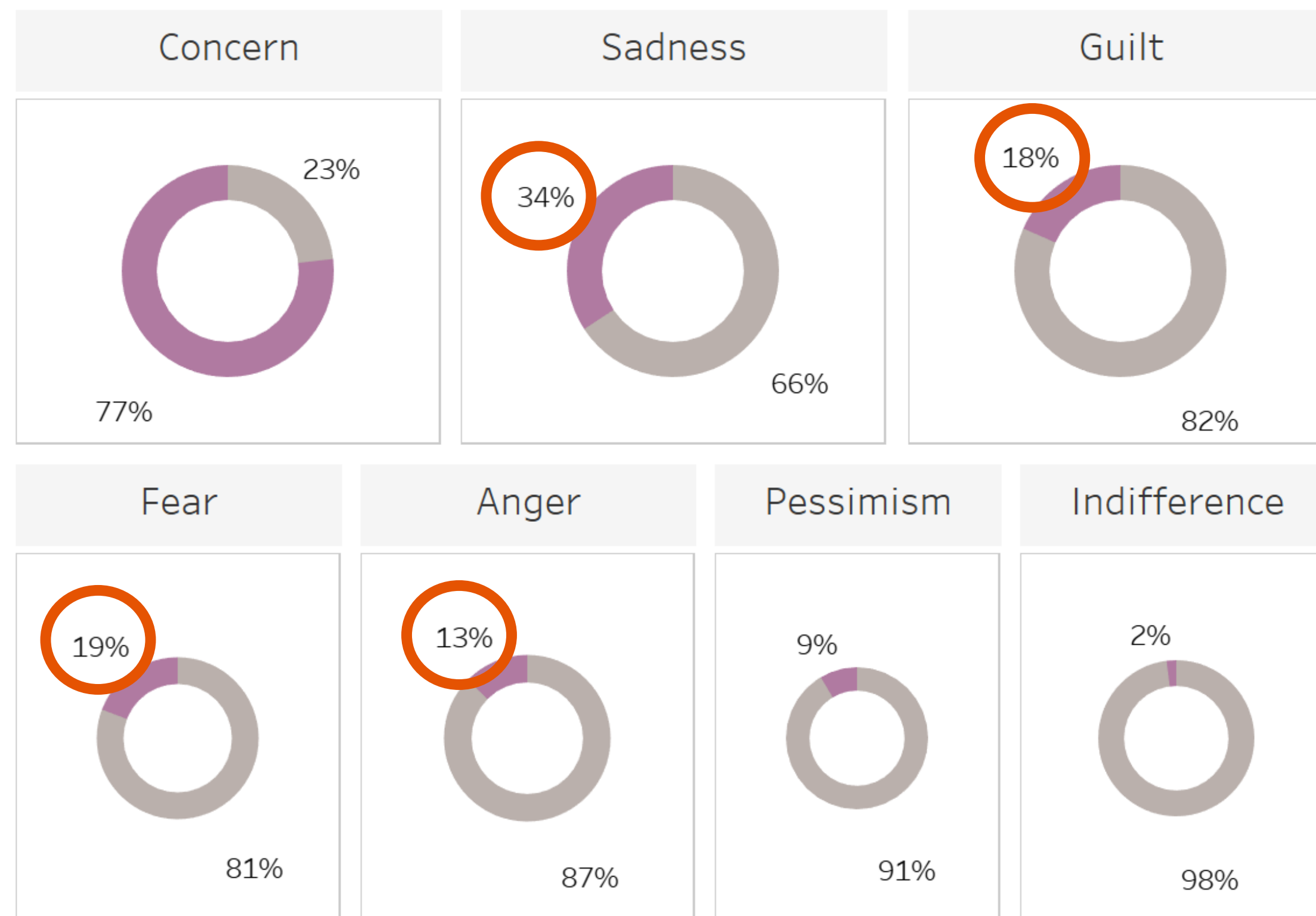


Women mention sadness and fear more than men.  
Indifference, although chosen by a minority, is more common in men than in women.

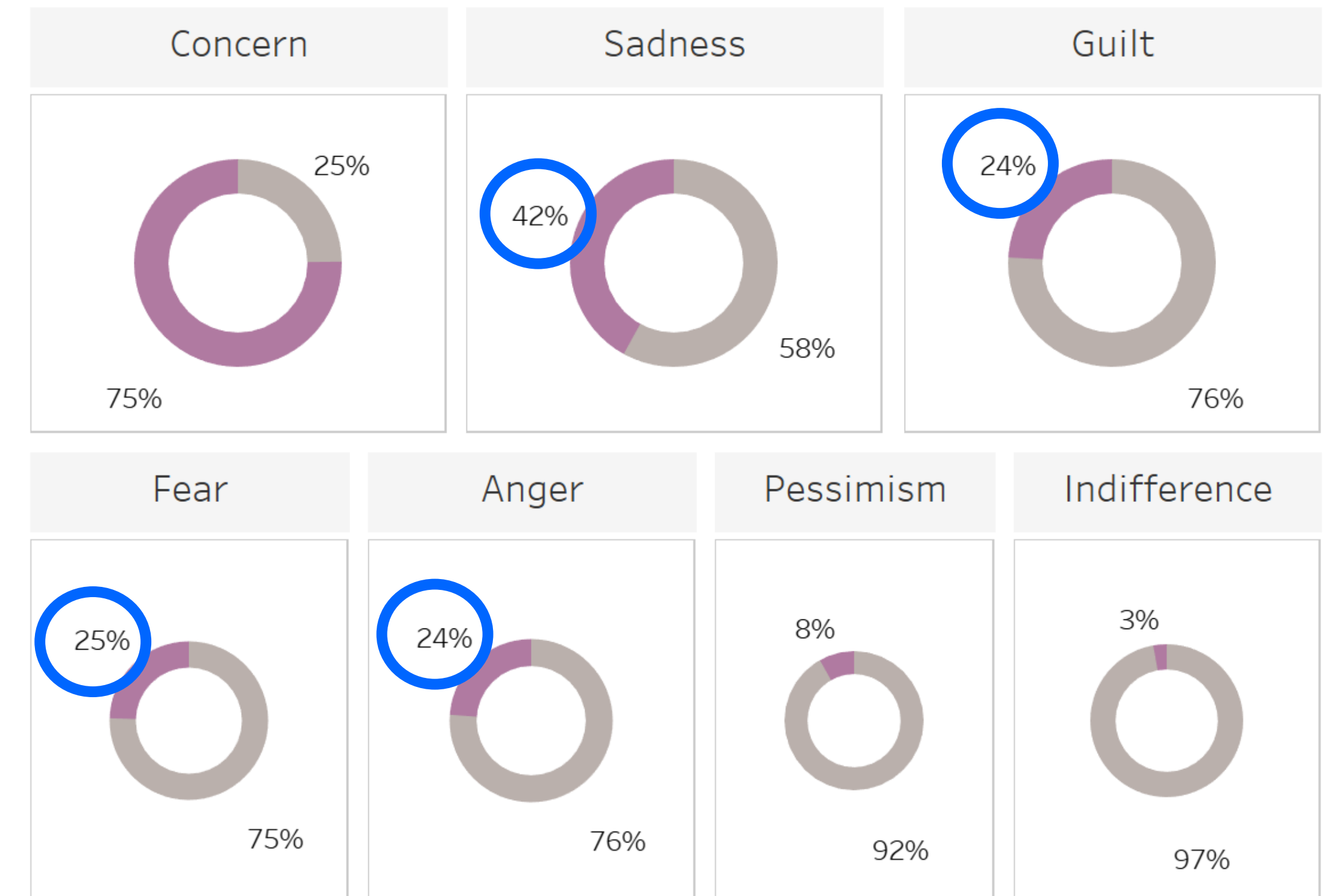


What do you feel when you hear the concept of “climate change”? (Choose up to 3 options)

## Women with children



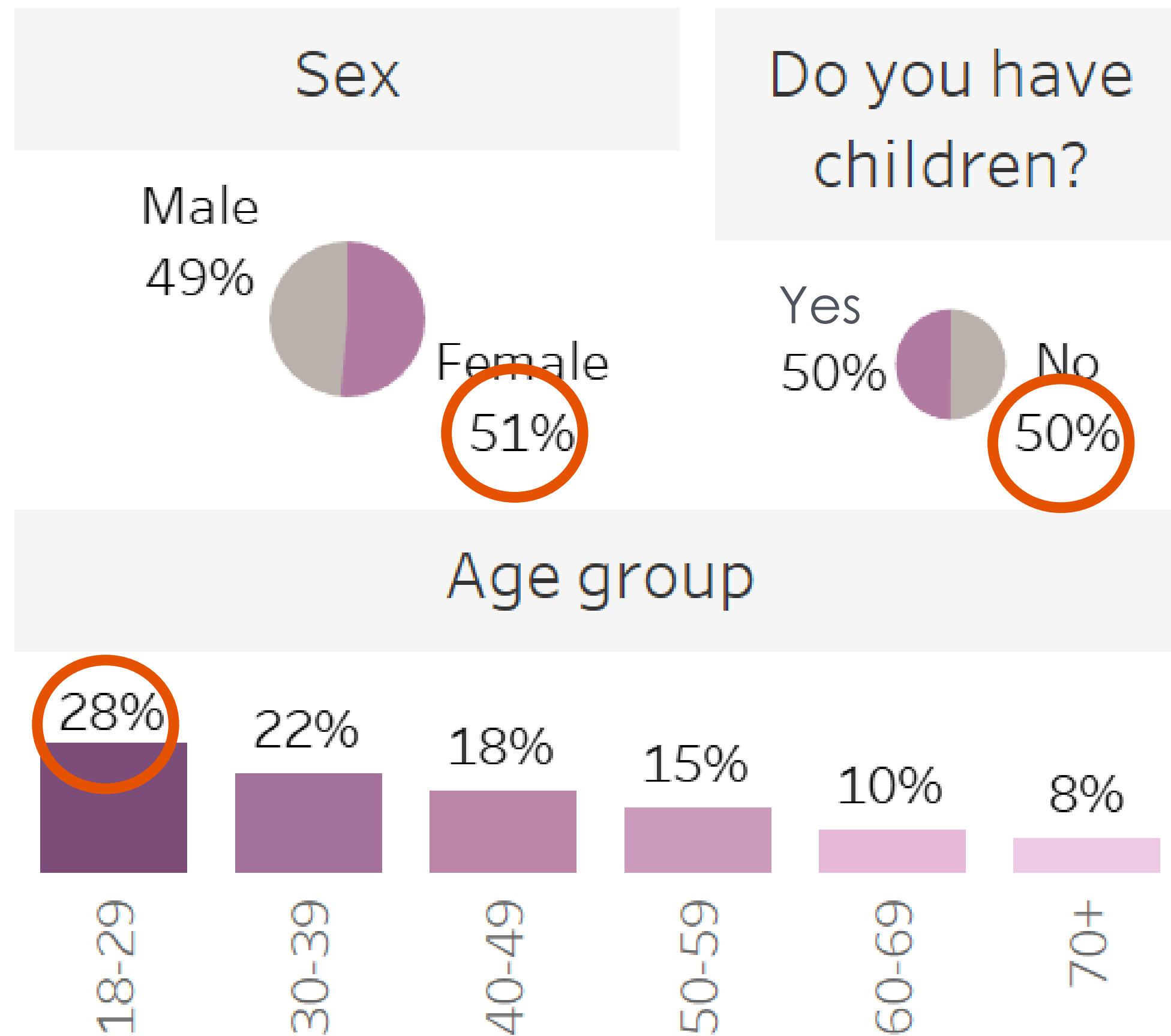
## Women without children



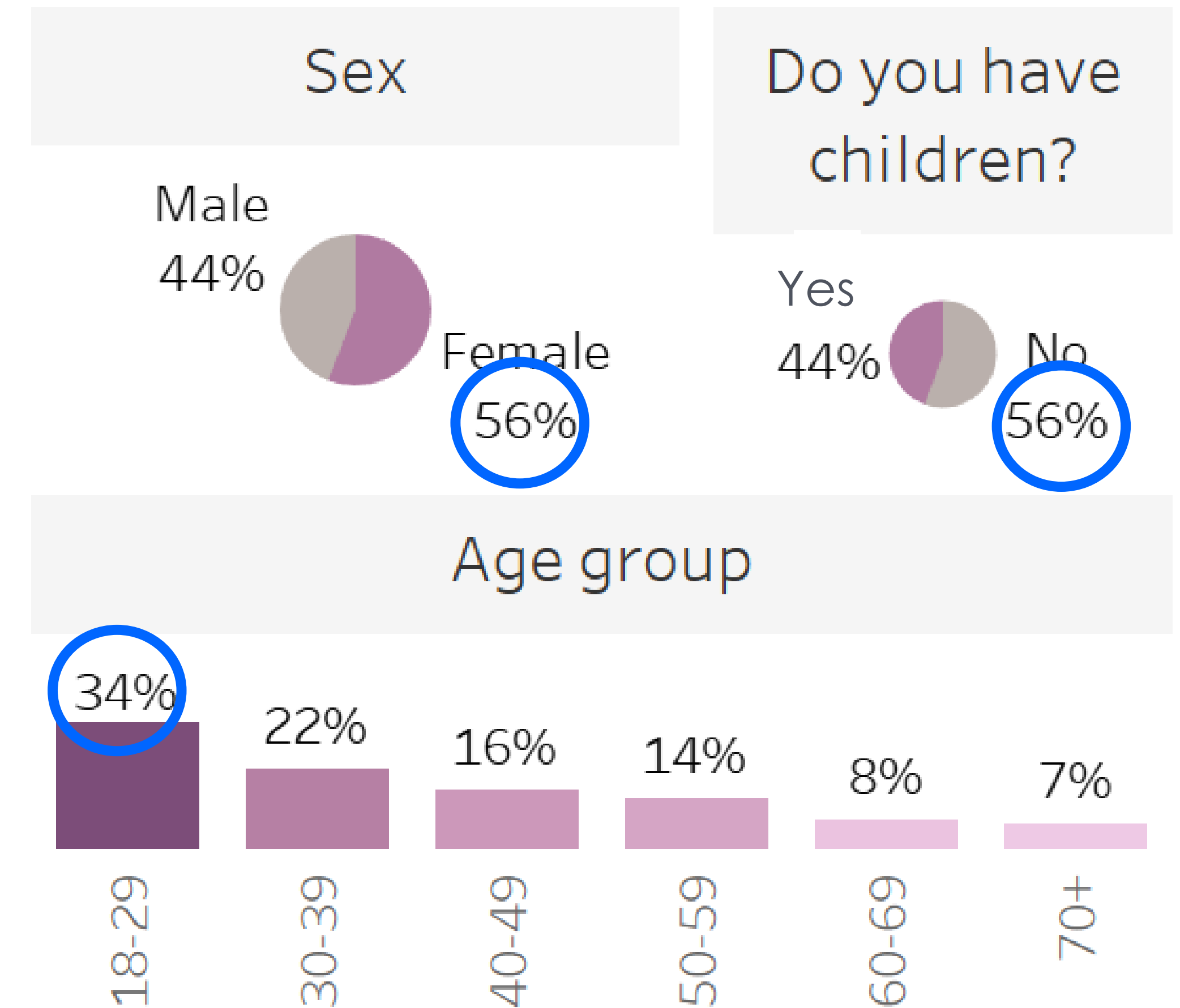
Expressions of sadness, guilt, fear, and especially anger are greater in women without children than in women with children.

What do you feel when you hear the concept of “climate change”? (Choose up to 3 options)

## General population

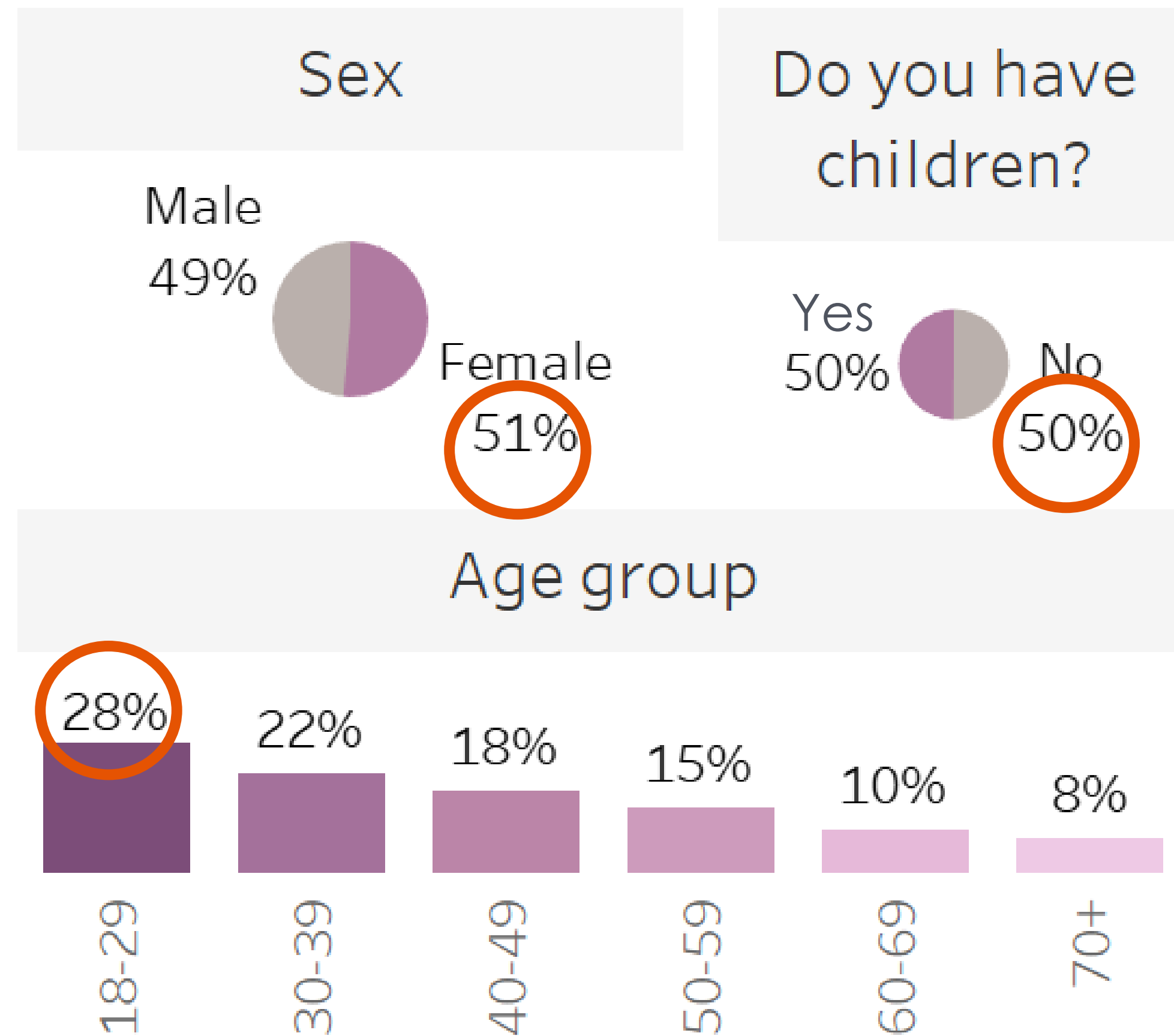


## 35% that chose SADNESS

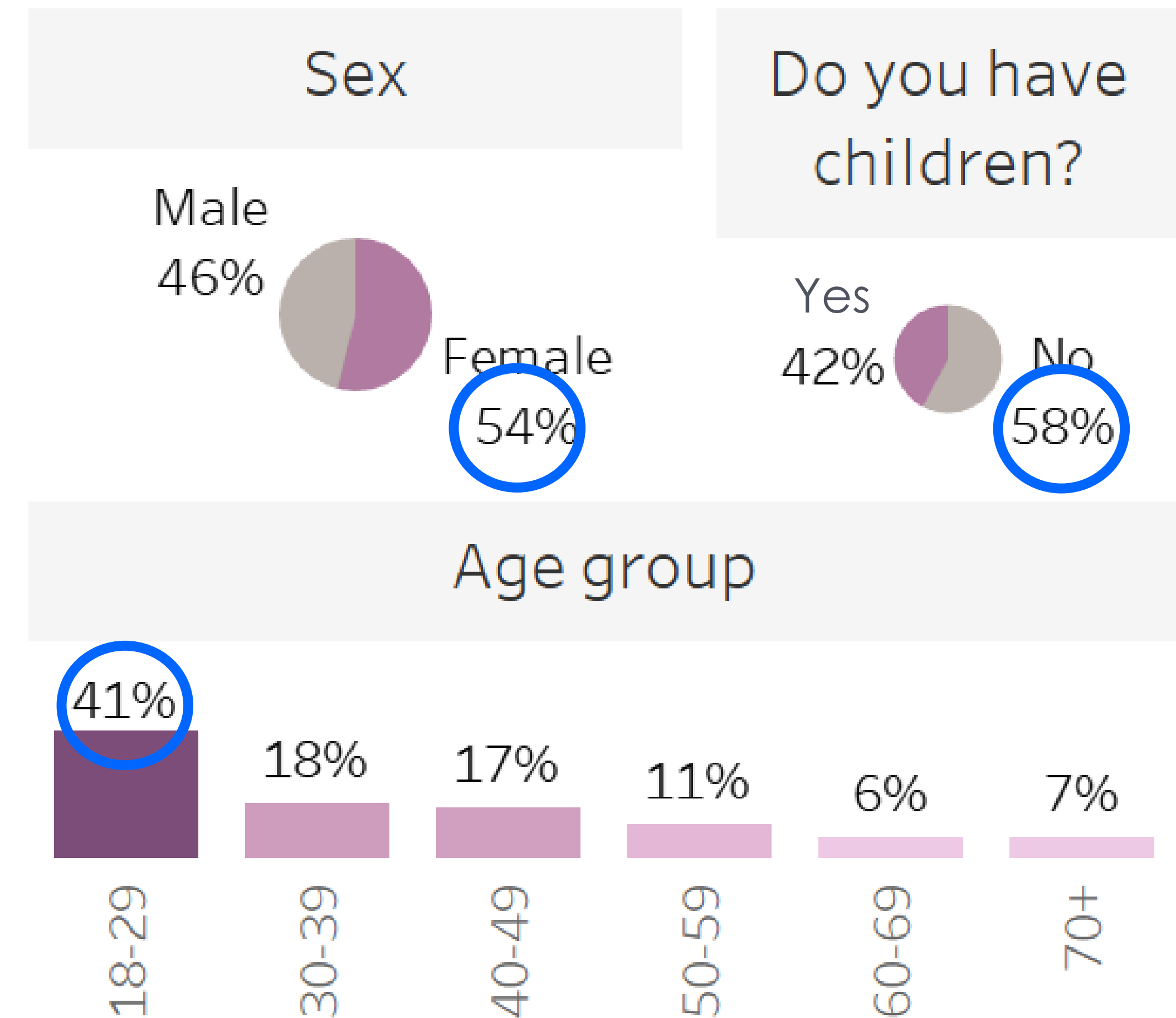


What do you feel when you hear the concept of “climate change”? (Choose up to 3 options)

### General population



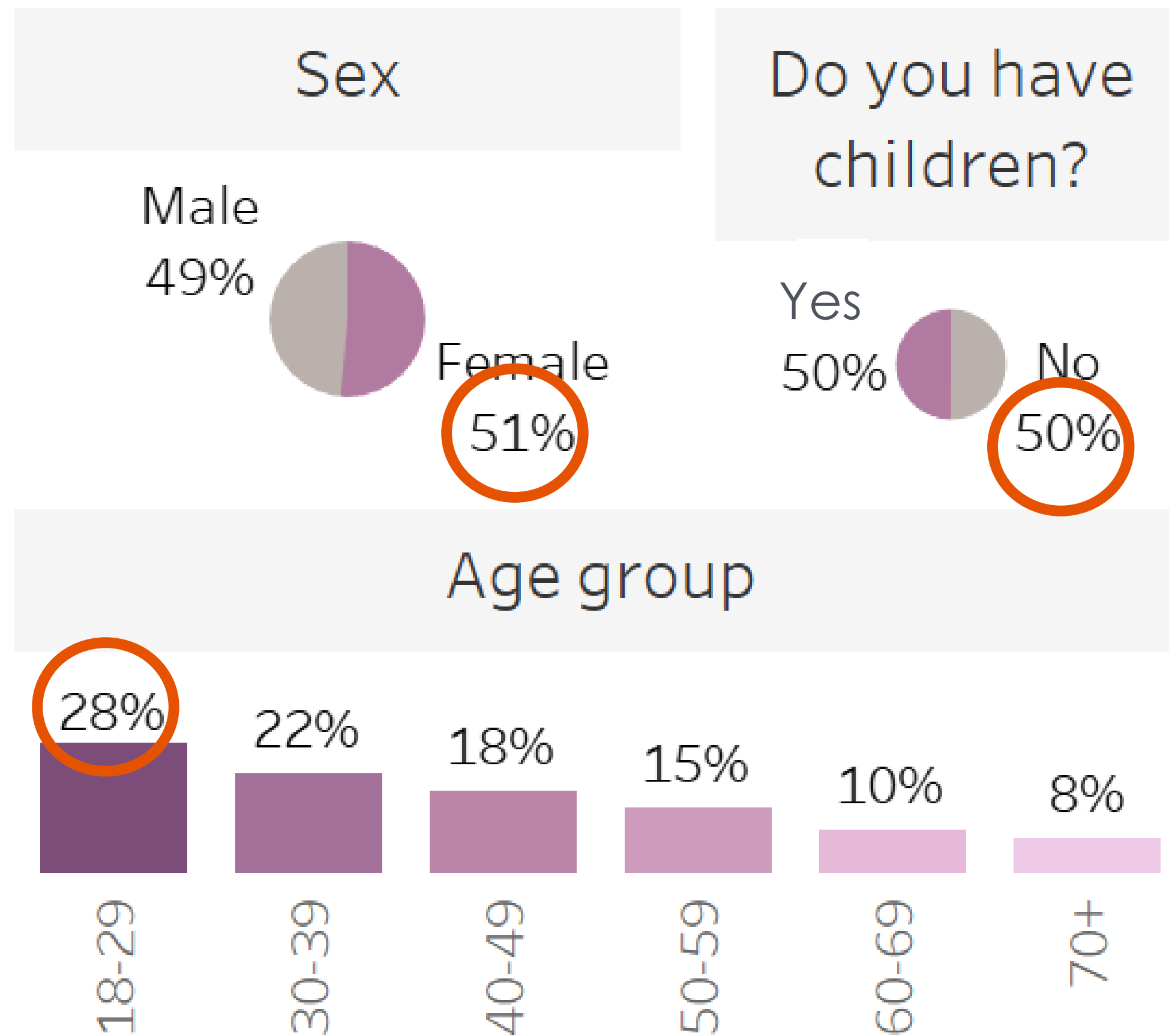
### 20% that chose GUILT



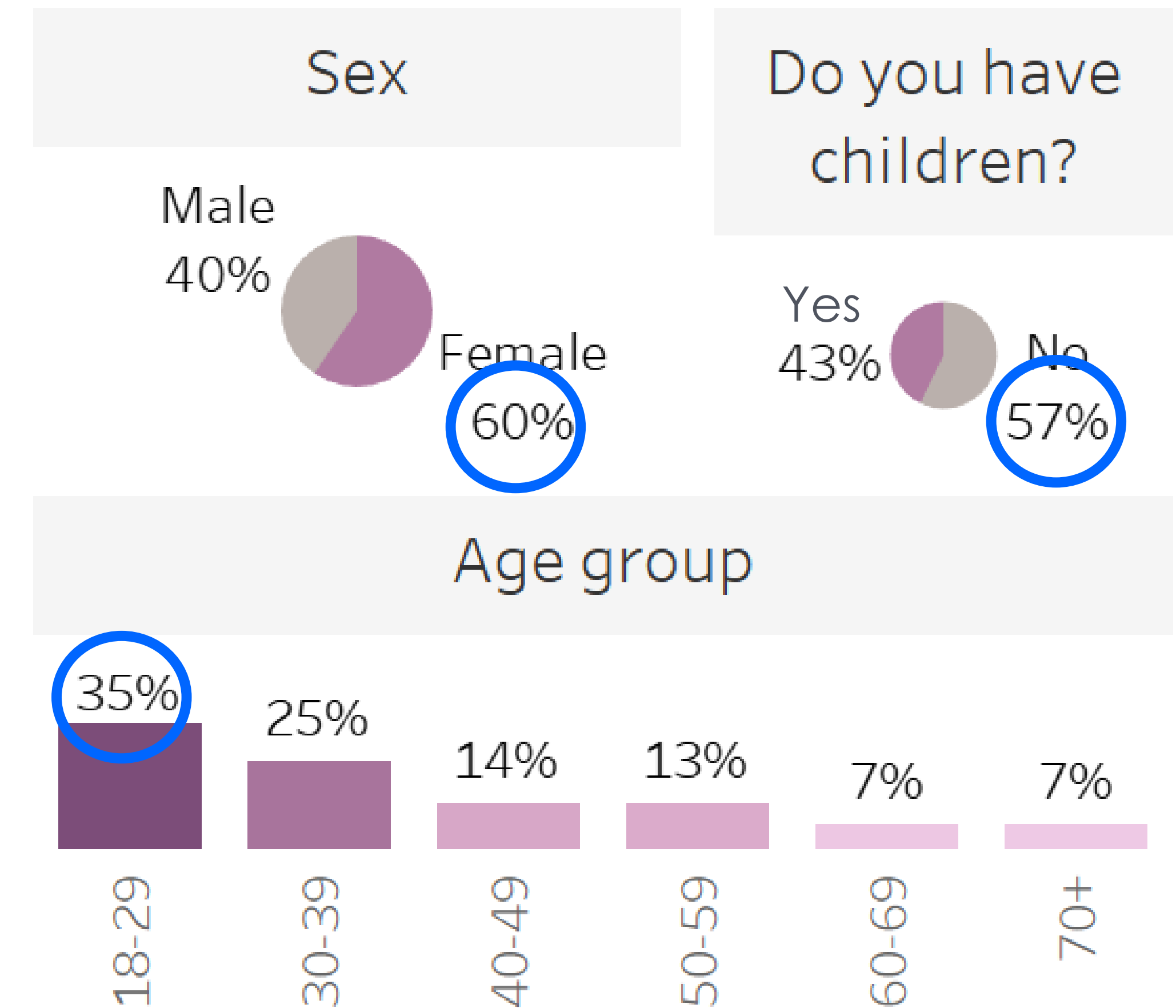


What do you feel when you hear the concept of “climate change”? (Choose up to 3 options)

### General population

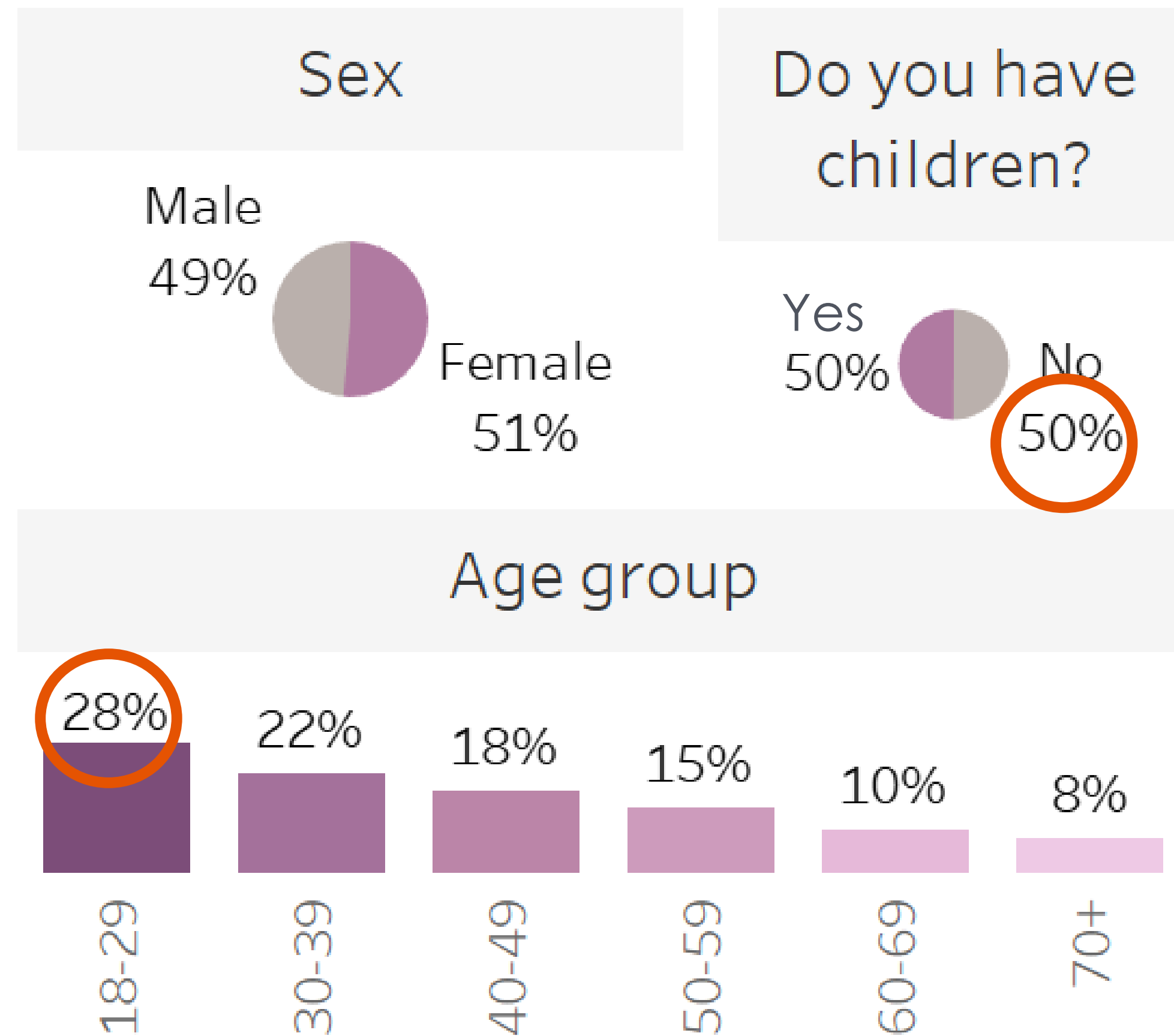


### 19% that chose FEAR

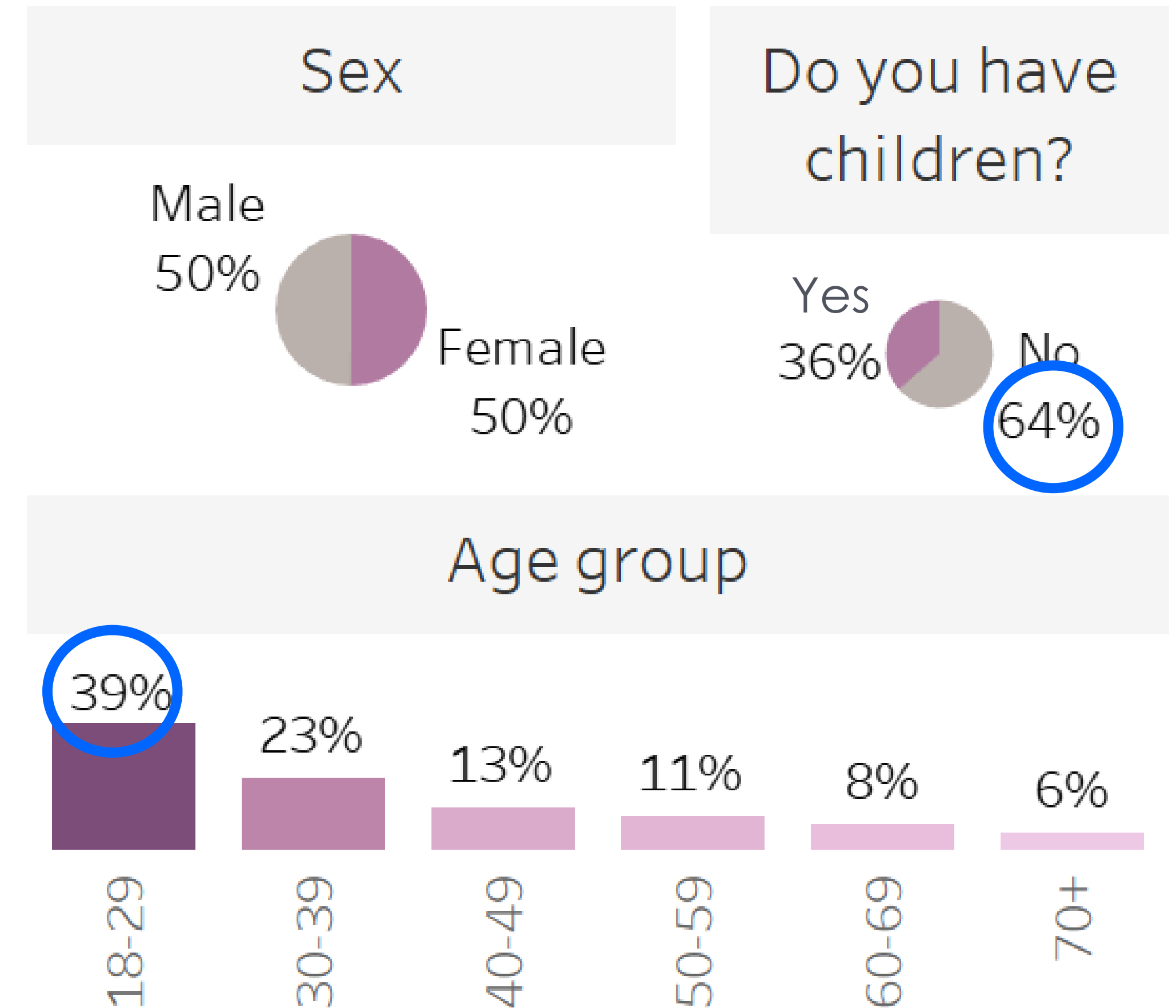


What do you feel when you hear the concept of “climate change”? (Choose up to 3 options)

## General population

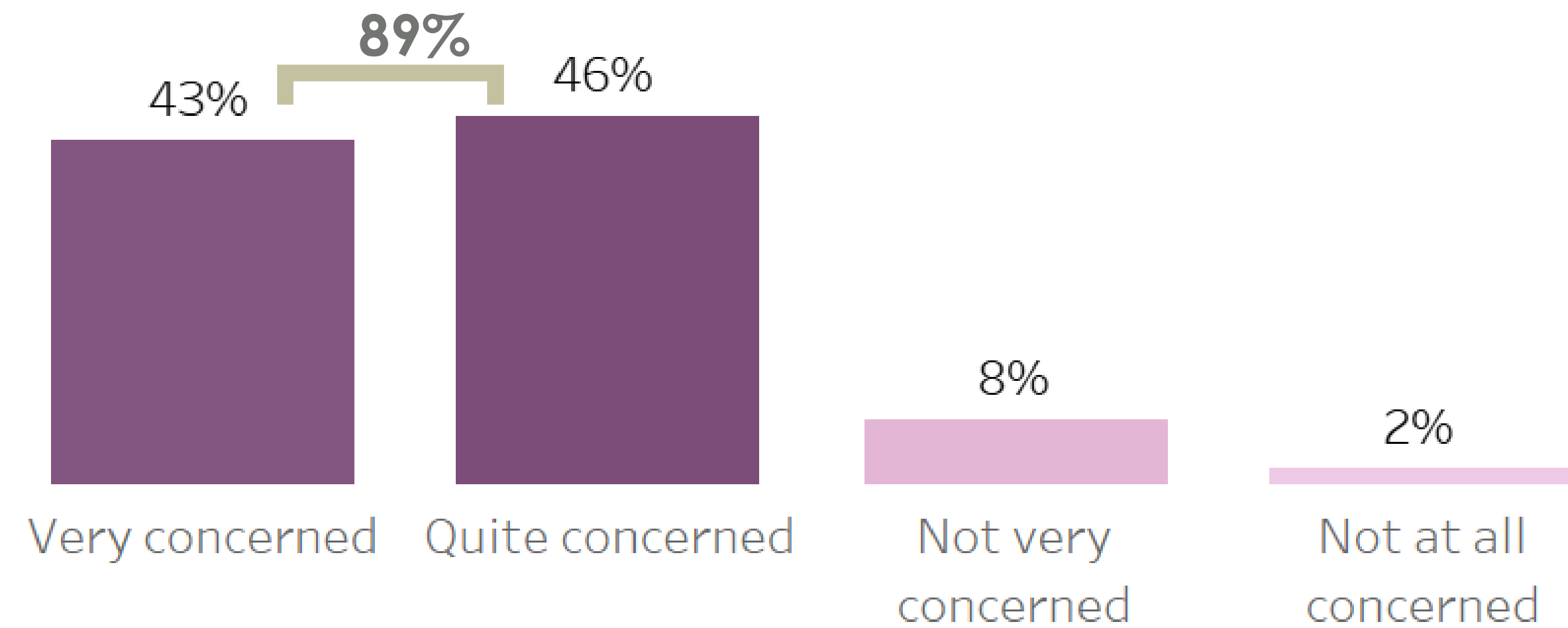


## 13% that chose ANGER



## In general, how concerned are you about climate change?

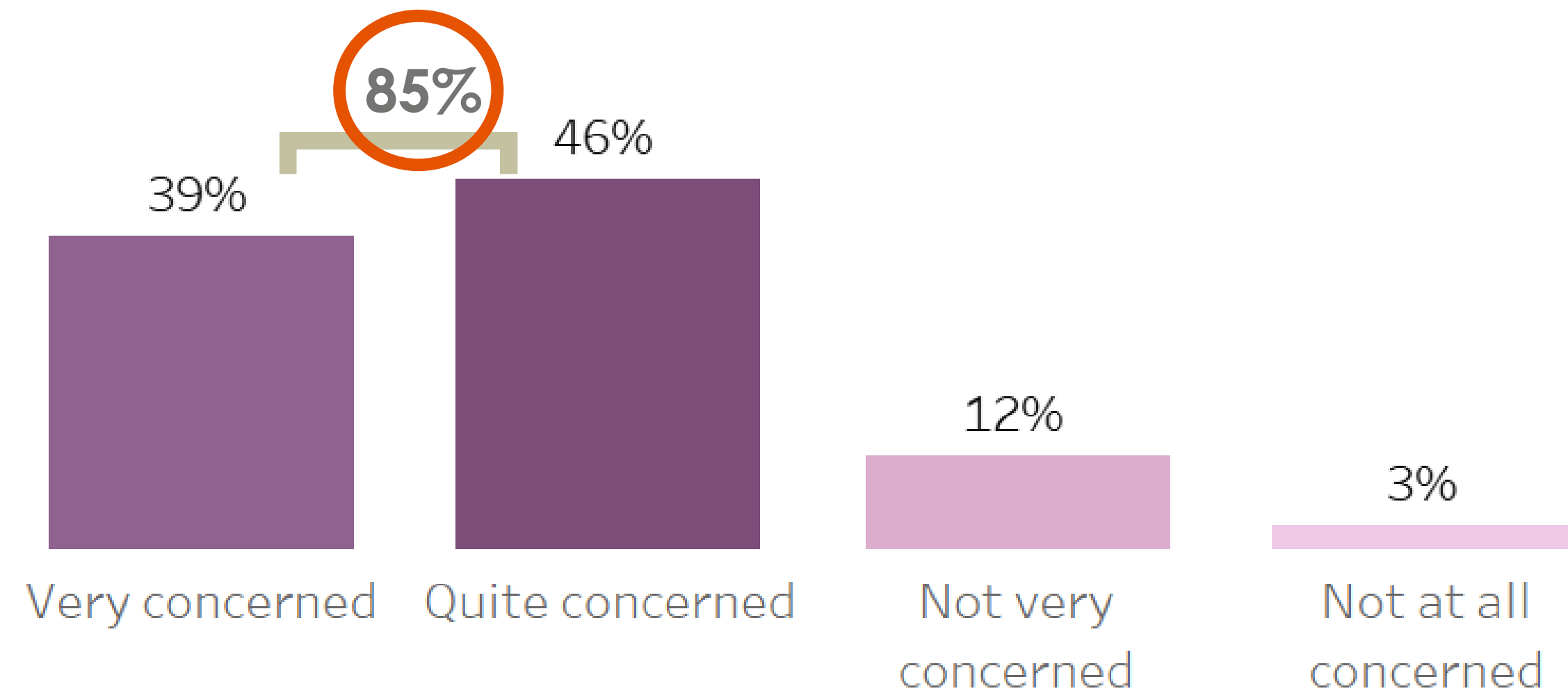
### General population



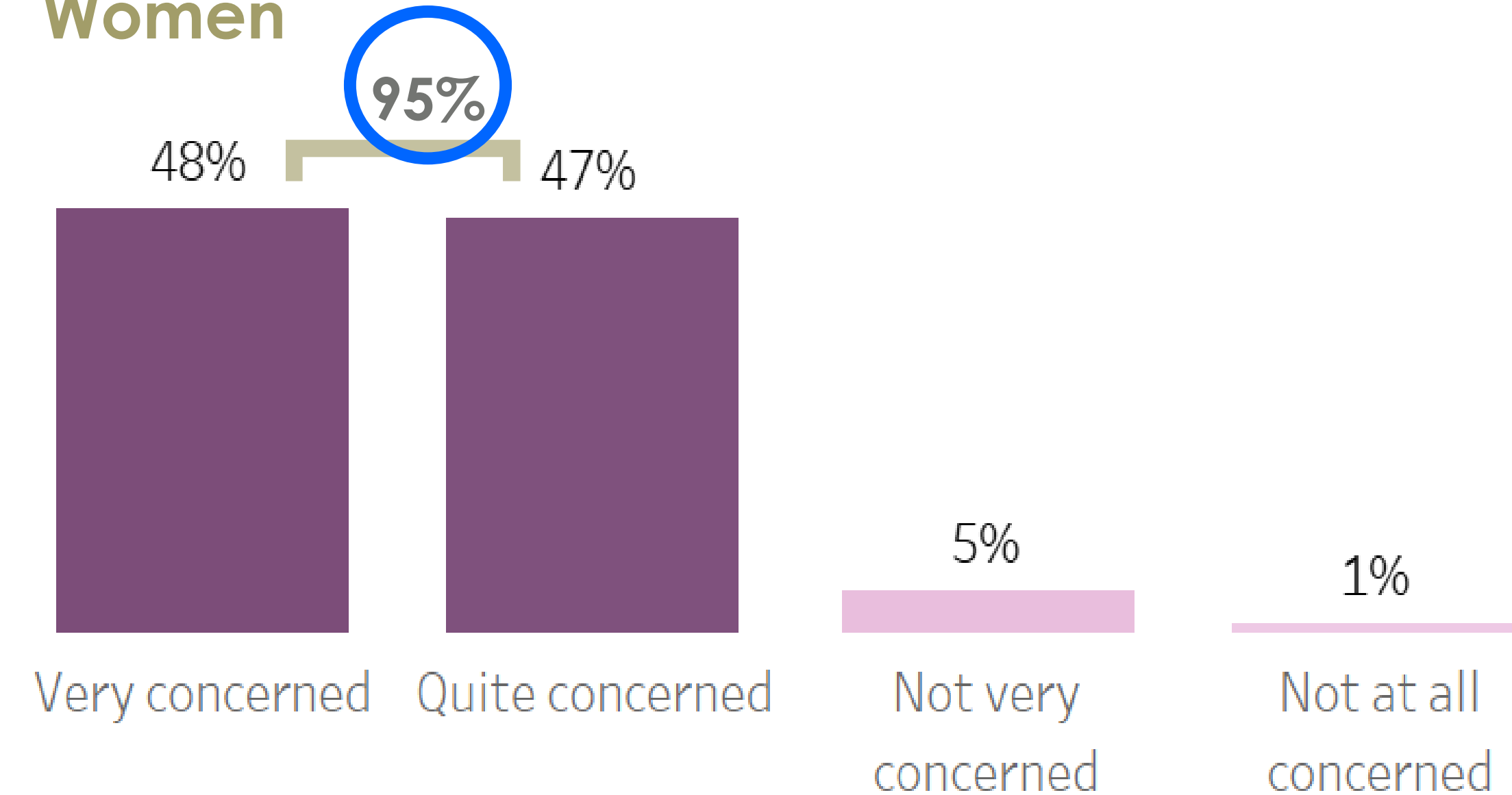
89% claim to be very concerned or quite concerned about climate change.

Women express a significantly higher concern than men: 95% compared to 85%, with a relatively higher percentage of women saying they are "very concerned".

### Men



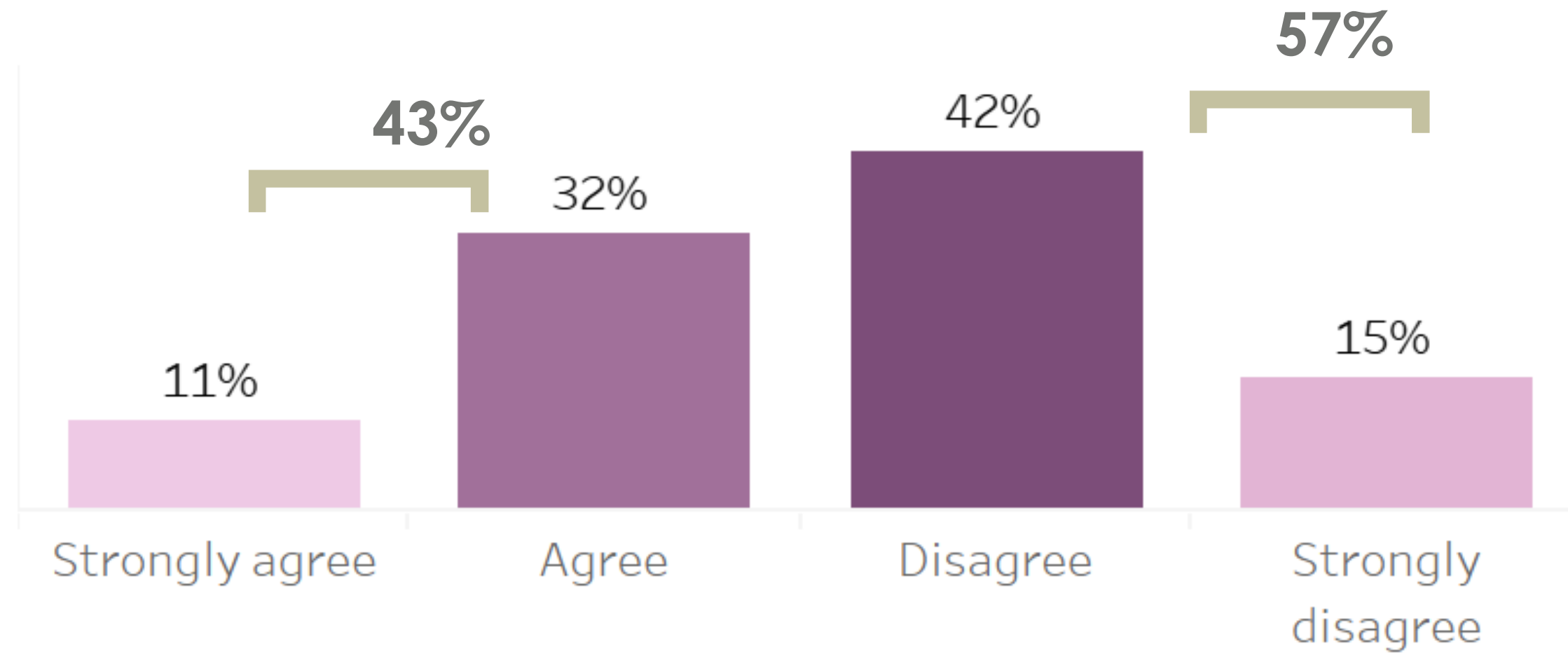
### Women



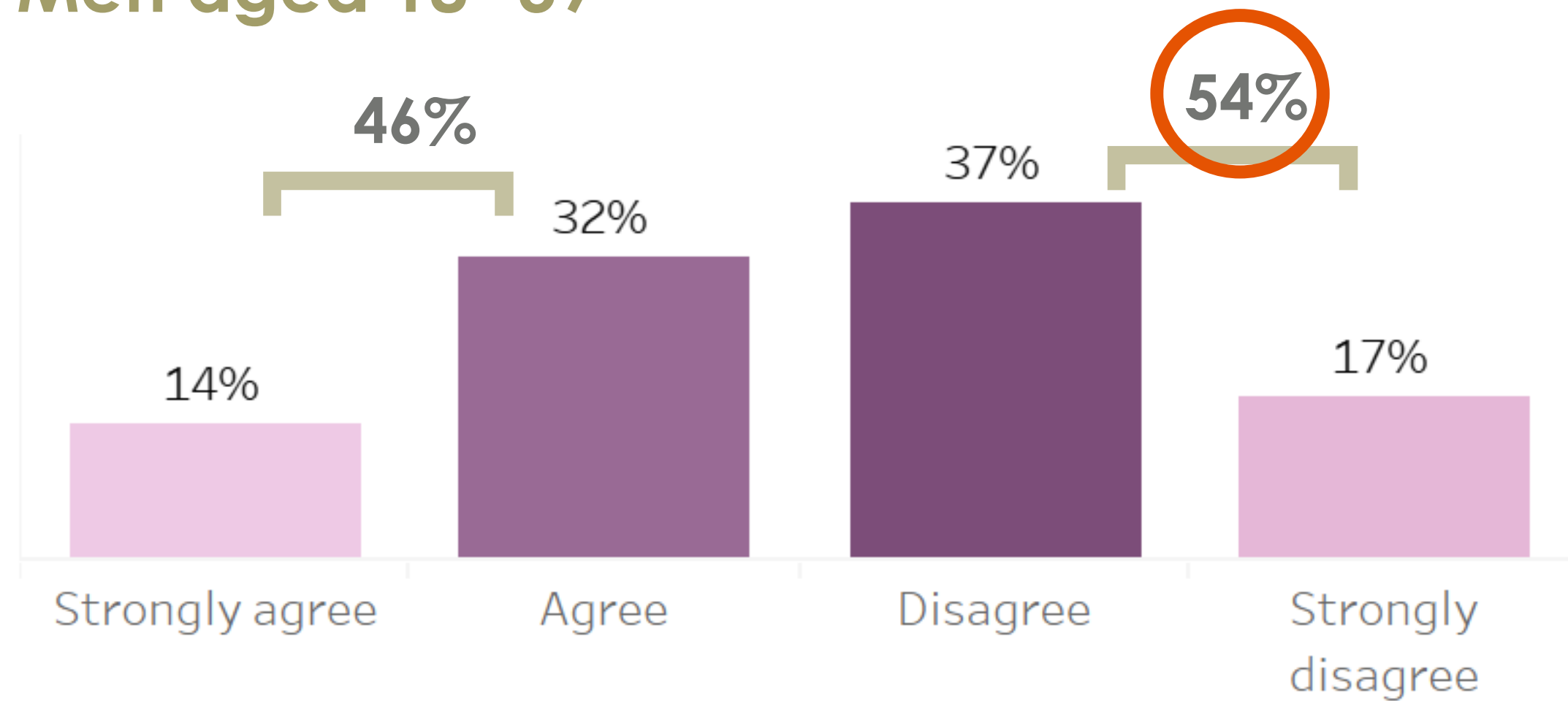
Please indicate how much you agree with the following statement:

***“The impacts of climate change are out of my control.”***

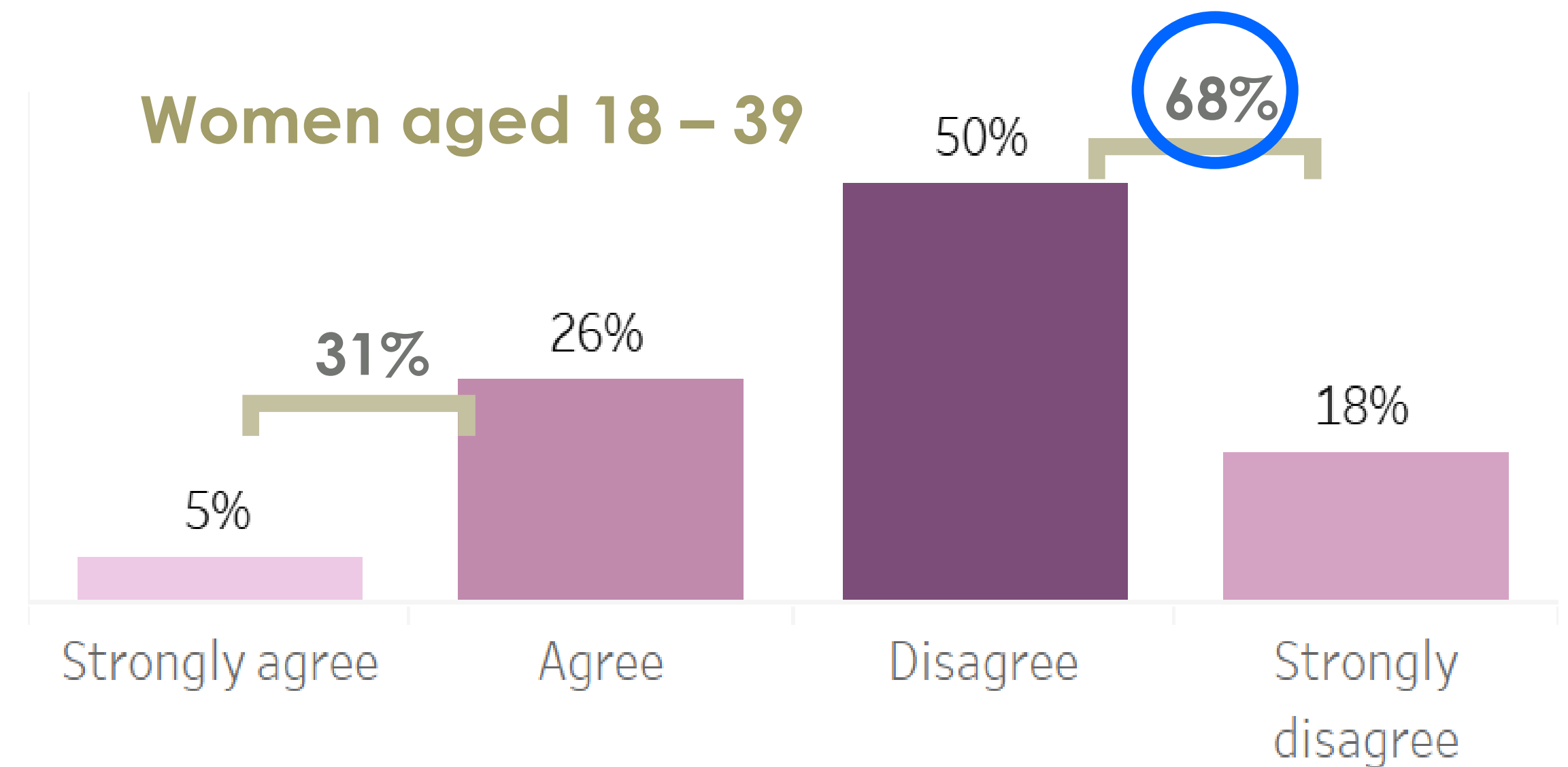
### General population



### Men aged 18- 39



### Women aged 18 – 39



The perception of individual impact capacity reaches 57%.

A strong difference between men and women can be perceived among the young population between 18 and 39.

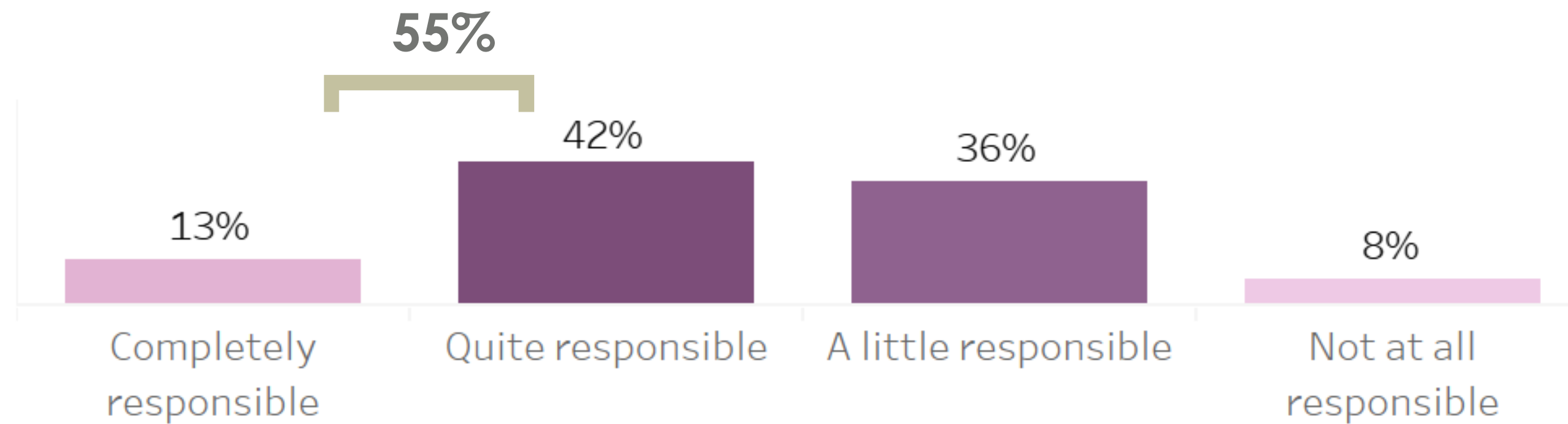
46% of men and 31% of women agree that impacts of climate change are out of their control.

68% of young women and 54% of young men disagree with that statement.



### How responsible do you feel your family, your friends and you are for climate change happening?

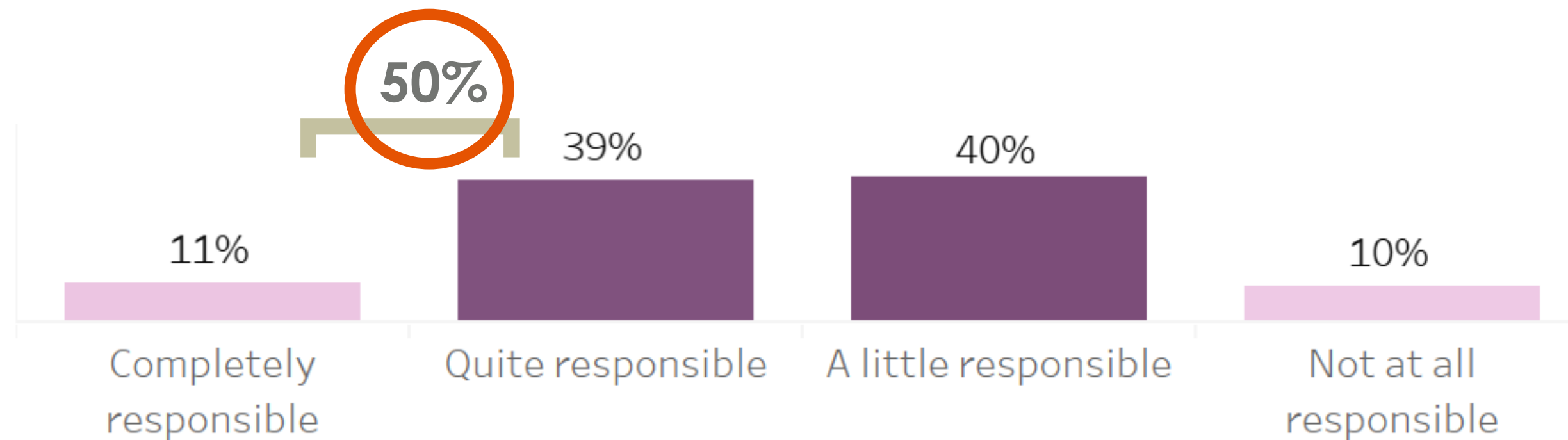
#### General population



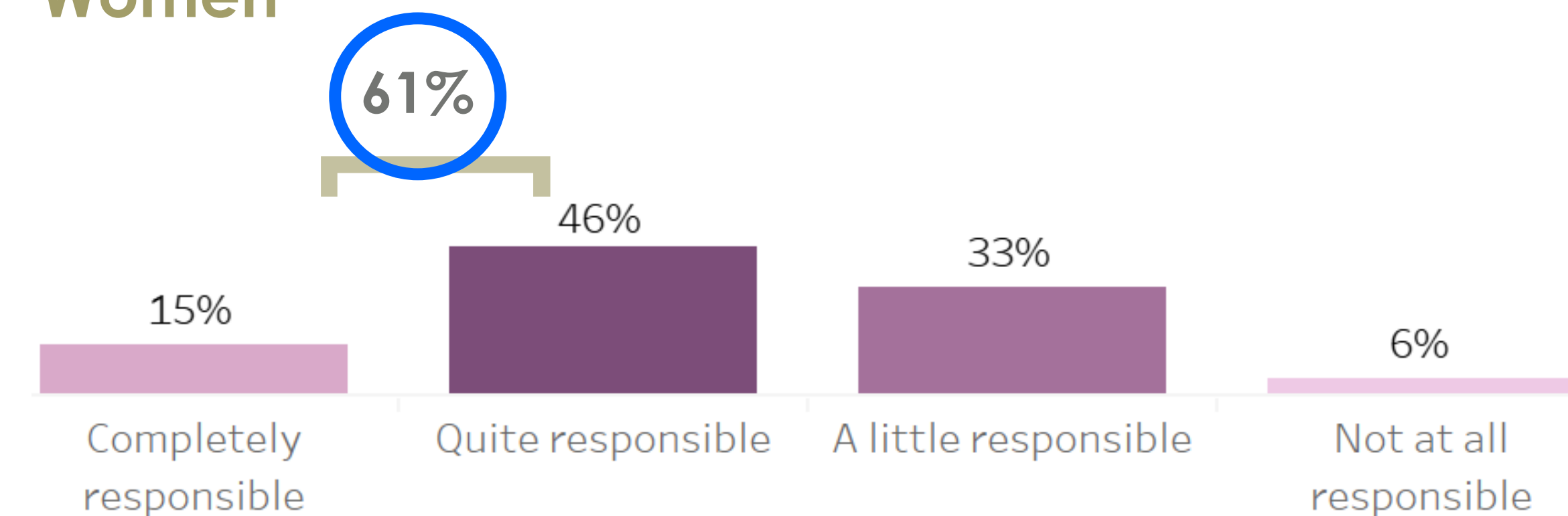
55% feel completely or quite responsible that climate change is happening.

The sense of responsibility for its causes is stronger in women than in men.

#### Men

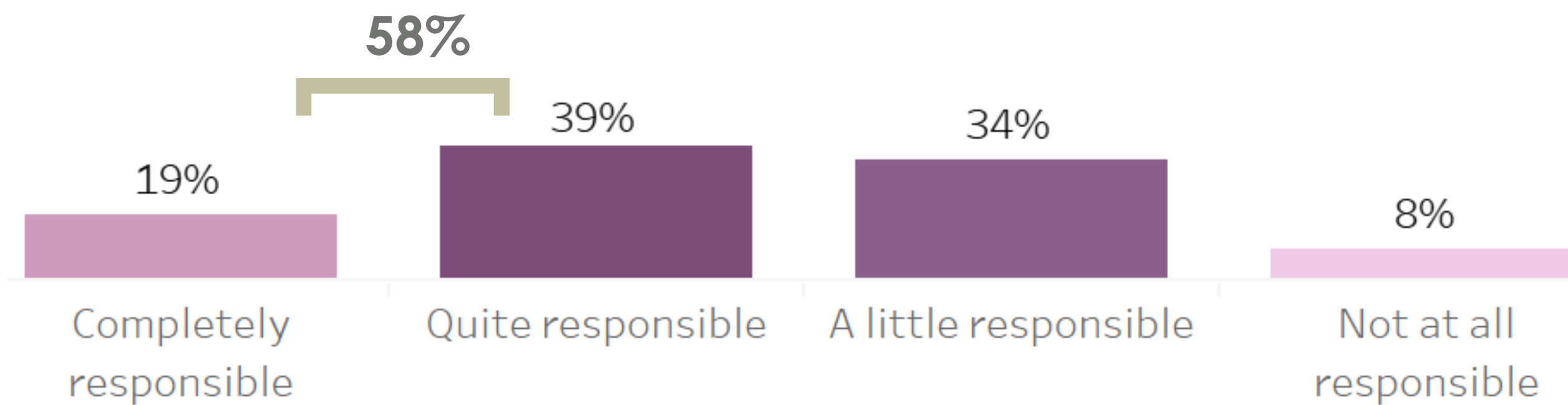


#### Women



How responsible do you feel your family, your friends and you are for the solution to the problem of climate change?

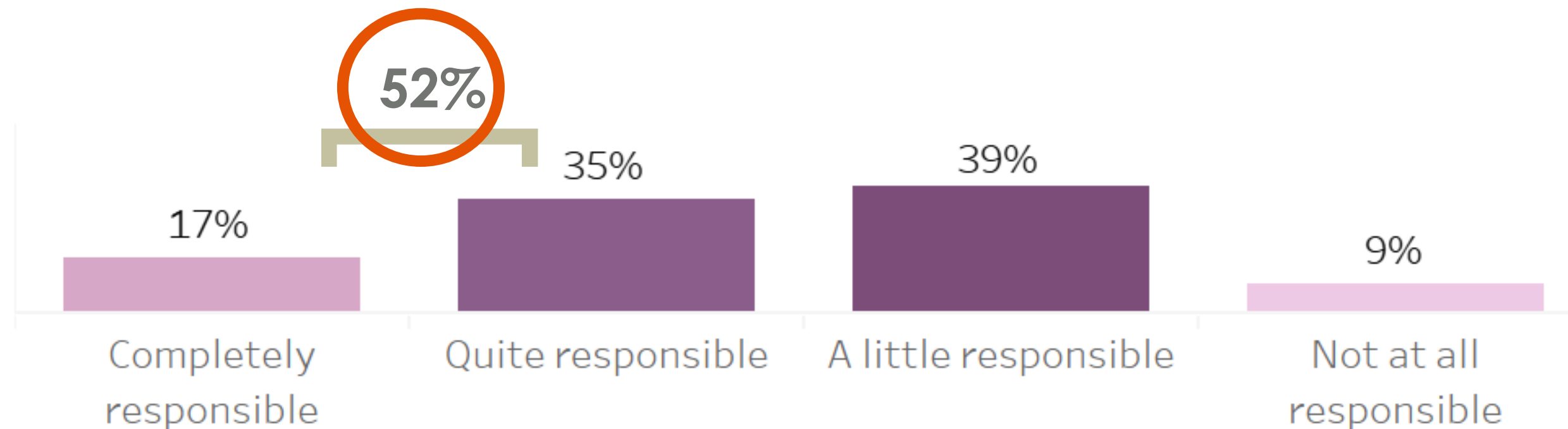
### General population



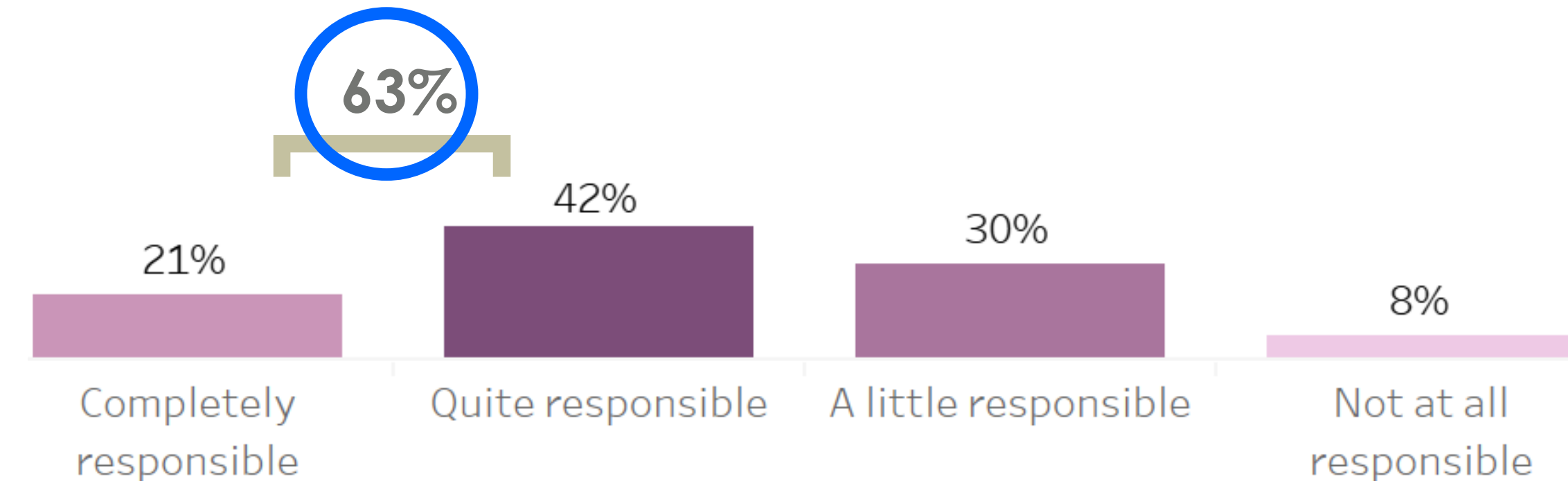
58% say they feel completely or quite responsible for solving the problem.

Having or not having children has a significant influence on the perception of responsibility for the solution: parents have a greater sense of responsibility.

### Men and women without children

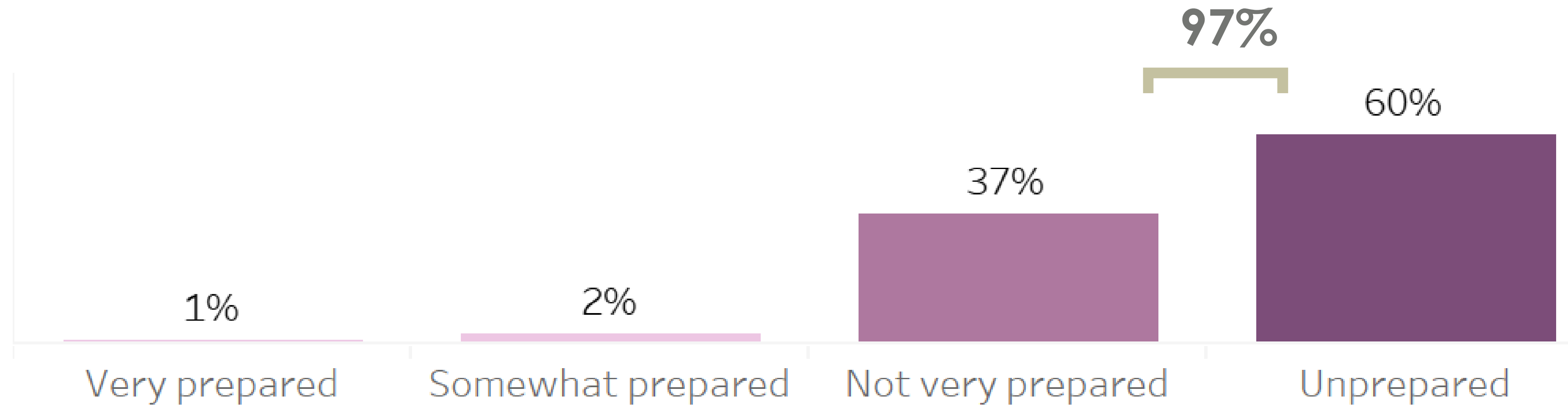


### Men and women with children

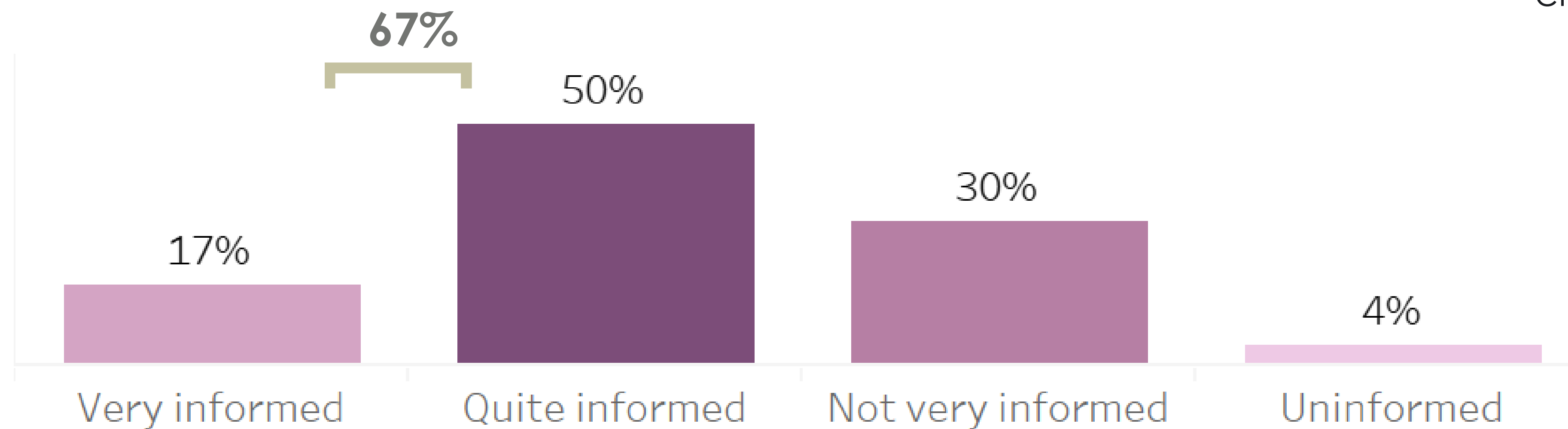


To face climate change, do you think your country is...

97% perceives that their countries are not very prepared or unprepared.



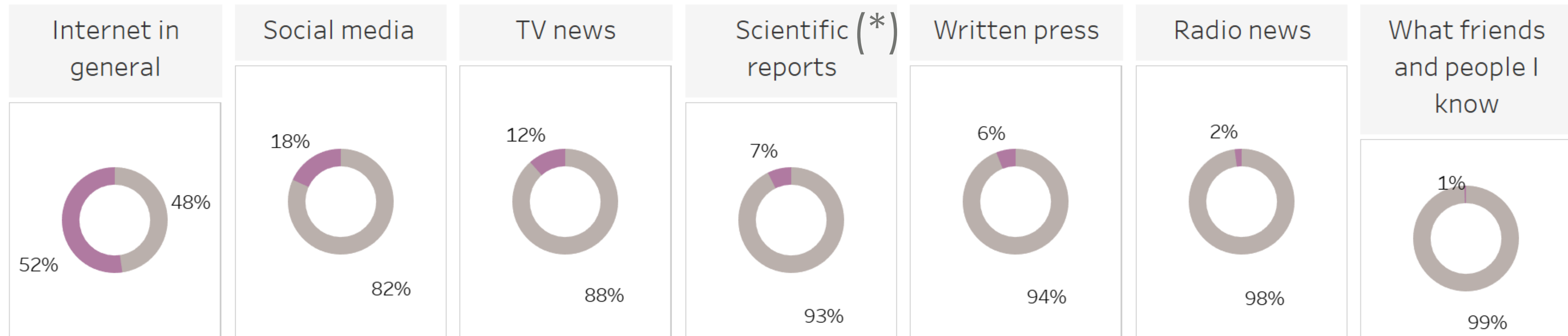
## How informed do you feel about climate change...?



67% feel quite or very informed about climate change.



## In your opinion, what is the most reliable source of communication for information on climate change?



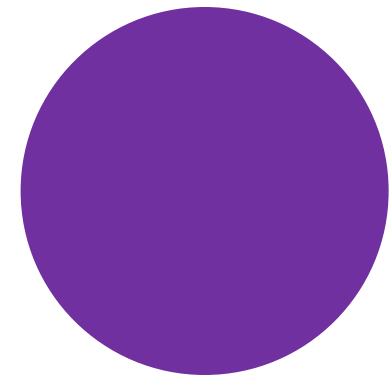
(Question to those who answered social media)

### Which social media?

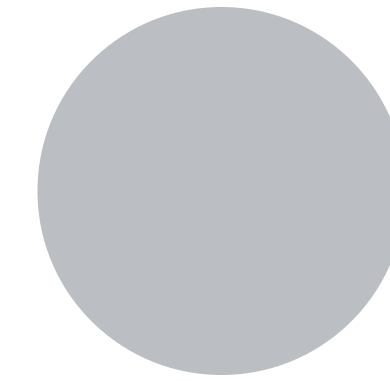


The Internet in general and social media widely displace traditional media as the most reliable sources of climate change communication.

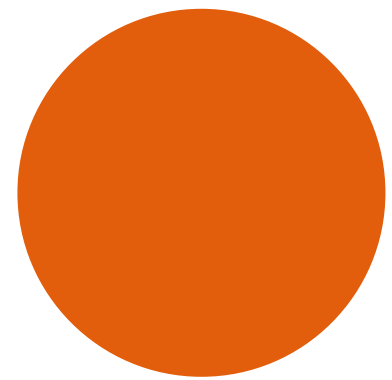
**(\*) Scientific reports was the most spontaneously mentioned option as "other."**



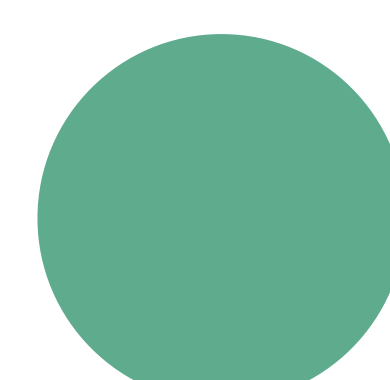
There is a high degree of homogeneity in perceptions on climate change (CC) in Latin America.



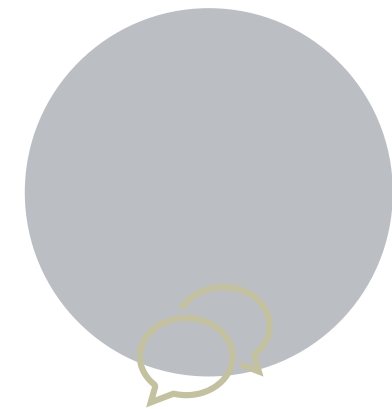
Although the perception of individual impact varies, women under the age of 40 perceive greater possibilities of doing something to face the problem.



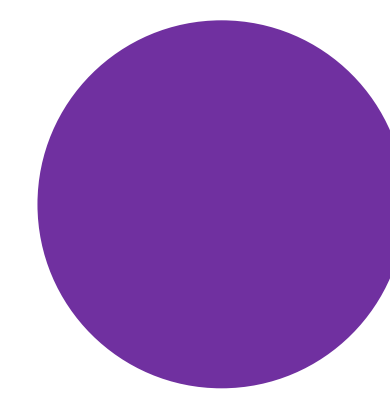
CC is widely considered to be a problem caused wholly or partially by human activity, and is considered to have impacts that are already occurring.



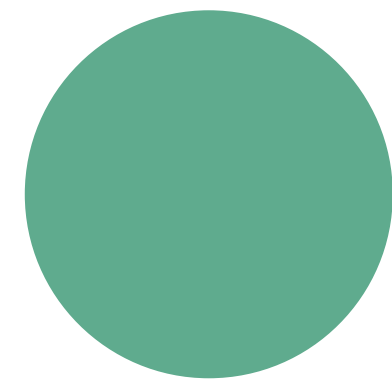
People with children express a greater perception of responsibility in solving climate change.



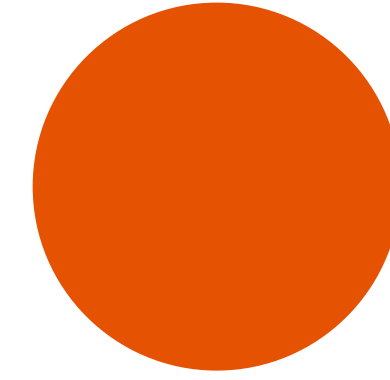
CC triggers high levels of concern. At the same time, the population perceives that their countries are little or not at all prepared to face it.



Those living in the region perceive a strong relationship between climate change and poverty and inequality.



In general, women express higher levels of concern and a greater perception of responsibility for climate change.



CC is seen as a priority for future governments in the region and as an opportunity to build a more just world.

# ADDITIONAL BACKGROUND INFORMATION

StatKnows methodology is very low carbon footprint.

## CARBON NEUTRAL SURVEY

### QUANTIFICATION

- Carried out by [www.proyectae.cl](http://www.proyectae.cl) according to GHC protocol, with certified external auditor verification.
- Scope 1, 2 and 3, from the survey's conception to completion of its deliverables. Includes energy consumption of people who responded the survey.
- Conservative criterion.
- Total emissions: **446 kg CO<sub>2</sub> e.**

### NEUTRALIZATION

- Carbon credits VCS according to NCh3300:2014

proyectae

Documentation, with traceability: [www.Proyectae.cl/NeutralizacionStatKnowsDic2019](http://www.Proyectae.cl/NeutralizacionStatKnowsDic2019)

The survey's footprint was 32 times smaller than that of the StatKnows team's air travel to present the findings at the COP 25 in Madrid.... Which was also compensated.



Information from this survey, including graphs and summary of findings, may be freely used, citing the source:

### International survey on climate change StatKnows 2019

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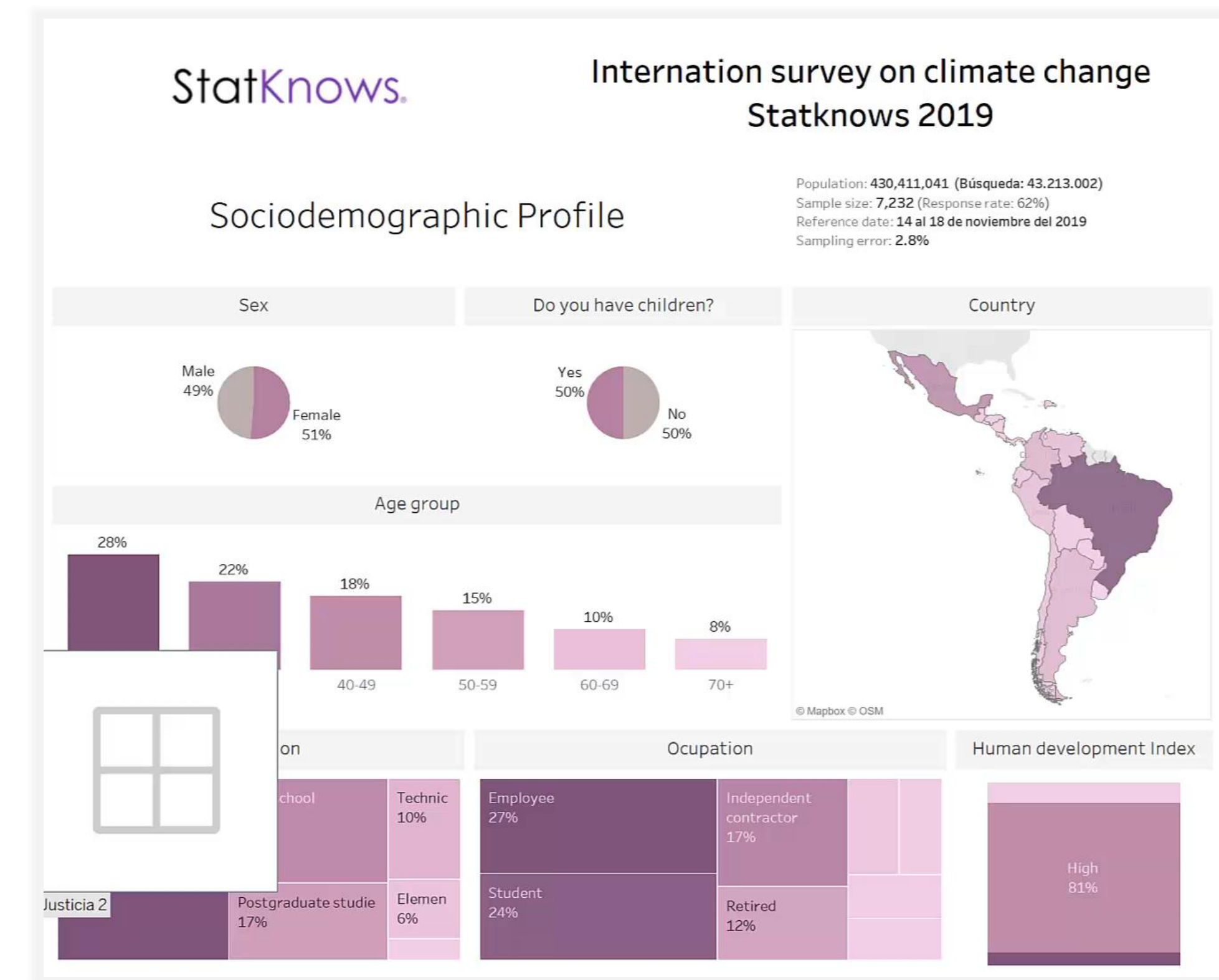
www.statknows.com

This report reflects only part of the data collected in the study.

**More complete information** -always calibrated, aggregated and anonymized- **was introduced into an interactive dashboard** to which access can be requested.

Interactive dashboards are the main deliverables of StatKnows perceptions studies. They enable users to cross-check data themselves.

In the case of this international survey, the interactive dashboard allows to review detailed information by country or groups of countries, and cross-check responses with variables such as age, gender, education and occupation.



## Phase 2 – early 2020

All people over 18 living in the following 18 countries :

Spain	Dominica
Portugal	Saint Lucia
United States(with Puerto Rico)	Antigua and Barbuda
Republic of Haiti	Saint Vincent and the Grenadines
Barbados	Bahamas
Republic of Trinidad and Tobago	Federation of Saint Kitts and Nevis
Jamaica	Canada
Granada	Belize
Republic of Surinam	Republic of Guyana

## Study in phases 1 and 2

It will cover all OAS member countries (with the exception of Cuba), plus Spain and Portugal..

The “ambition” is greater in the future...  
**Monitor the evolution and broaden the scope**  
 of work, incorporating other entities.

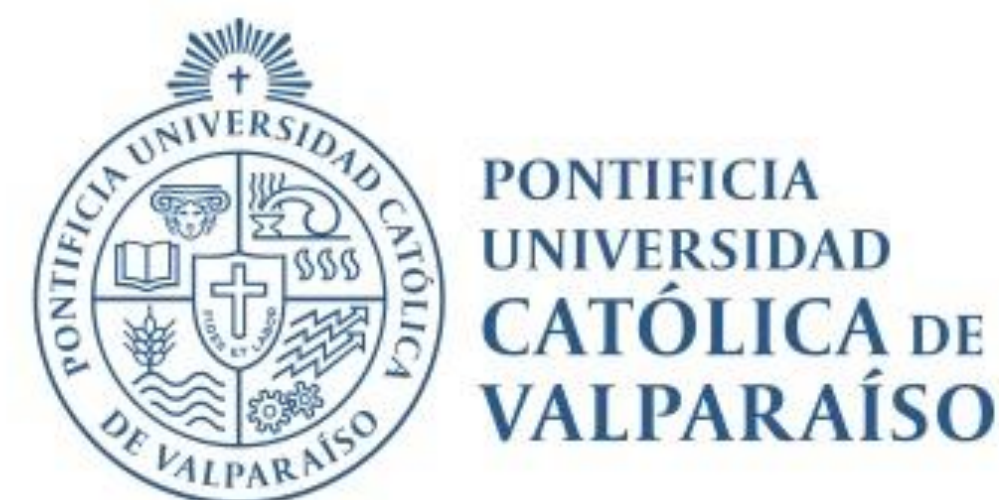




We are grateful for the sponsorship that the following institutions have given to this survey



**Pacto Global**  
Red Chile





# About StatKnows

StatKnows is a knowledge and technology intensive Chilean company that works with statistical science, artificial intelligence, automation and other advanced resources.

One of its lines of activity is the development of perceptions studies, which are carried out digitally.

Its methodology makes it possible to apply parallel surveys in different countries and regions of the world, and in different languages, safeguarding representativeness and statistical precision.

It has a patented sample inference methodology for online surveys, which allows it to calibrate and link sample responses with census information and other types of information, so as to properly represent the populations under study (not just Internet users).

StatKnows strictly adheres to the new General Data Protection Regulation (GDPR).

Further information at [www.statknows.com](http://www.statknows.com).



# About the Center for Climate and Resilience Research (CR)<sup>2</sup>

The Center for Climate and Resilience Research (CR)<sup>2</sup> is a center of excellence funded by the Fondap program of Chile's National Commission for Scientific and Technological Research (CONICYT).

Researchers from the Universidad de Chile, Universidad de Concepción and Universidad Austral de Chile, as well as from other institutions, actively participate in the Center.

(CR)<sup>2</sup> conducts interdisciplinary scientific research to deepen understanding of the processes and impacts of the climate system in Chile.

Further information at [www.cr2.cl](http://www.cr2.cl)



# INTERNATIONAL SURVEY ON CLIMATE CHANGE STATKNOWS 2019



**Friday, December 13, 2019**

José Antonio Ruelle,  
Chief Technology Officer at  
StatKnows

Andrea Rudnick,  
Executive Director at  
(CR)<sup>2</sup>



Center for Climate  
and Resilience Research  
[www.CR2.cl](http://www.CR2.cl)

**StatKnows®**  
Inteligencia artificial aplicada

## PHASE 1 RESULTS LATIN AMERICA