

harp.

**Hope and resilience
in climate change
education**

Keynote

Emotions, Coping Strategies, & Emotion-Sensitive CCE

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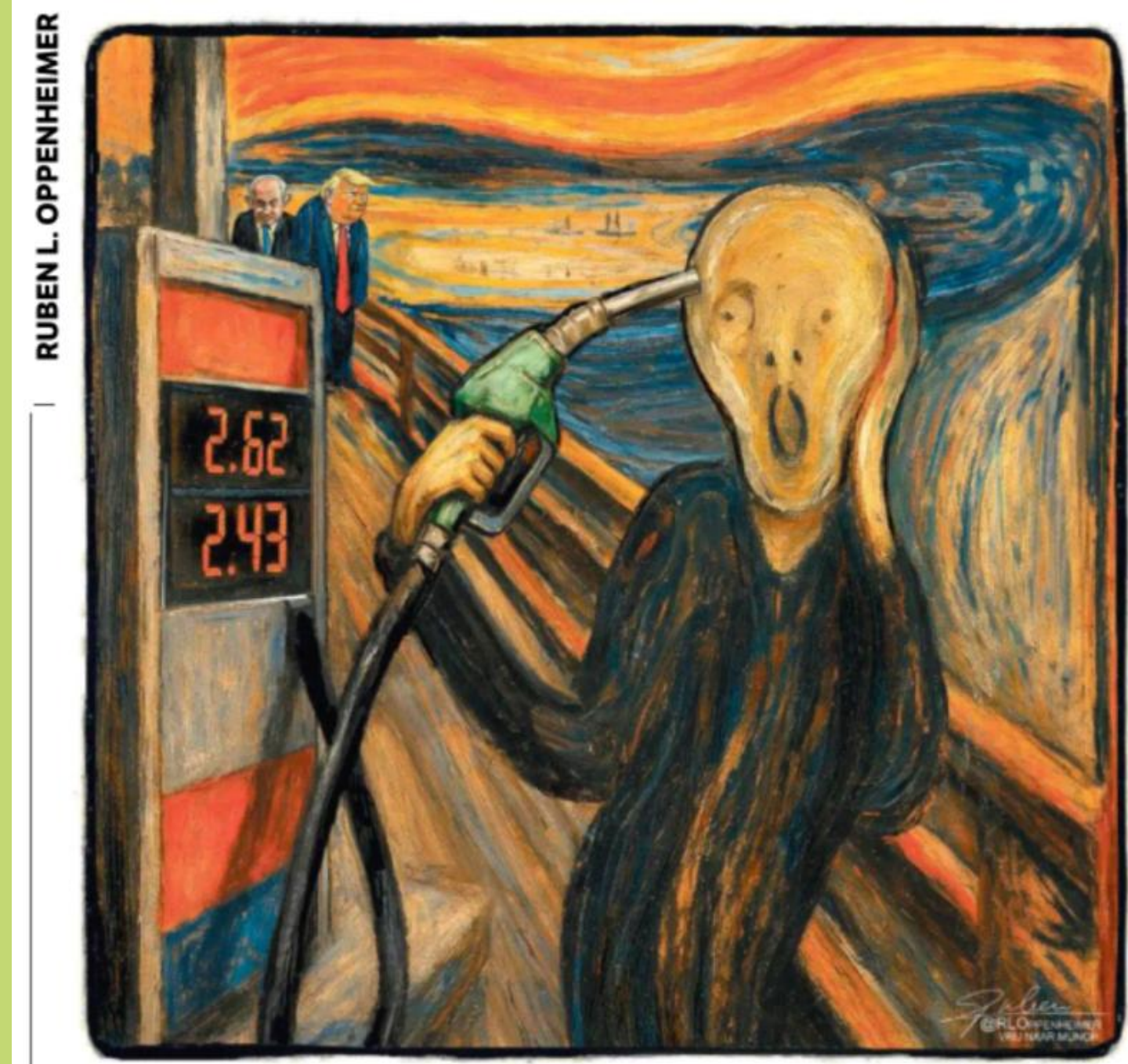
Summer School

9 July 2026



1. Climate emotions
2. Coping Strategies
3. Aim of Climate Change Education
4. Overview of Educational approaches

1. Climate emotions



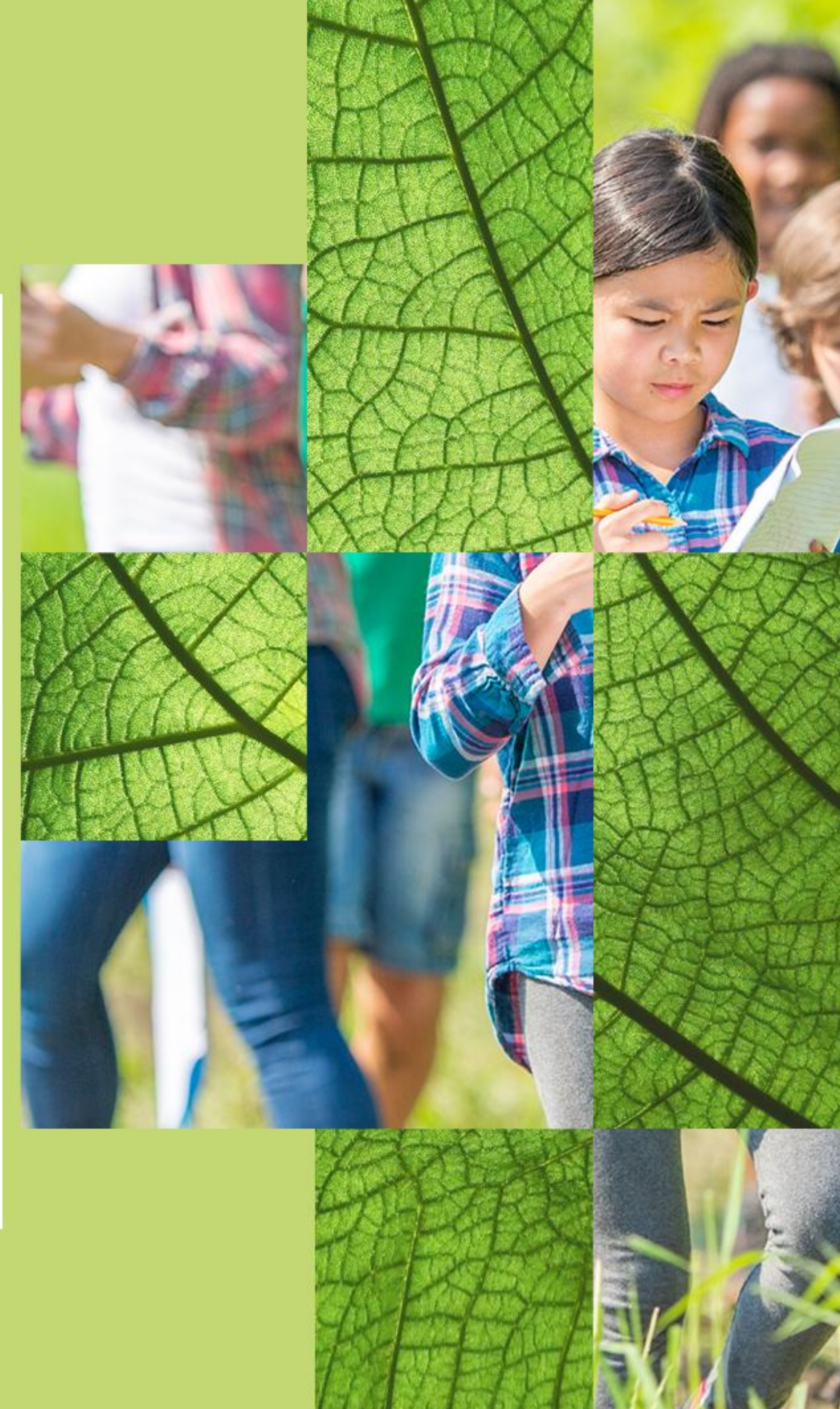
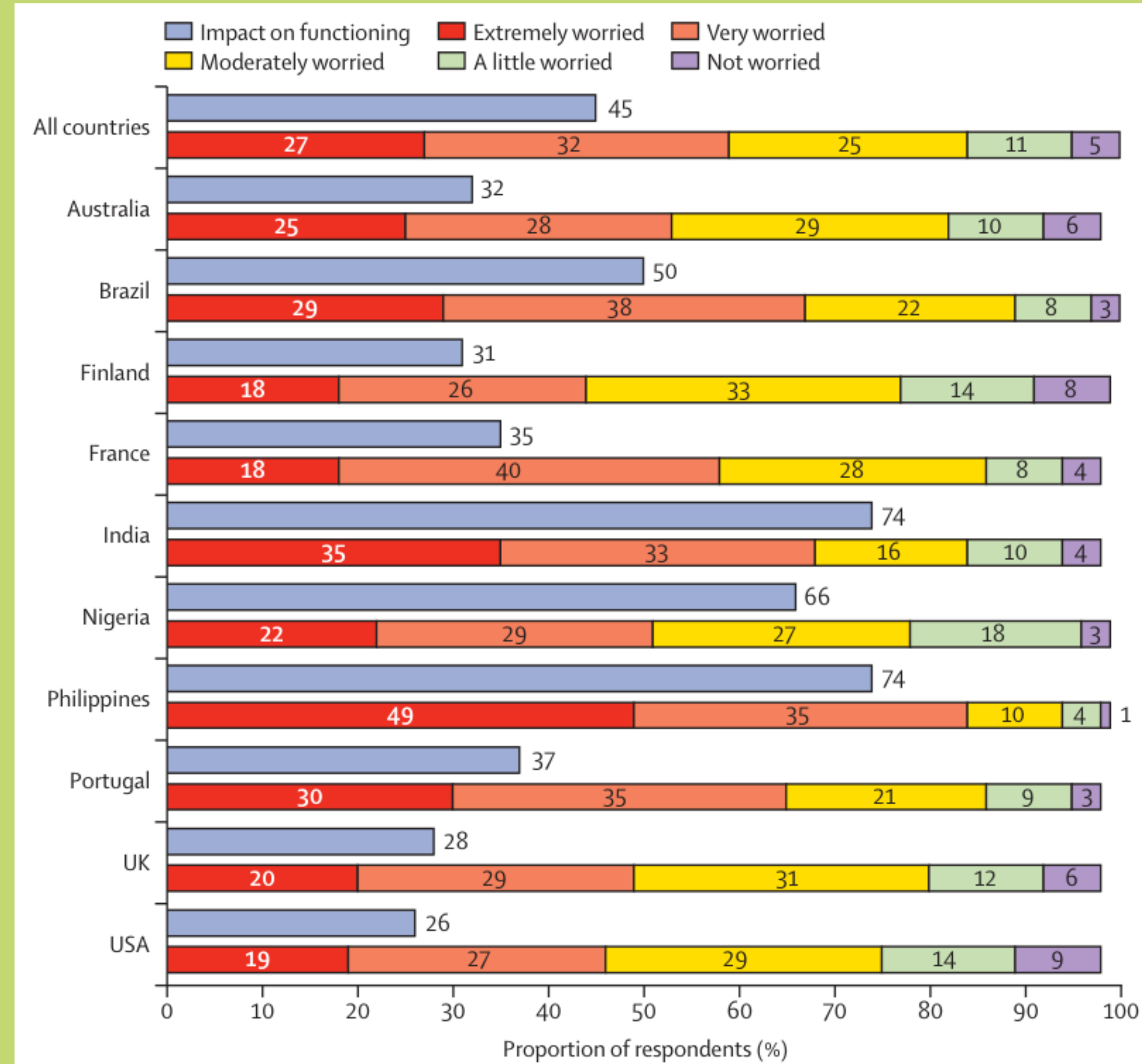
1. Climate emotions

Prevalence

10 countries
1000 young people
(16-25) per country

(Hickman et al., 2021)

~70% worried
~20% anxious
(e.g., poor sleep,
concentration
problems)



1. Climate emotions

Prevalence

Percentage of students (age 14) viewing climate change as a threat to the world's future (to a large extent) (IEA, 2025)

Notes:

Statistically significant changes ($p < 0.05$) are displayed in **bold**.

Because results are rounded to the nearest whole number, some aggregate statistics may appear inconsistent.

() Standard errors appear in parentheses.

(9) Country deviated from international defined population and surveyed adjacent upper grade.

† Nearly met guidelines for sampling participation rates only after replacement schools were included.

¹ National defined population covers 90% to 95% of national target population.

- No comparable data available.

National ICCS 2022 results are:

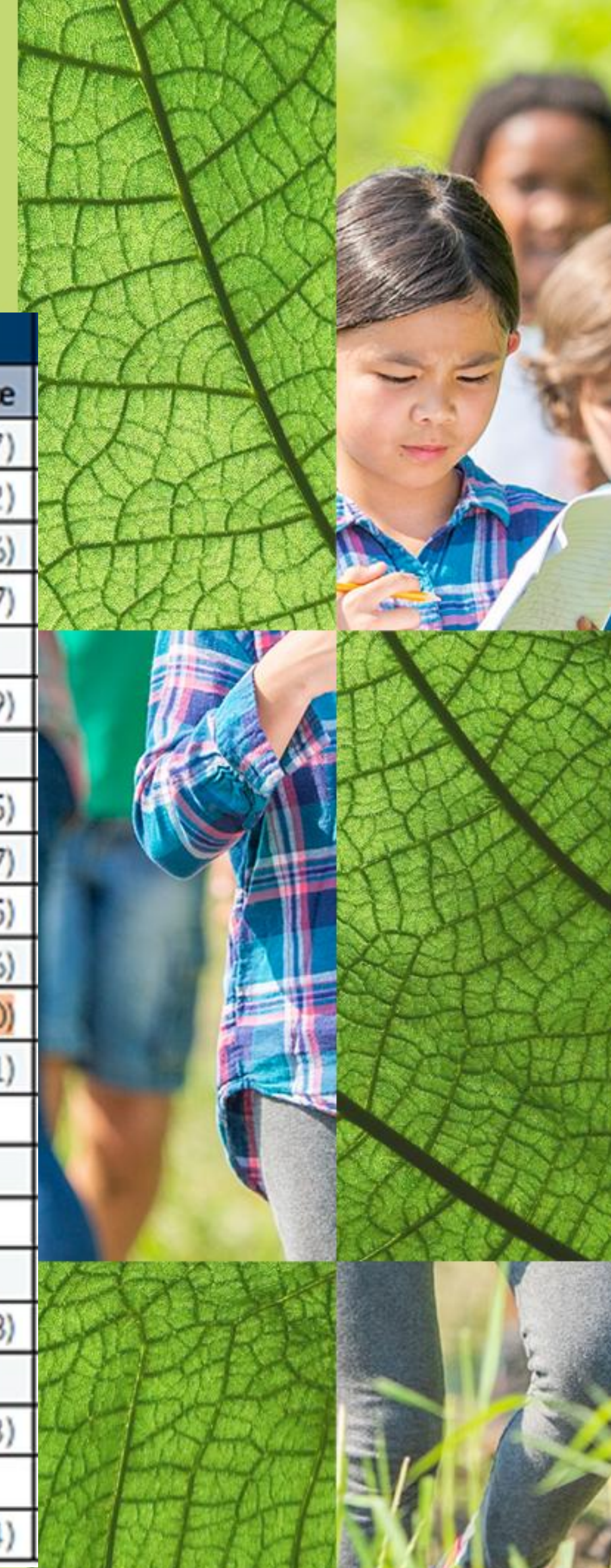
▲ More than 10 percentage or 3 score points above ICCS 2022 average

△ Significantly above ICCS 2022 average

▽ Significantly below ICCS 2022 average

▼ More than 10 percentage or 3 score points below ICCS 2022 average

Country	Climate change		
	2022	2016	Difference
Bulgaria	62 (1.2) ▽	51 (1.2)	11 (1.7)
Chinese Taipei	75 (0.8) △	61 (1.0)	14 (1.2)
Colombia	61 (1.4) ▽	77 (0.9)	-16 (1.6)
Croatia ¹	66 (1.2) ▽	47 (1.3)	19 (1.7)
Cyprus	64 (1.1) ▽	-	-
Estonia	69 (1.3)	48 (1.4)	21 (1.9)
France	82 (0.8) ▲	-	-
Italy	76 (0.9) △	44 (1.2)	31 (1.5)
Latvia ¹	70 (1.3)	50 (1.0)	20 (1.7)
Lithuania	75 (1.0) △	57 (1.1)	19 (1.5)
Malta	69 (1.3)	51 (0.9)	17 (1.6)
Netherlands†	66 (1.5)	48 (1.4)	18 (2.0)
Norway (9) ¹	75 (0.7) △	66 (0.8)	9 (1.1)
Poland	65 (0.9) ▽	-	-
Romania	60 (1.8) ▽	-	-
Serbia	47 (1.1) ▼	-	-
Slovak Republic	68 (1.1)	-	-
Slovenia	59 (0.9) ▽	47 (1.0)	12 (1.3)
Spain	75 (0.9) △	-	-
Sweden ¹	71 (0.9) △	68 (0.9)	3 (1.3)
ICCS 2022 average	68 (0.3)	-	-
ICCS 2016/2022 average	69 (0.3)	55 (0.3)	14 (0.4)



- **Climate emotions**

Yet interpretation is difficult...

Worry because:

- Species going extinct?
- Danger to habitability of homeland?
- Adverse effects of restrictive regulations on their livelihood?



- # Climate emotions

Three challenges:

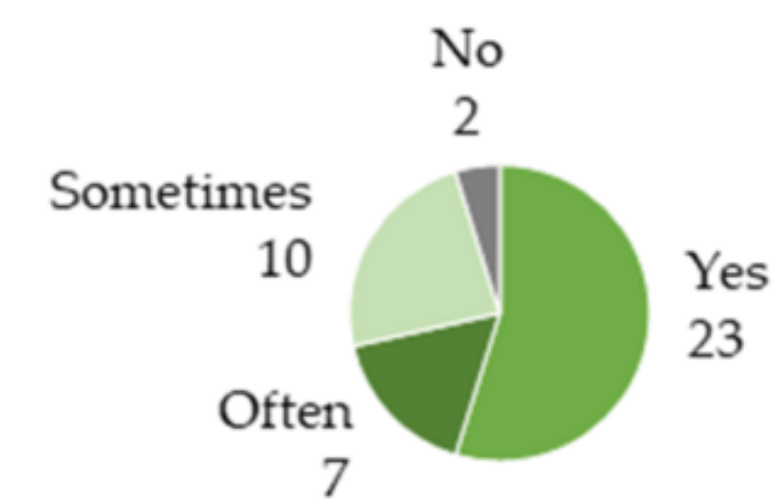
- Limited information on **underlying mechanism or triggers** for climate emotions and coping strategies
- Students feel **multiple emotions simultaneously**
- **Associations** between emotions, coping strategies, and action-taking remain unclear



• Climate emotions

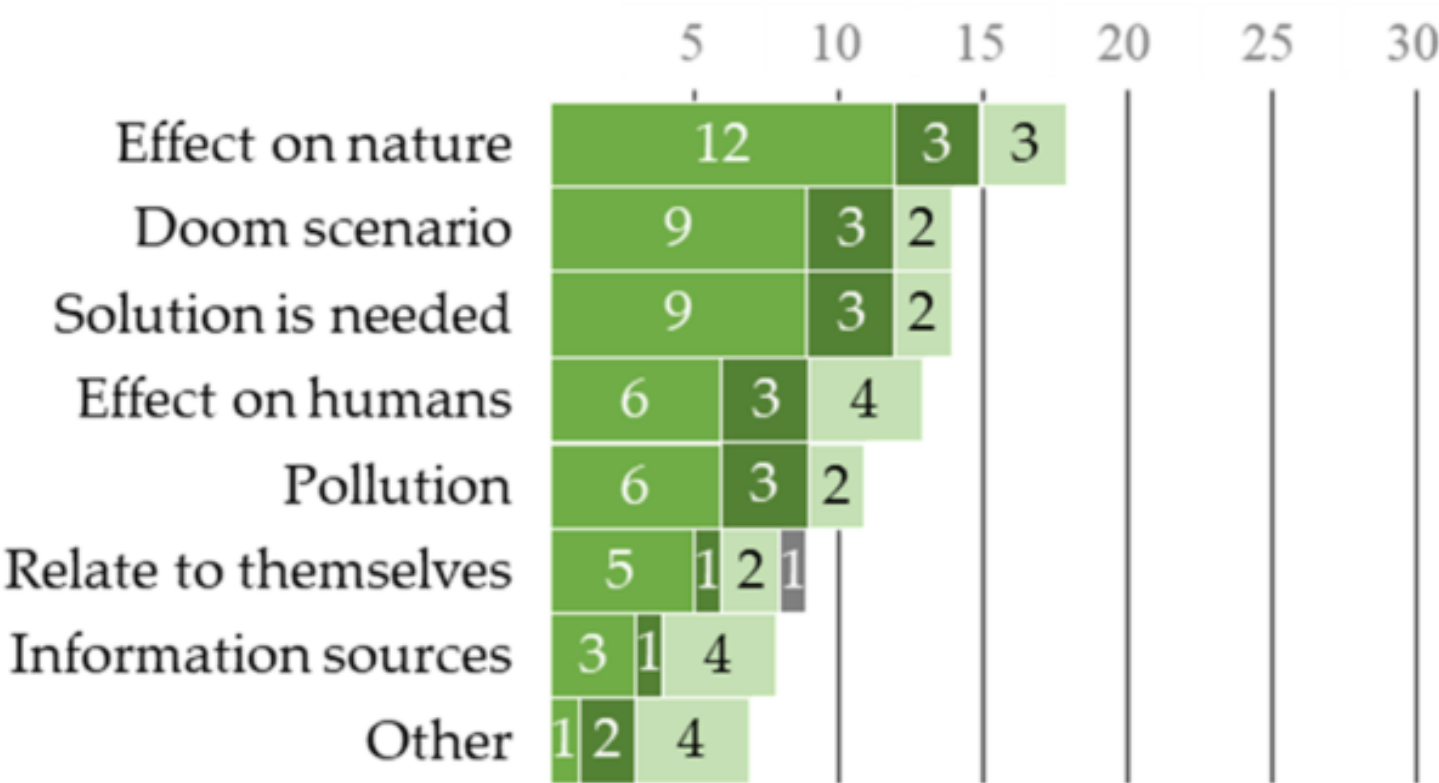
Interview study with 42 lower secondary students in the Netherlands

Do you think about the future of the planet?

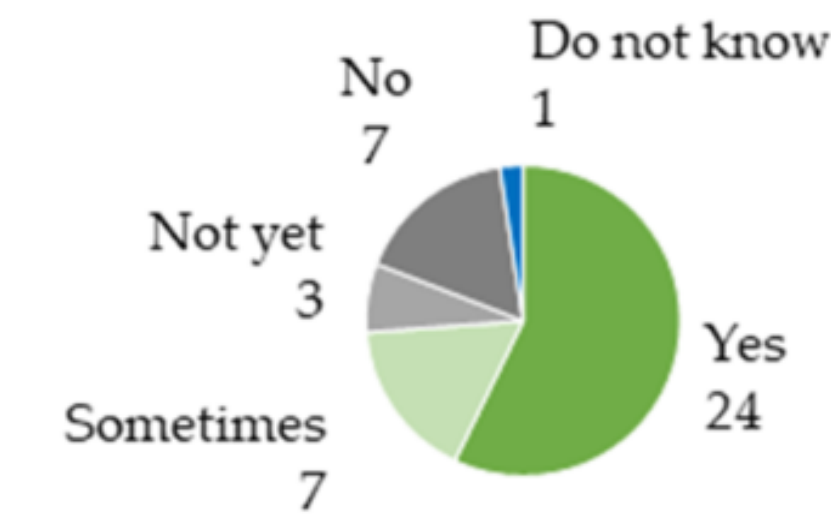


Categories per student: 2.2

Can you elaborate on that?, N=42

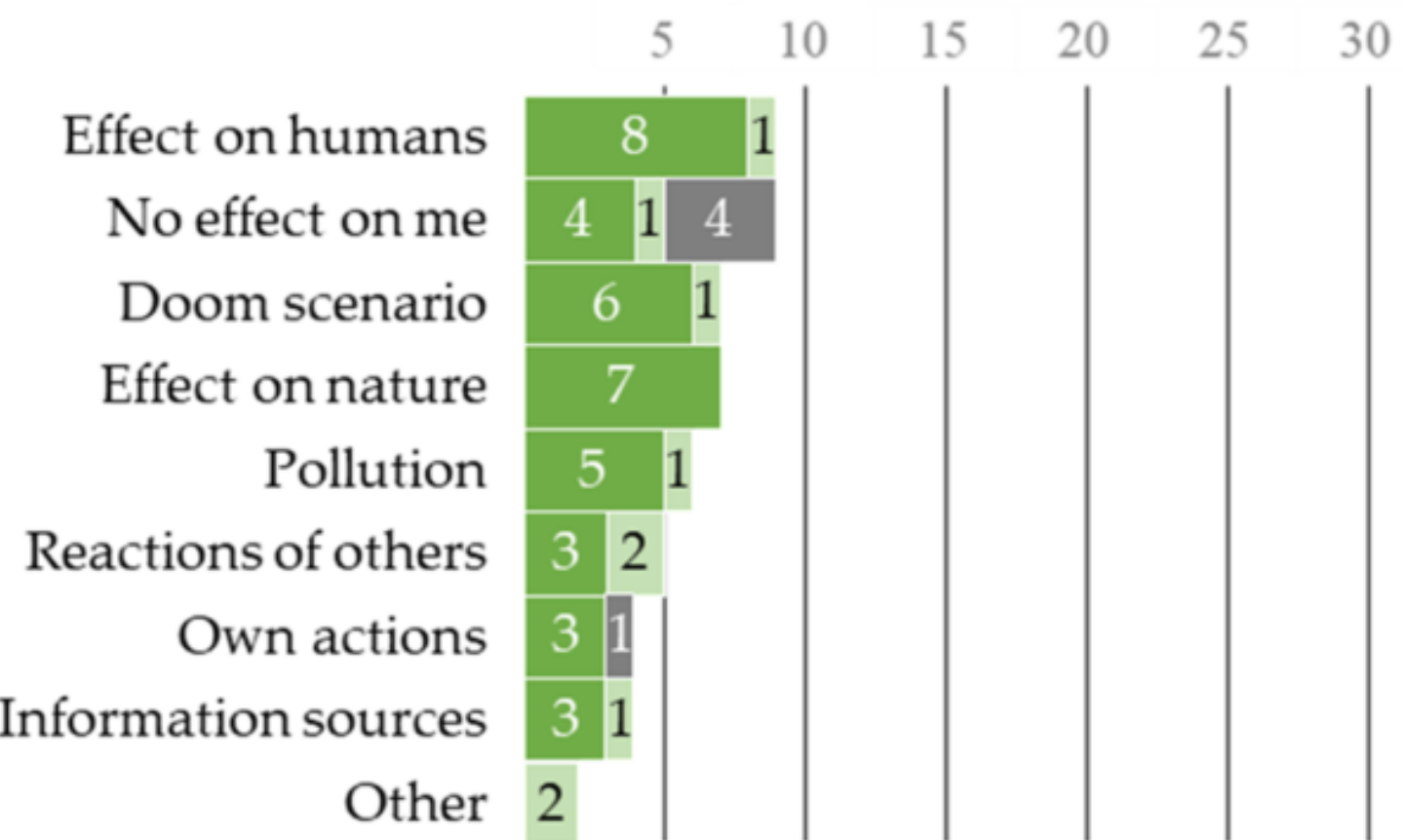


Are you worried about the future of the planet?



Categories per student: 1.3

Could you explain why?, N=42



• Climate emotions

Interview study with 42 lower secondary students in the Netherlands

- Doom scenario (14/42)
- 'Not in my life time' (11/42)
- Responsible for nature (7/42)
- Responsibility for next generations (4/42)
- Adults don't worry (3/42)
- Worry, so taking action (3/42)

(Van Harskamp et al., 2024)



• Climate emotions

Interview study with 42 lower secondary students in the Netherlands

We just have **fifteen years or so** to solve all of this, the plastic in the water, and how many **trees are being cut down**, and, the **bees** who can no longer pollinate flowers, which makes them grow and which provides us with **oxygen**, and that is, you know, also with the **water level** that is rising, there are many problems in the world,

[...]
later, people will live here as well and they might **die** because of **starvation** or something, because there is no food left, or because there is **too little oxygen**, that they will **suffocate**, and maybe even because they **won't have any clean drinking water** anymore, because there are tiny **pieces of plastic** in the water that cannot be sieved out because they are too small.

[...]
we can perhaps **invent things**, but yeah, that perhaps isn't possible either if you do not have the right materials or, for instance if scientist can no longer work because they are ill. (Student 37)

(Van Harskamp et al., 2024)



- # Climate emotions

Interview study with 42 lower secondary students in the Netherlands

Yes, sometimes I think for instance, if we talk about **land ice at sea**, like, the **ice that melts** than I think this is not really going in the right direction, and, look, maybe it is **not during my life**, nothing will really happen, but yeah, it doesn't say about people, in so and so many years, when I am already, yeah, when I have already passed away, if we are going to use so much stuff now and, and just **destroy the whole world a little bit**, then the people that live a 100 years later, they won't have anything at all left anymore. (Student 1)

(Van Harskamp et al., 2024)



1. Climate emotions

Causes and reasons for feeling/not feeling climate emotions

(Van Harskamp et al., submitted)

Hope

Ranging from

I think everything helps, it helps of course, maybe a really small effect, but it does help! Especially if everyone does it (s07)

To

It is not like, we see in two years that what we're doing helps, I have not yet seen something have an effect yet (s01)

Worry

Ranging from

Sea levels are rising, and that is very bad because the dikes can't handle that, and a lot of drought and videos of polar bears on melting ice (s05)

To

Because I am a child and I do not think about that a lot, yeah, because I think older people are taking care of it a little (s03)



1. Climate emotions

Causes and reasons for feeling/not feeling climate emotions

(Van Harskamp et al., submitted)

Grief, sadness

Ranging from

Climate change is not nice, also for the earth itself, I long for a better world, also for poorer countries, they feel the effects of climate change more (s02)

To

Instead of being sad, you can better do something about it, being sad doesn't solve anything (s06)

Shame, guilt

Ranging from

Because you can always do more, not only me, but also others, so yes, also a guilty feeling for other people (s07)

To

No, I do not think I made a mistake long ago which caused this situation, so I do not feel guilty (s04)

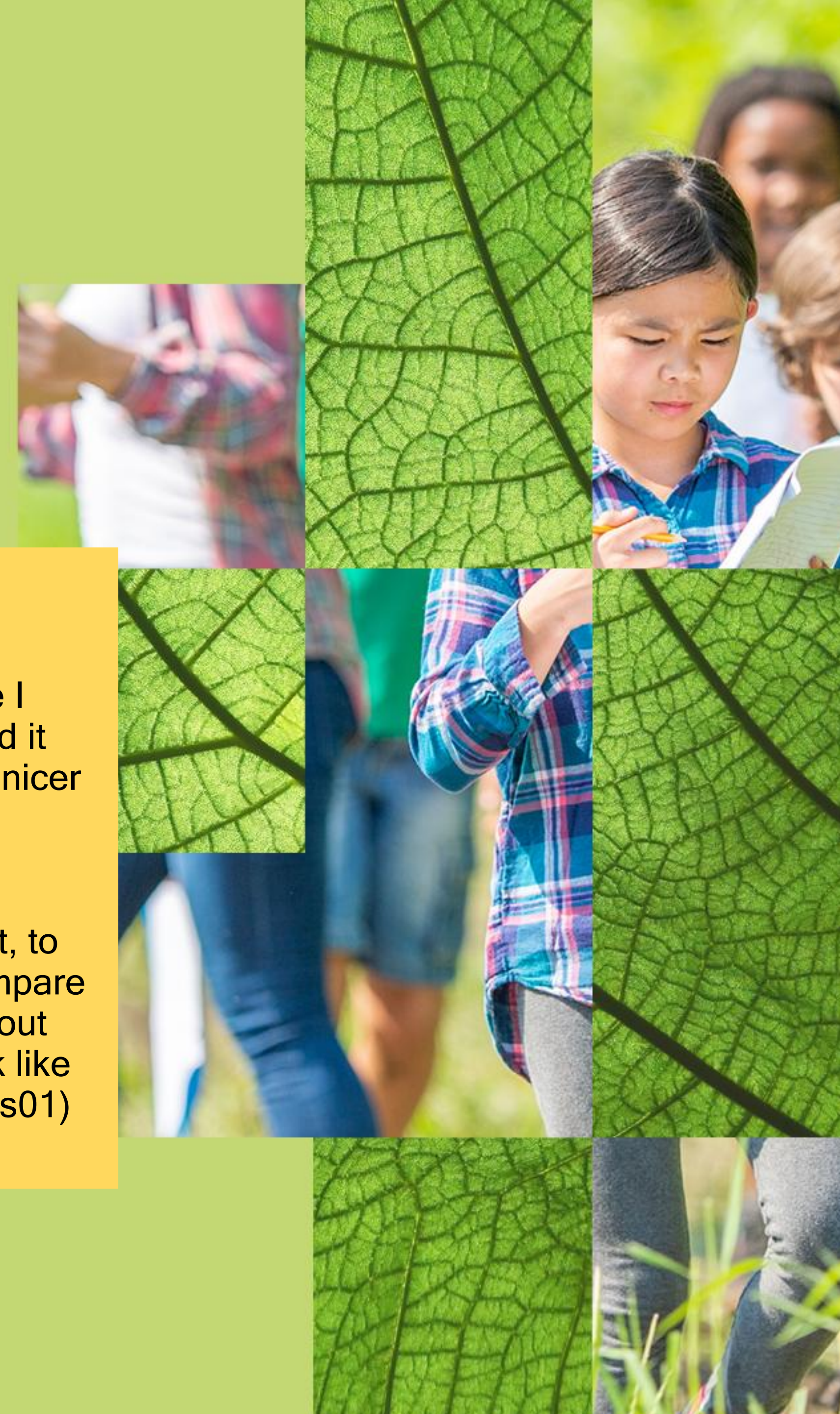
Boredom

Ranging from

Absolutely, agree, because I don't know a lot about it and it doesn't interest me, I have nicer things to do (s04)

To

It is interesting to talk about, to hear what others think, compare it with my opinion, learn about what the world used to look like and what it looks like now (s01)



1. Climate emotions

Multiple emotions at the same time

(Van Harskamp et al., submitted)

Student	Hope	Worry	Guilt	Shame	Boredom
01	3,0	4,0	2,5	4,0	2,0
02	3,0	4,0	3,5	2,0	2,0
03	4,0	2,0	3,0	2,0	2,0
04	3,0	2,0	2,0	1,0	5,0
05	2,0	4,0	4,0	4,0	2,0
06	4,0	3,0	2,0	3,0	2,0
07	4,0	3,0	4,0	4,0	2,0
Completely disagreeDisagreeNeutralAgreeCompletely agree					
12345					



1. Climate emotions

Questions for us:

- What role do these emotions have in education?
- Should teachers try to generate specific emotions?
- Should teachers make room for emotions in their teaching?
- What is the role of peer-pressure in emotional responses to climate change of students?
- What is the role of parents/guardians in all of this?

