



## Prospettive di ricerca nella terapia forestale

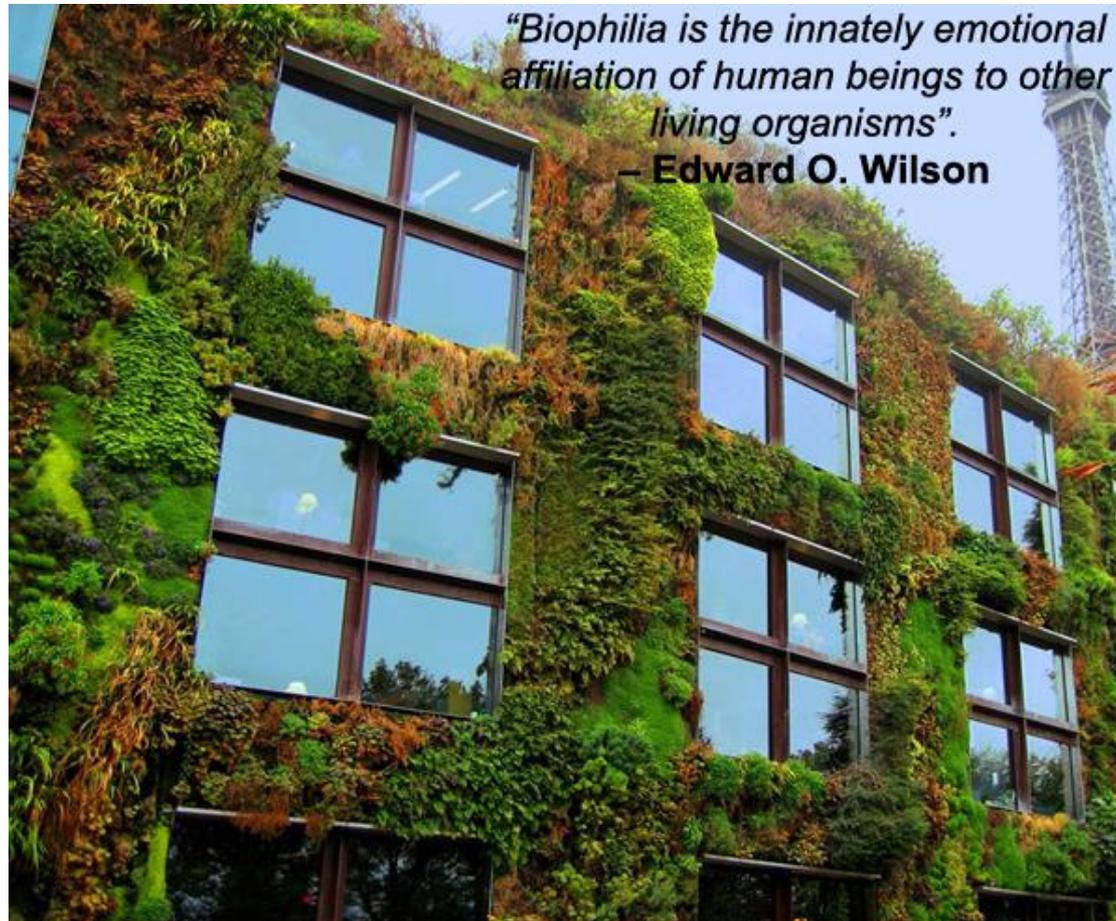
Francesca Cirulli, Barbara Collacchi e Marta Borgi



CENTRO DI RIFERIMENTO  
**SCIENZE COMPORTAMENTALI  
E SALUTE MENTALE**

# Benefici del contatto con la natura sulla salute umana e potenziali meccanismi alla base

## ‘L'uomo in connessione con la natura’



La letteratura scientifica descrive un'associazione tra  
**l'esposizione ad ambienti naturali** (spazi verdi accessibili,  
giardini, viali alberati, parchi, paesaggi agricoli o foreste) e  
**parametri legati alla salute**



# MECCANISMI DELL'ASSOCIAZIONE TRA ESPOSIZIONE AD AMBIENTI NATURALI E SALUTE

L'ambiente naturale contiene agenti chimici e biologici con implicazioni conosciute in termini di salute (↑ fattori protettivi, ↓ fattori di rischio)

Fitoncidi (composti organici volatili dalle piante con effetti antimicrobici) riducono la pressione sanguigna, alterano l'attività del SNA, e promuovono la risposta immunitaria.



Kuo 2015

## Comportamenti e Opportunità

**Migliore qualità del sonno:** ↓ rischio per obesità e malattie croniche.

**Promozione dell'attività fisica:** L'associazione tra spazi verdi e attività fisica è vera solo a certe condizioni e per certe popolazioni.

**Facilitazione dei contatti sociali.** In presenza di spazi verdi urbani è maggiore la fiducia tra vicini, la disponibilità ad aiutarsi, la generosità, l'integrazione sociale, e il senso di comunità.



Sempik, Hine, Wilcox 2010; Kuo 2015; Tost et al. 2015

Vivere in città si associa a un aumentato rischio di sviluppare ansia e disturbi dell'umore

# Advancing urban mental health research: from complexity science to actionable targets for intervention



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Urbanisation and common mental disorders (CMDs; ie, depressive, anxiety, and substance use disorders) are increasing worldwide. In this Review, we discuss how urbanicity and risk of CMDs relate to each other and call for a complexity science approach to advance understanding of this interrelationship. We did an ecological analysis using data on urbanicity and CMD burden in 191 countries. We found a positive, non-linear relationship with a higher CMD prevalence in more urbanised countries, particularly for anxiety disorders. We also did a review of meta-analytic studies on the association between urban factors and CMD risk. We identified factors relating to the ambient, physical, and social urban environment and showed differences per diagnosis of CMDs. We argue that factors in the urban environment are likely to operate as a complex system and interact with each other and with individual city inhabitants (including their psychological and neurobiological characteristics) to shape mental health in an urban context. These interactions operate on various timescales and show feedback loop mechanisms, rendering system behaviour characterised by non-linearity that is hard to predict over time. We present a conceptual framework for future urban mental health research that uses a complexity science approach. We conclude by discussing how complexity science methodology (eg, network analyses, system-dynamic modelling, and agent-based modelling) could enable identification of actionable targets for treatment and policy, aimed at decreasing CMD burdens in an urban context.

## The urgency of advancing urban mental health research

At the beginning of the 21st century, two major events occurred that are expected to affect human society in a

urban settings. Factors and interactions that altogether shape city inhabitants' mental health are likely to operate as a complex system.<sup>10</sup> In such a system, the interactions show dynamics such as feedback loops over multiple

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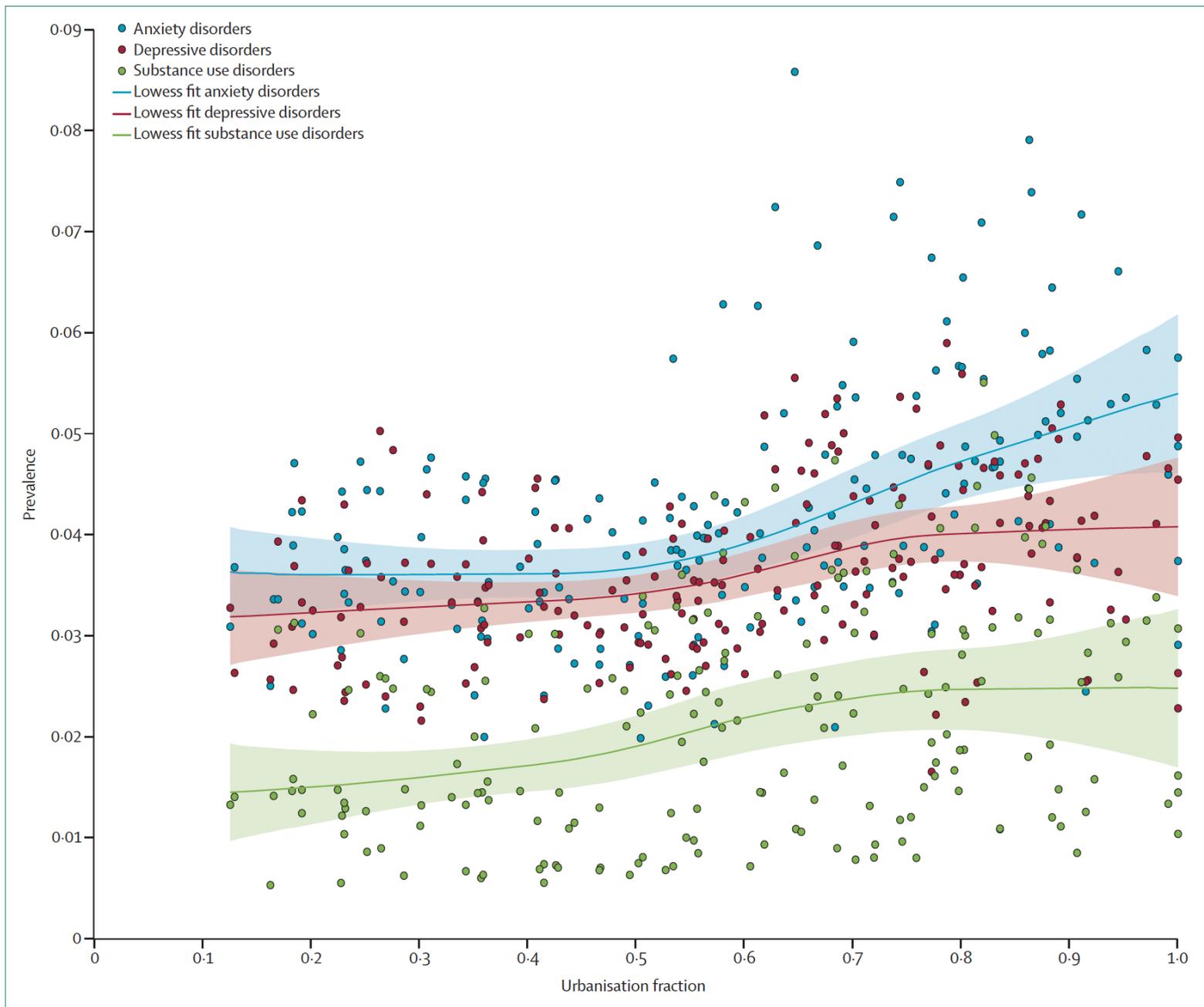
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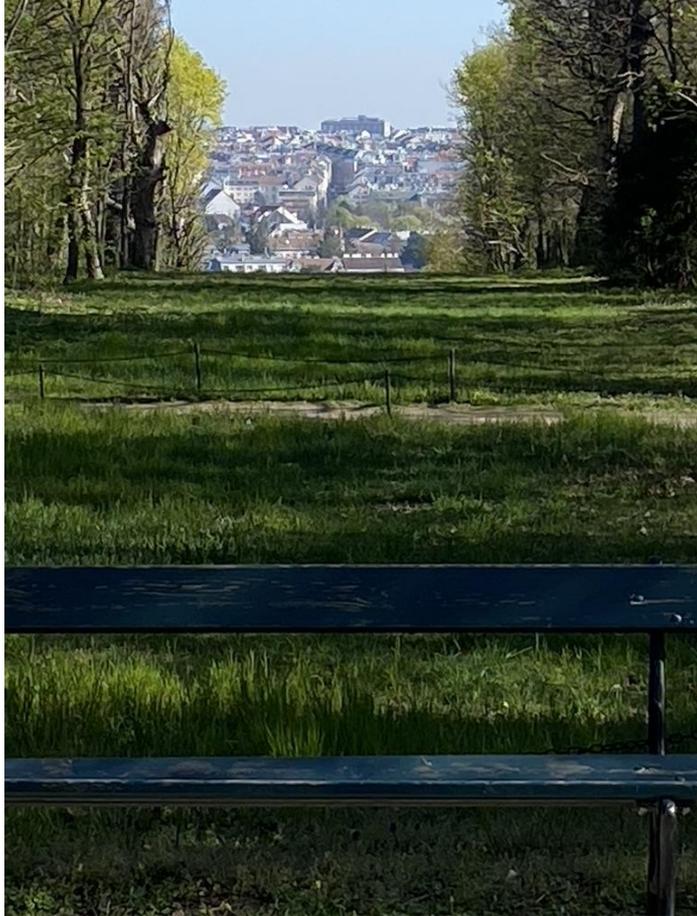
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# Contrastare gli effetti negativi dell'urbanizzazione

## FORESTE URBANE



Possono svolgere tre importanti funzioni:

- 1) prevenzione dalle malattie;
- 2) ruolo terapeutico e
- 3) recupero da una situazione critica.

Possono proteggere da fattori di stress urbani quali il rumore, l'inquinamento.

Possono inoltre raffreddare l'ambiente e promuovere uno stile di vita sano

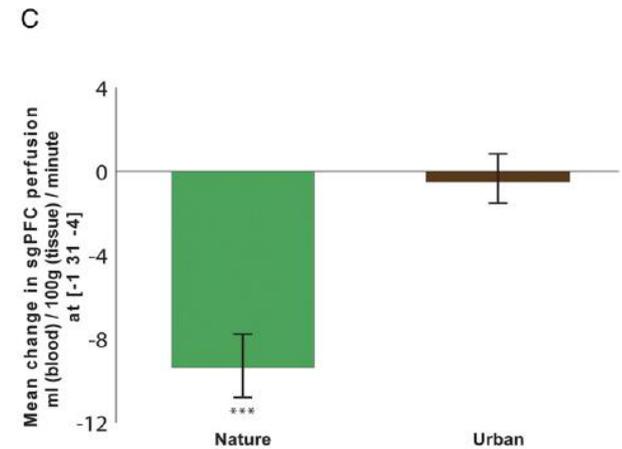
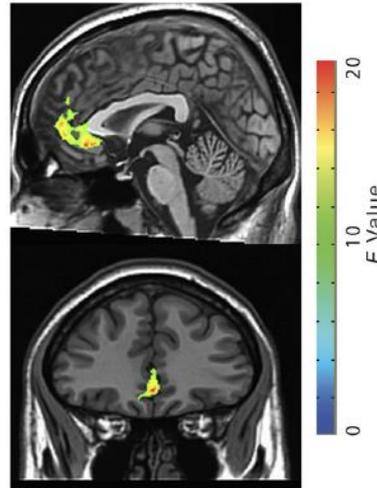
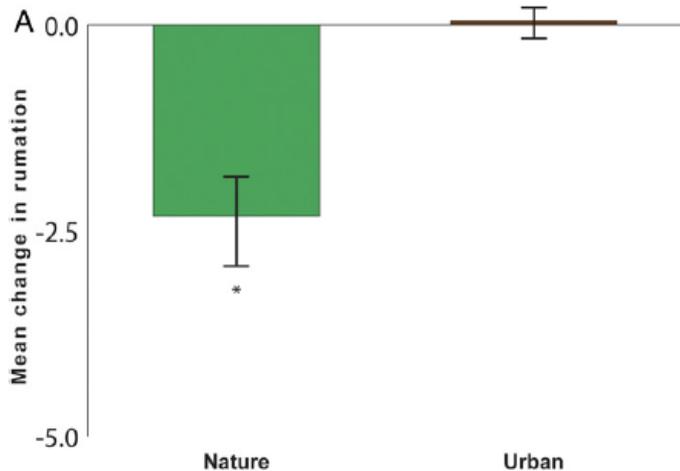
# SPAZI VERDI URBANI



- Creazione di spazi verdi urbani allo scopo di:
- Promuovere l'attività fisica
  - Promuovere la ricreazione
  - Promuovere i contatti sociali



I **pensieri negativi** si riducono dopo 90 minuti di passeggiata nel verde in confronto allo stesso tempo passato tra i negozi



## Nature experience reduces rumination and subgenual prefrontal cortex activation

Gregory N. Bratman<sup>a,1</sup>, J. Paul Hamilton<sup>b</sup>, Kevin S. Hahn<sup>c</sup>, Gretchen C. Daily<sup>d,e,1</sup>, and James J. Gross<sup>c</sup>

## News

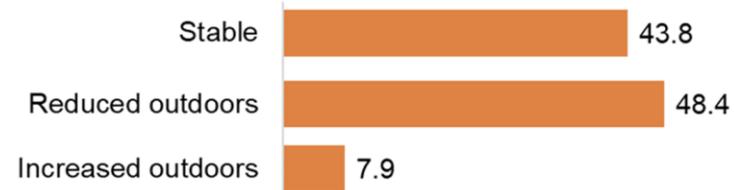


12 July 2022

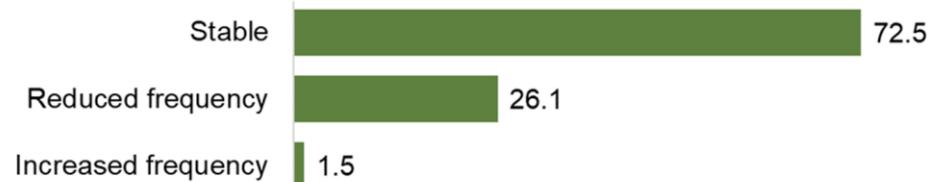
### Cities during COVID-19: the use of urban green spaces and its impact on health

COVID-19 Pandemic, social isolation, and mental health As a response to the COVID-19 outbreak in March 2020, countries across the world took various measures to slow the spread of the virus, including social distancing and lockdown measures, closures of schools and workplaces, and limits on travel. People around the world experienced dramatic disruptions in daily ...

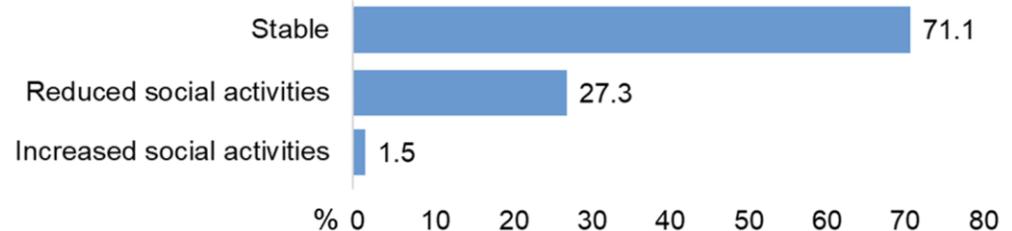
#### a) Free time outdoors/indoors



#### b) Frequency of green space use



#### c) Social activities in green spaces



**Figure 1.** Proportion of participants (expressed in %) showing changes (before-during pandemic) in green space use related to: **a)** free time spent outdoors/indoors; **b)** frequency of green space use; **c)** social activities carried out in green space

Cirulli et al. in preparation

In futuro bisognerà INTEGRARE I dati provenienti dalle scienze sociali e dalle neuroscienze con politiche sociali in grado di interagire e contrastare queste influenze negative incorporando il ruolo dell'ambiente e delle foreste urbane come fattore di promozione della salute

