

Thinking physical activity behaviors in a climate change context



Inserm



Cités

Climat, Inégalités, Interventions,
Territoires, Écosystème et Santé

Paquito BERNARD, PhD

Visual metaphor for our academic community ?



Kristi McCluer

“With increasing global warming and climate change we may have not only an option but an obligation to change present

https://www.oregonlive.com/wildfires/2017/09/who_took_these_dramatic_pictur.html (K McCluer)

World Scientists' Warning to Humanity: A Second Notice

2017

WILLIAM J. RIPPLE, CHRISTOPHER WOLF, THOMAS M. NEWSOME, MAURO GALETTI, MOHAMMED ALAMGIR, EILEEN CRIST, MAHMOUD I. MAHMOUD, WILLIAM F. LAURANCE, and 15,364 scientist signatories from 184 countries

World Scientists' Warning of a Climate Emergency

2019

WILLIAM J. RIPPLE, CHRISTOPHER WOLF, THOMAS M. NEWSOME, PHOEBE BARNARD, WILLIAM R. MOOMAW, AND 11,258 SCIENTIST SIGNATORIES FROM 153 COUNTRIES (LIST IN SUPPLEMENTAL FILE S1)

World Scientists' Warning of a Climate Emergency 2021

2021

WILLIAM J. RIPPLE, CHRISTOPHER WOLF, THOMAS M. NEWSOME, JILLIAN W. GREGG, TIMOTHY M. LENTON, IGNACIO PALOMO, JASPER A. J. EIKELBOOM, BEVERLY E. LAW, SALEEMUL HUQ, PHILIP B. DUFFY, AND JOHAN ROCKSTRÖM

CLIMATE CHANGE A TIMELINE

@SEMI-RAD

"CLIMATE
CHANGE
ISN'T REAL"

OOPS



OK, CLIMATE CHANGE
IS REAL, WE'RE JUST
NOT CONVINCED IT'S
CAUSED BY HUMANS

FUCK

Physical activity

Physical exercise

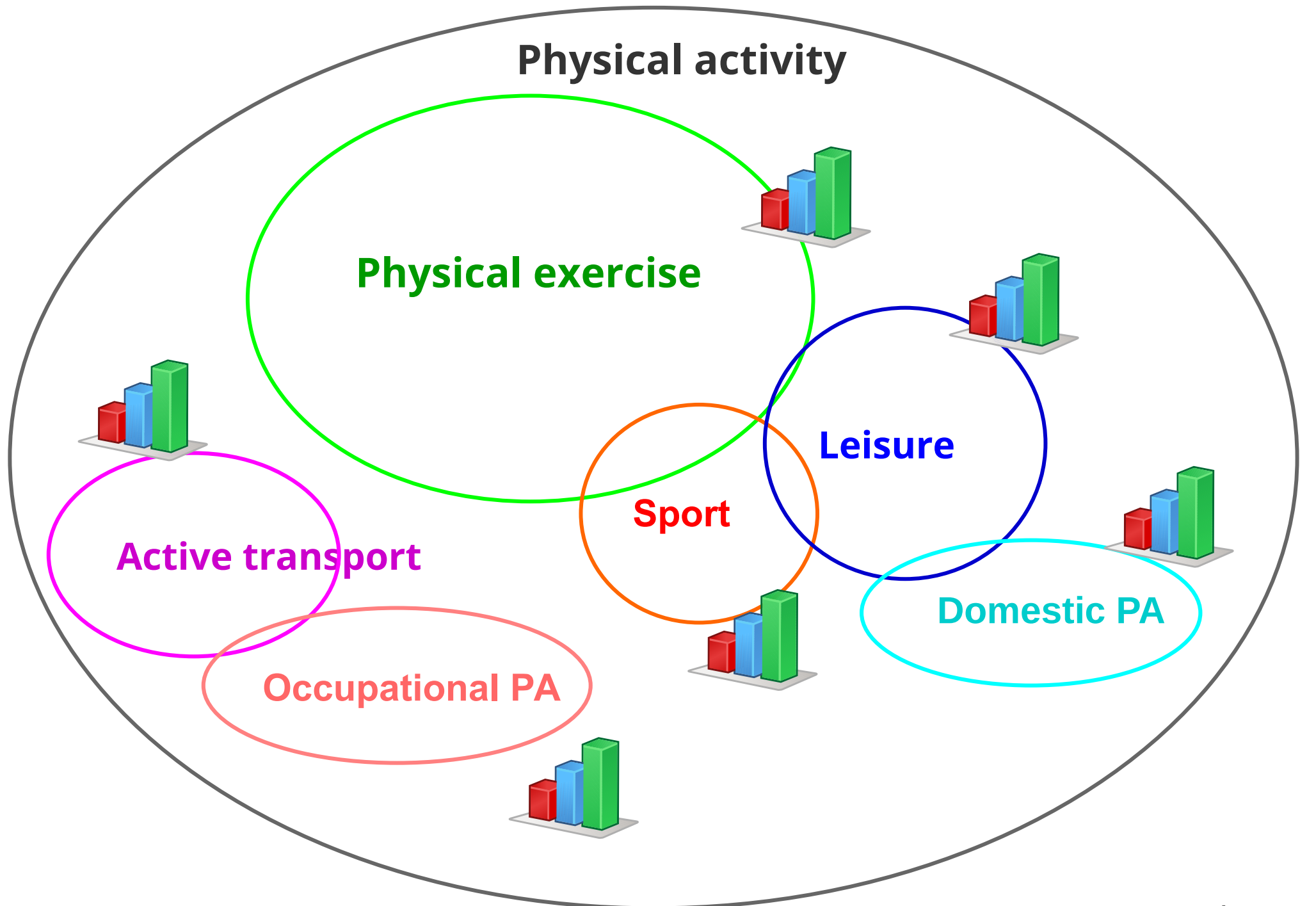
Leisure

Sport

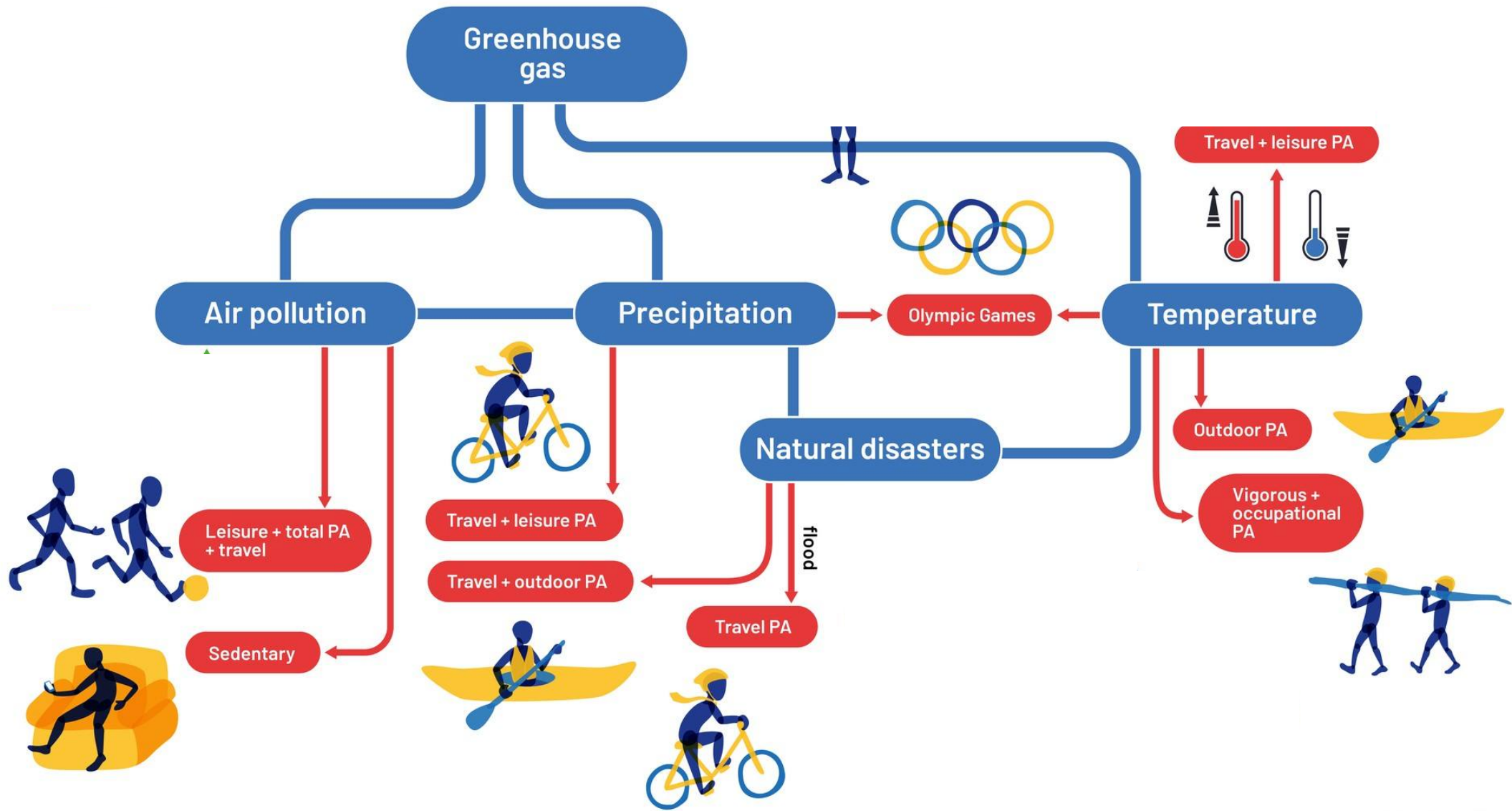
Active transport

Occupational PA

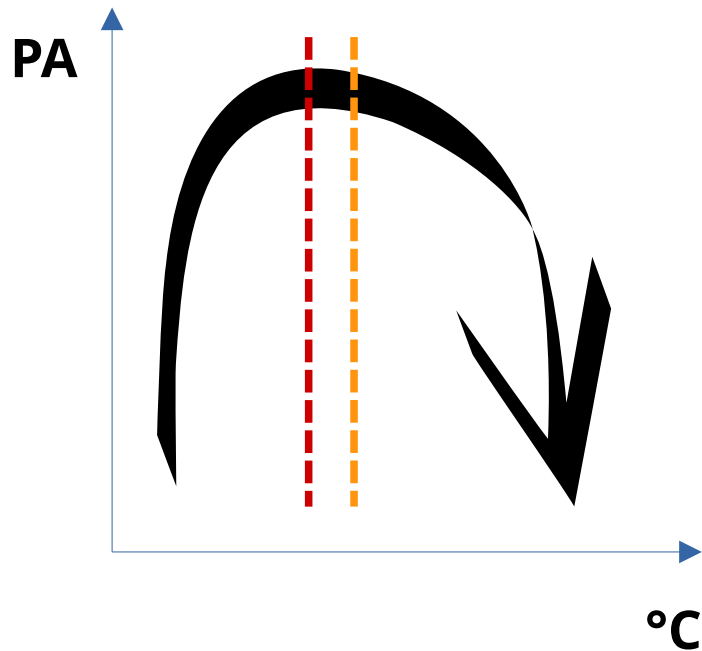
Domestic PA



Climate change, sport and physical activity (PA)



Heat Wave



Active transport
Leisure PA



BMI >30, Older people

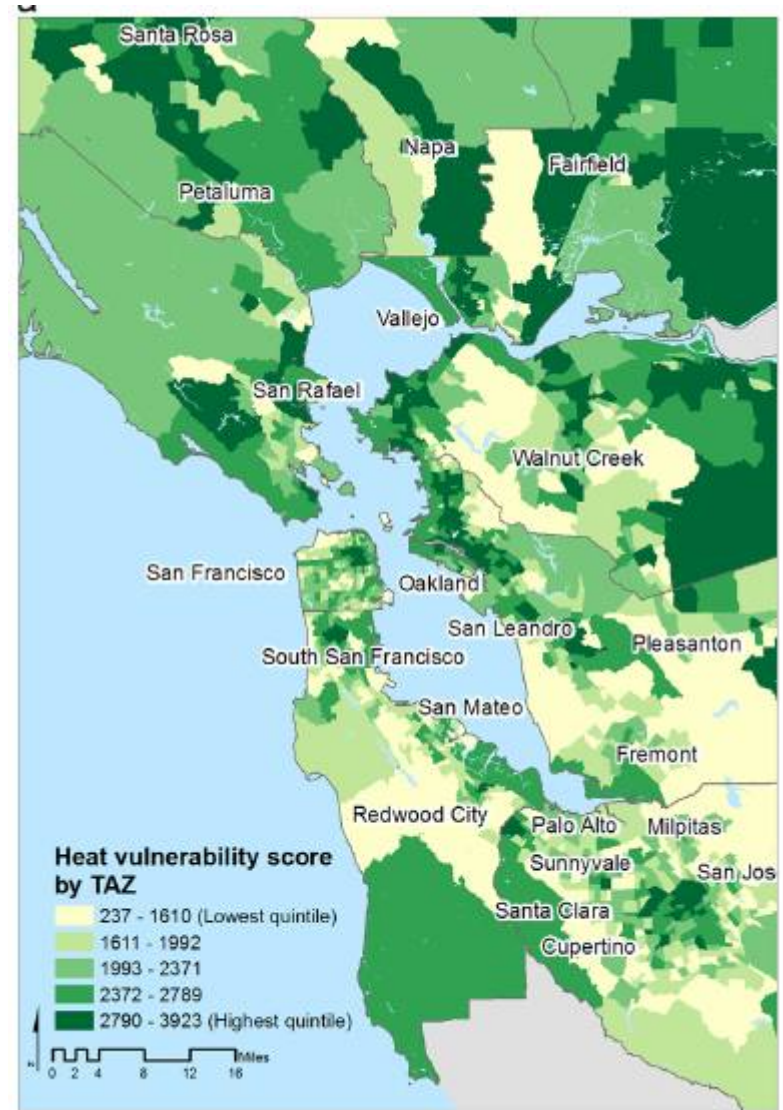


Fig. 4. Heat exposure vulnerability score for the Bay Area: (a) spat

Low-income individuals disproportionately use active transport

They are more likely to be exposed to extreme heat

Kanler et al 2015, Ouyang & Hurren 2019

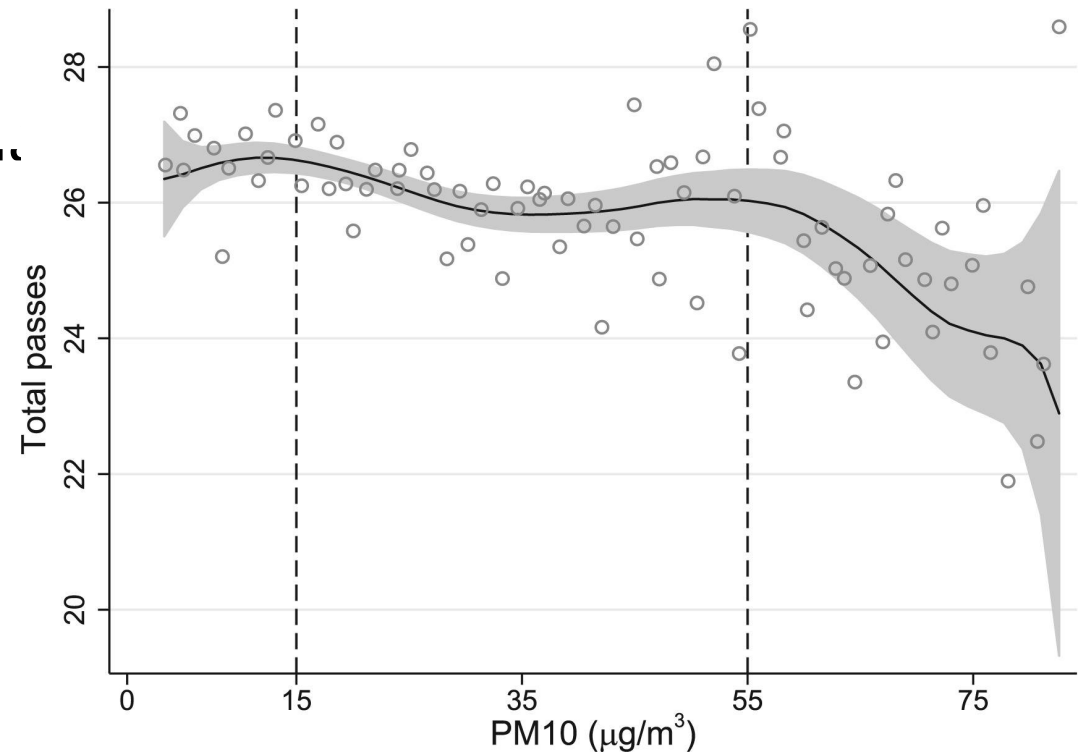
Air pollution & football

Soccer

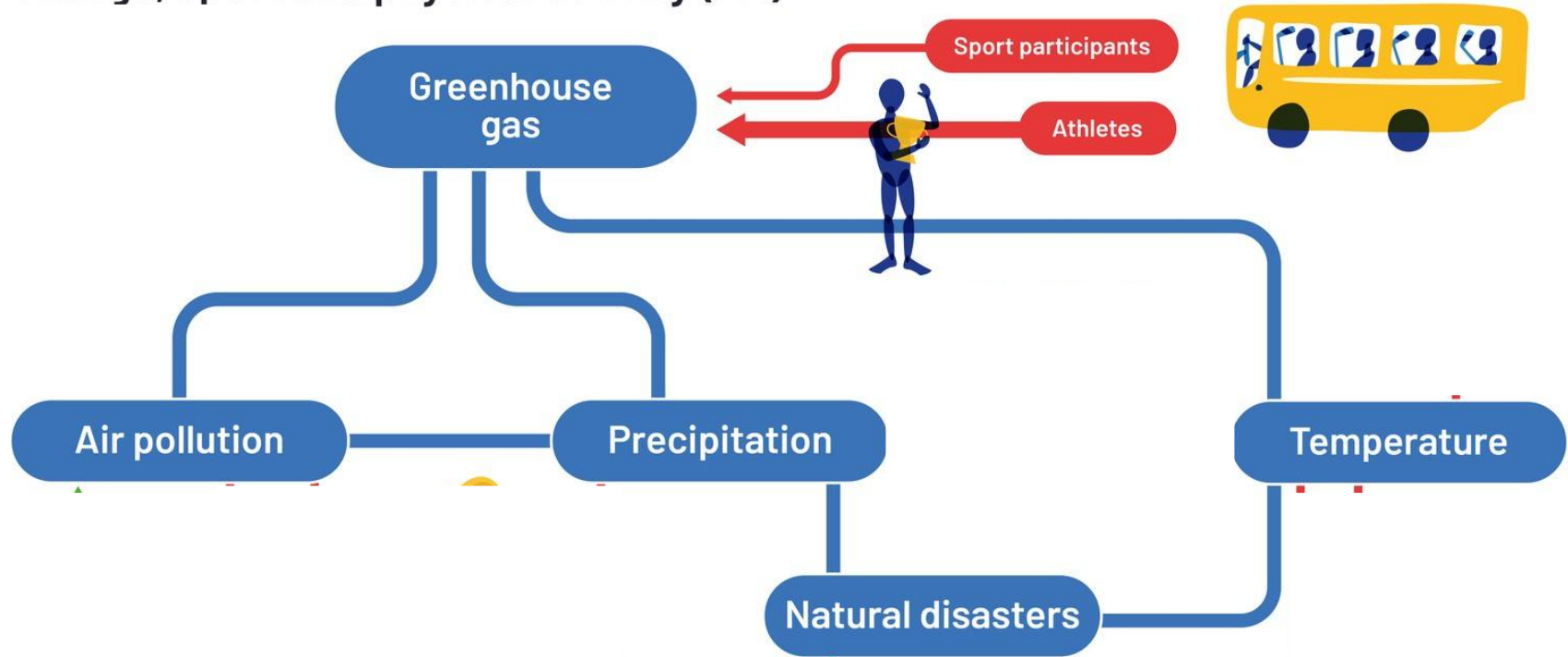
📌 physical & technical (Germany, China, Poland leagues)
performances (nb passes / match)

INCREASE home advantage effect in adapted pollution teams

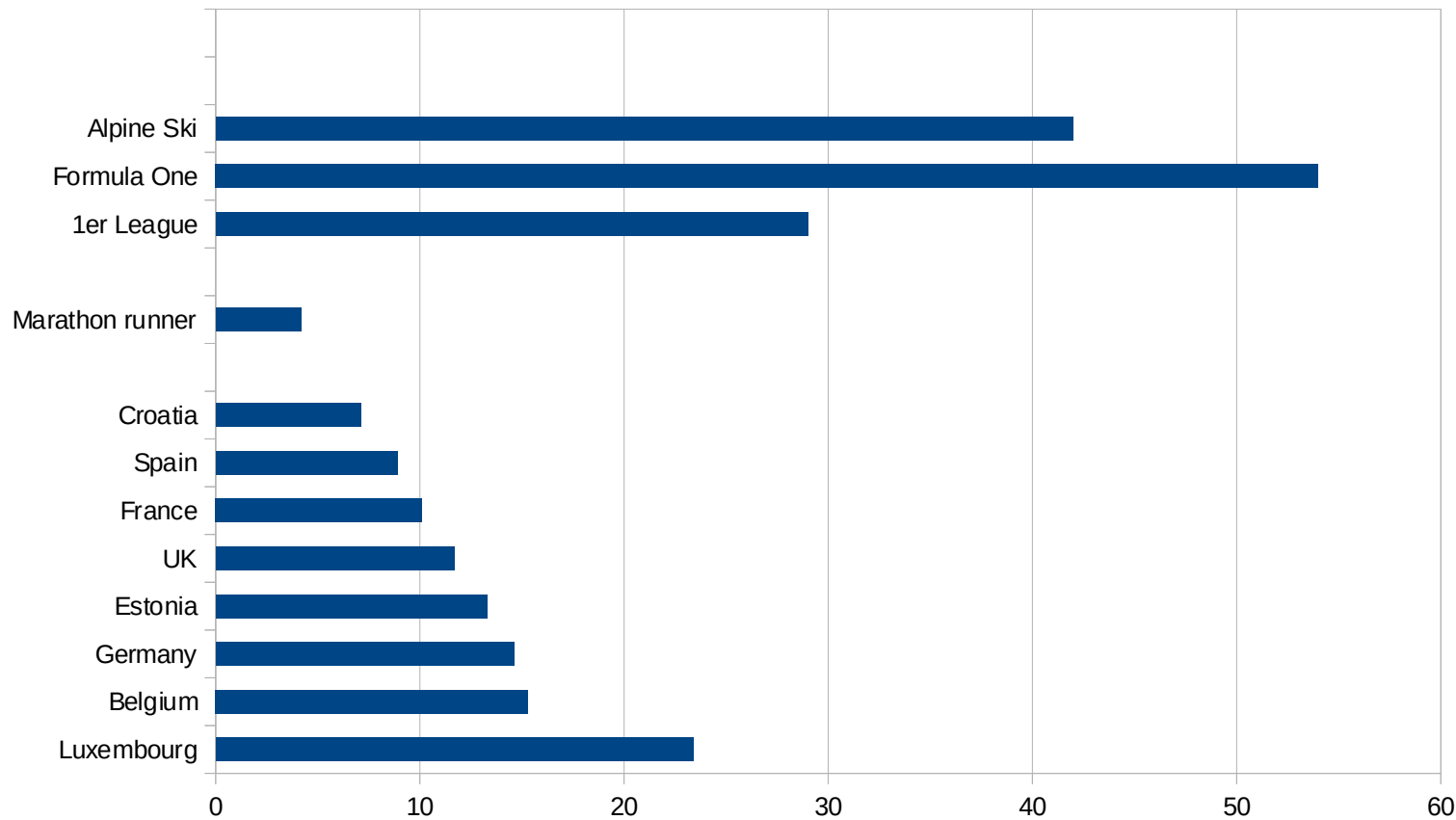
Slower pace in half-marathon
more severe impacts on am.
runners



Climate change, sport and physical activity (PA)



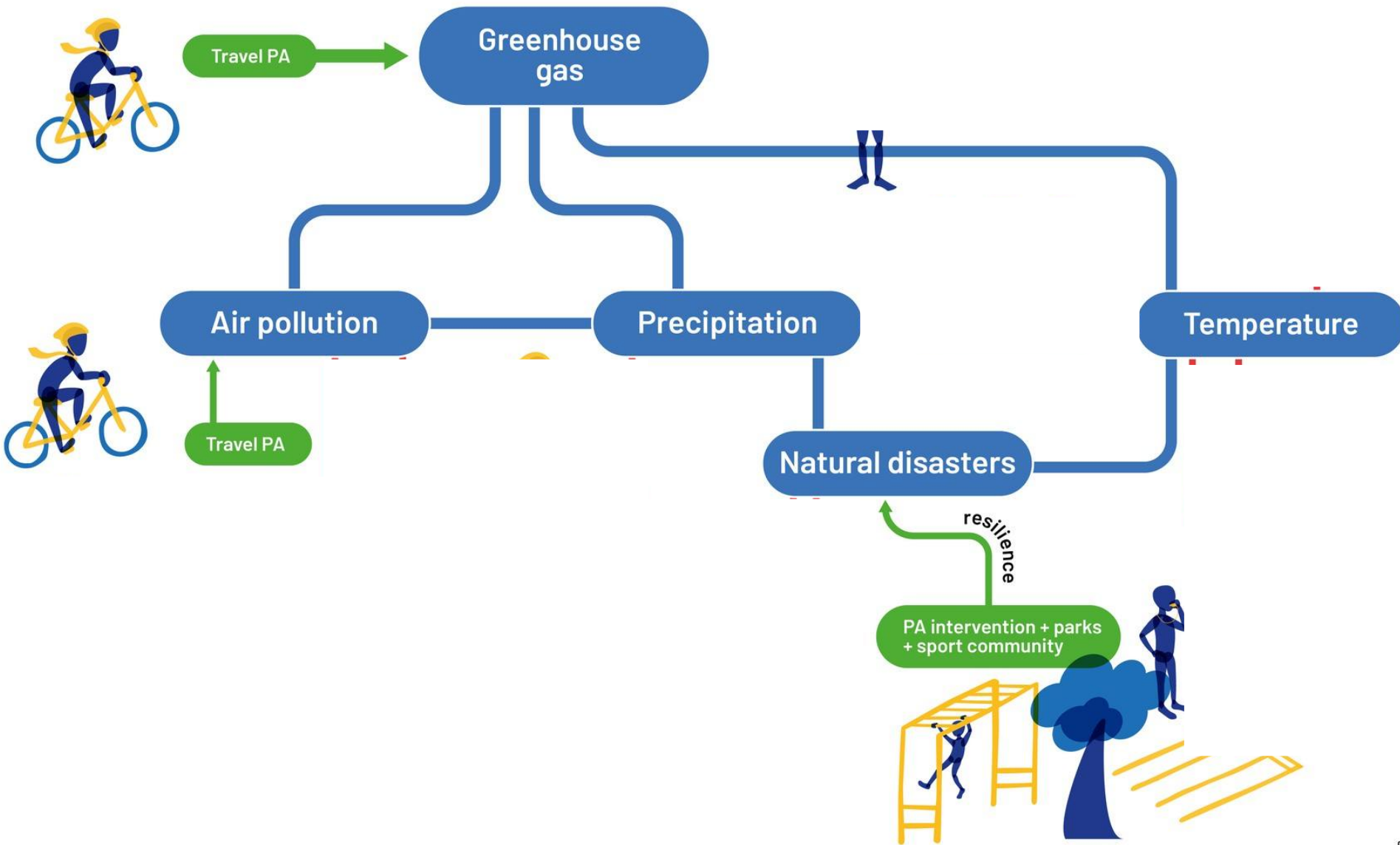
Carbon footprint of sport participants ?



CO2 eq tons per year /
resident



Climate change, sport and physical activity (PA)



Natural disasters and physical activity

Sport and Physical Activity Organizations Post-disaster

Sport communities, professional sport organizations provided a CONCRETE and EMOTIONAL support

Sport clubs are efficient post-disaster
"Natural disaster trials"



Then a star receiver for the Saints, Joe Horn visited displaced families at the Houston Astrodome.



Climate change, sport and physical activity (PA)

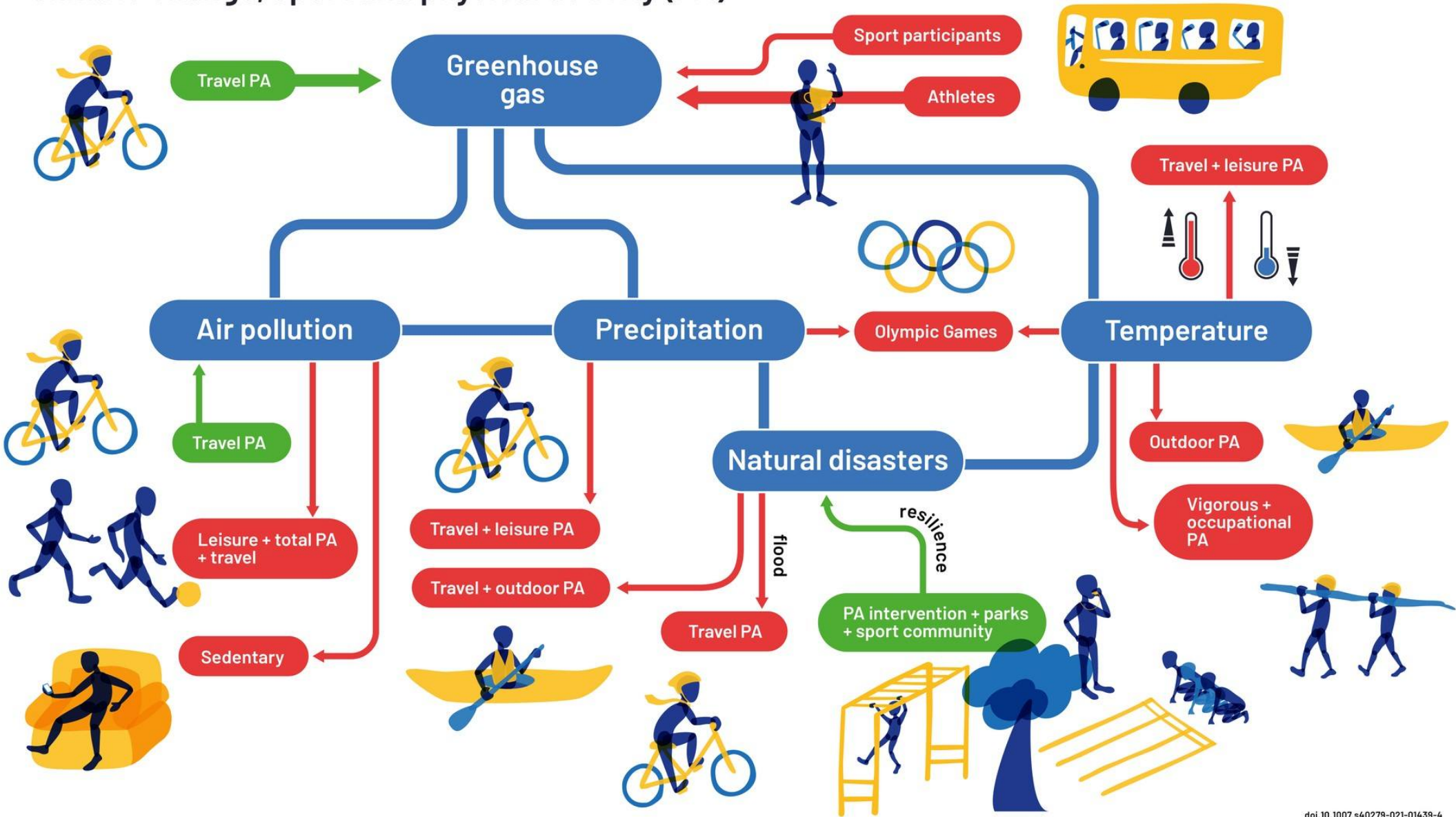


Figure 6.3. Mechanisms to change lifestyles



Take home messages

- **Climate change impacts increasingly and disproportionately affect physical activity on a world-wide scale (chronic diseases, > 65 years)**
- **Population with low incomes & outdoor workers are/will be overexposed**
- **PAs are not a magic bullet to decrease the air pollution and GHG emissions**
- **Air travels are the major source of GHG in athletes**
- **PA communities play an important role in resilience and recovery following natural disasters**

Recommendations for physical activity stakeholders, academic communities, athletes and coaches

Future PA guidelines should present the risks (e.g., heat waves) and possible benefits for PA related to climate change (i.e., reduction of air pollution, GHG).

A major revision of transport modes related to leisure sport practices and professional sports

The PA definition should be revised to include climate change perspectives and consequences.

Climate change impacts and adaptation/mitigation roles of PA should be systematically included in PA sciences, public health, psychology courses

Sport/PA communities , a good place to exchange about climate change, 'social contagion'

Physical activity, a solution to climate change

Replacing short car trips with walking or cycling reduces greenhouse gas emissions and air pollution



Created by @tamaramartel / tamaramartel.com @PaquitoBernard et al. Sports Medicine (2021)

Sport accelerates climate change

The travel of an English professional footballer represents more than 3 times the annual carbon footprint of a family.



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From today onwards , a new way of seeing sport and physical activity

Imagine physical activity and sport differently



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<https://osf.io/ej4mv/>

<http://tamaramartel.com/>

Travelling by plane or alone in a car for sports

worsens our carbon footprint



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Climate change threatens athletes, Olympics and bike delivery people?

Playing sports for fun or to win, riding a bike, or working outdoors is going to become more and more complicated because of heat waves, increased pollution, and natural disasters.



LETTRE À LA RÉDACTION

Muscler son jeu dans la lutte contre le changement climatique



Sports Medicine
<https://doi.org/10.1007/s40279-021-01439-4>

SYSTEMATIC REVIEW

Climate Change, Physical Activity and Sport: A Systematic Review

Climate change: the next game changer for sport and exercise psychology



**L'EPS À L'HEURE DES
CHANGEMENTS CLIMATIQUES**

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