

# COMMUNICATING POLITICIZED SCIENCE:

## A COGNITIVE PERSPECTIVE

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**We're not just fighting an epidemic; we're fighting an infodemic. Fake news spreads faster and more easily than this virus, and is just as dangerous.**

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**Tedros Adhanom Ghebreyesus**  
Director-General, World Health Organization

The MSC logo, consisting of the lowercase letters 'msc' in a bold, sans-serif font, with a blue dot above the 'c'. It is positioned in the top right corner of the image, partially overlapping a white circular graphic element.

msc



“Climate change is mainly caused by a variation in solar activity”



**Metaknowledge: Knowing what you know**

Insight into the validity of own knowledge, awareness of the limits of own knowledge.

**Object-level knowledge: Knowledge about external world**

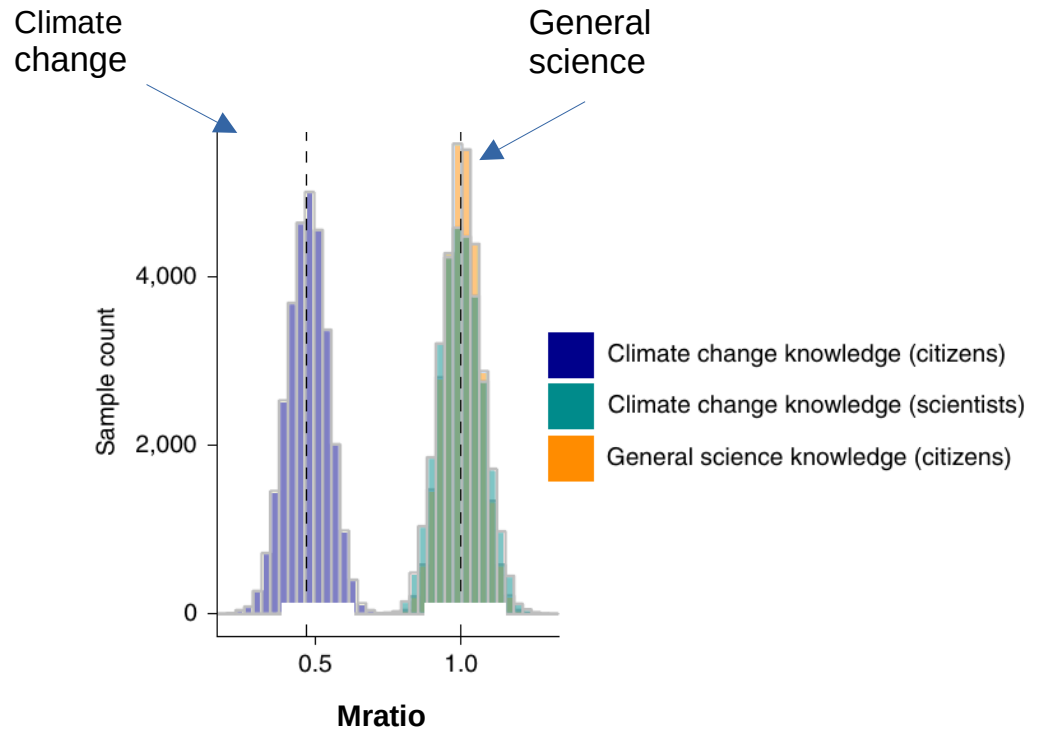
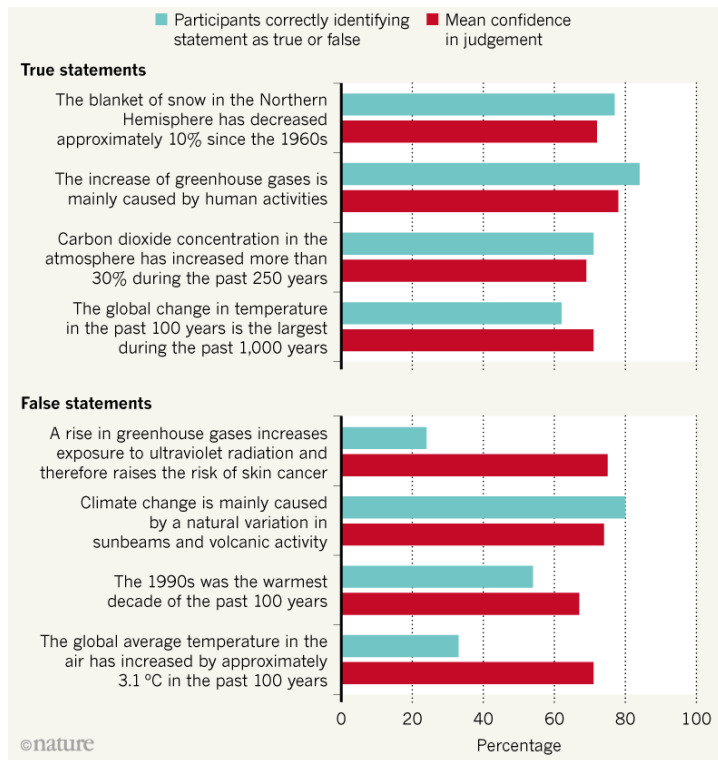
“Greenhouse gas increase is driven by humans.”

# A roadmap in three claims

*“What gets us into trouble is not what we don't know. It's what we know for sure that just ain't so.” – Mark Twain*

1. Citizens are metacognitively confused about politicized science, and more so than about non-politicized science: Climate change
2. Accurate metaknowledge is key for evidence-based decisions: COVID-19
3. Communicated science varies considerably in the extent to which it ensures metacognitive accuracy, partially even within one and the same outlet: IPCC reports

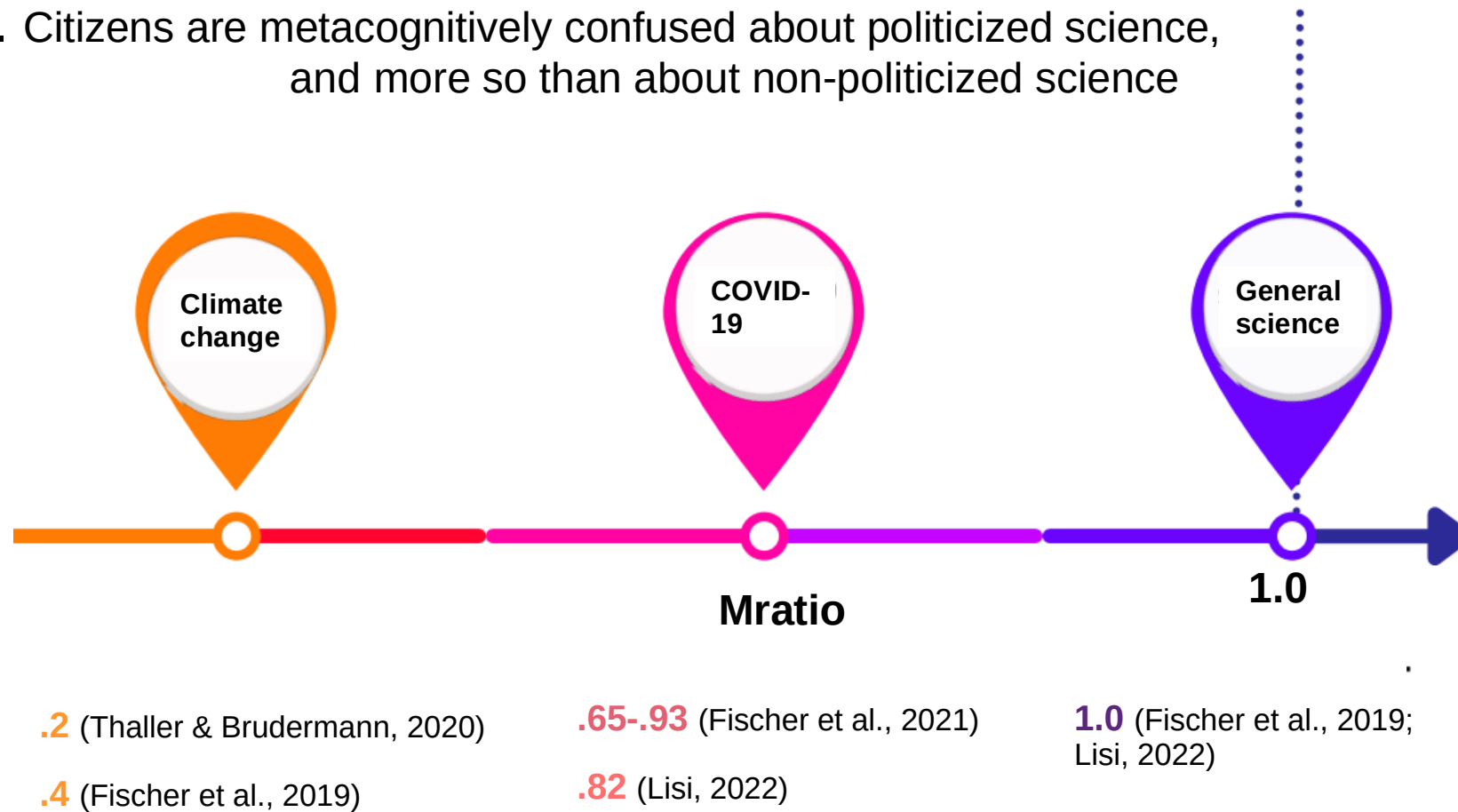
# 1. Citizens are metacognitively confused about politicized science, and more so than about non-politicized science



How well does confidence track accuracy of knowledge?

German nationally balanced quota sample (n= 509)

# 1. Citizens are metacognitively confused about politicized science, and more so than about non-politicized science



This is the information environment that we are communicating in!

## 2. Accurate metaknowledge is key for evidence-based decisions

### FALSE:

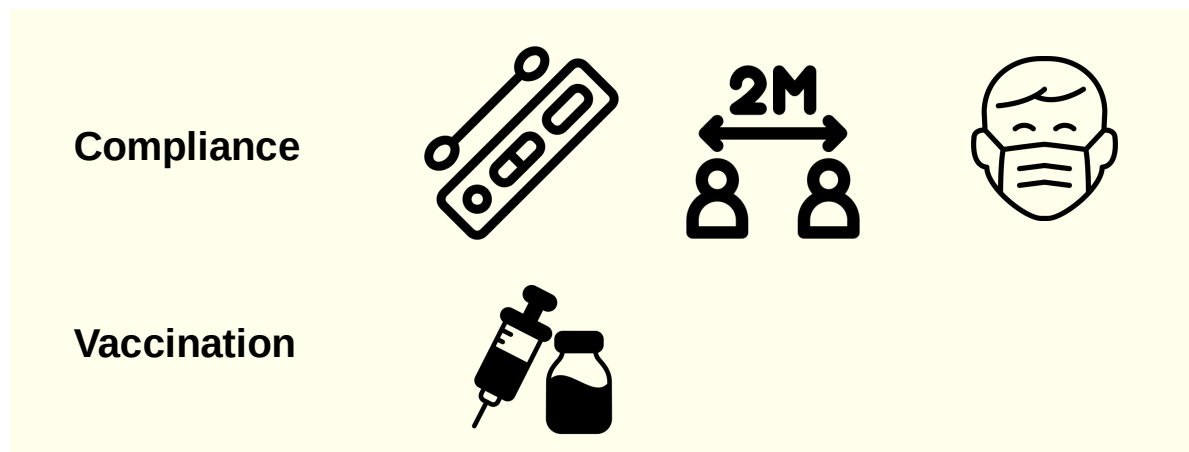
The coronavirus is part of a global effort to enforce mandatory vaccination;

The new 5G network may be making us more susceptible to the coronavirus.

### TRUE:

People with diabetes are at higher risk of complications from coronavirus infection;

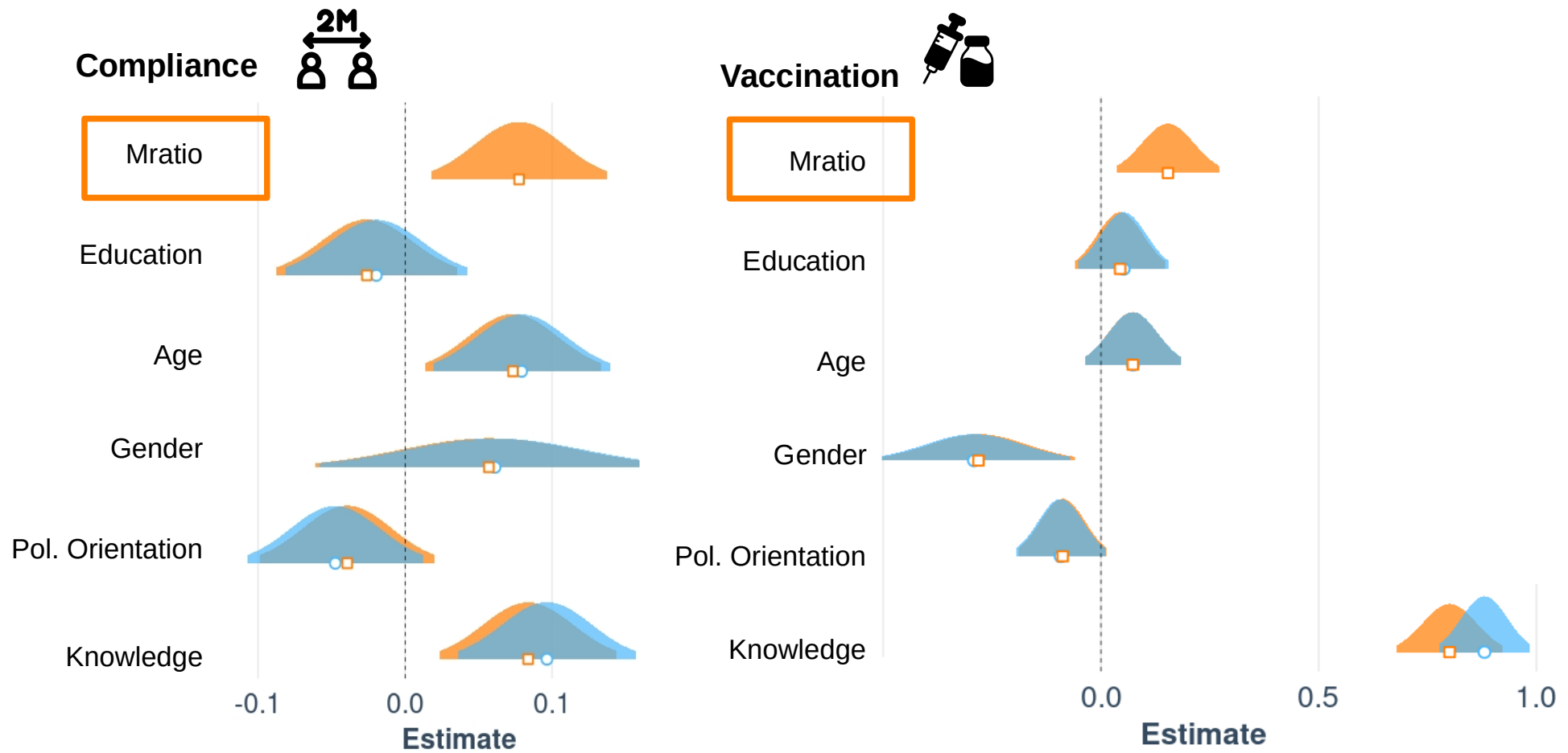
People may be infectious two days prior to showing symptoms.



Fischer, Said & Huff (under review).

German nationally balanced  
quota samples (n= 590; n= 1.093)

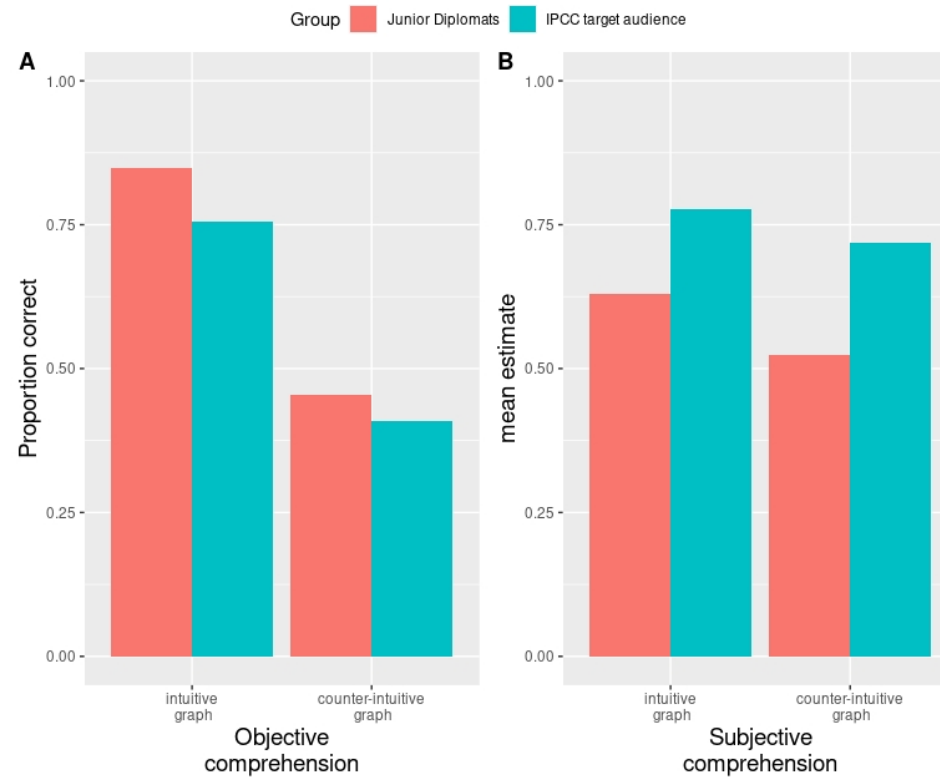
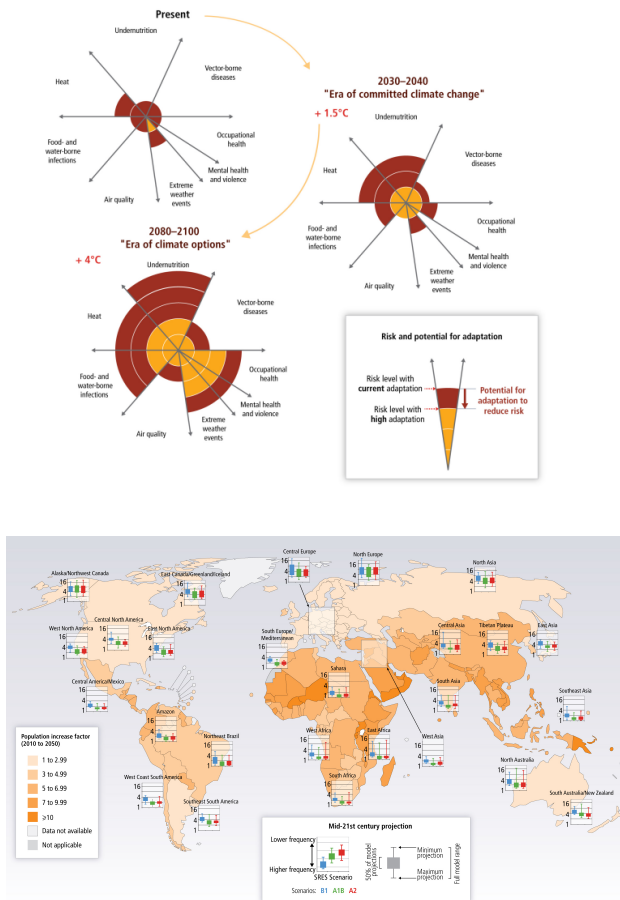
## 2. Accurate metaknowledge is key for evidence-based decisions



Fischer, Said & Huff (under review).



### 3. Communicated science varies considerably in the extent to which it ensures metacognitive accuracy



Political decision-makers (n= 110)

# Implications for communicating politicized science

Citizens are **metacognitively confused** about politicized science, and more so than about non-politicized science. This suggests that **misinformation** about politicized science renders citizens **confused about what they do, and do not firmly know**.

Communicated science **varies considerably** in the extent to which it **ensures metacognitive accuracy**, partially **even within one and the same outlet** (IPCC reports; Fischer et al., 2018, 2020).

Science communication should **not only aim at increasing object-level** accuracy (knowledge).

Science communicators should also **foster metacognitive accuracy** to **enhance evidence-based behavior**.

**THANK YOU!**

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