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The Role of Access to Green Space in Reducing Inequalities in Young People's Mental Health

Dr Isabelle Bray, Dr Danielle Sinnett, Dr Faith Martin, Dr Robert Hayward and Rebecca Reece

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Introduction

- **Green infrastructure** is used extensively in **climate change adaptation**

↑ Well-being

↑ Physical activity

↓ Air pollution

↓ Noise pollution

↑ Flood control

↓ Urban heat

↑ Food access

↑ Pollination

↑ Carbon capture

- It also has a role in tackling **health inequalities**

Wellcome Trust Mental Health Programme

- Wellcome Trust funded 30 projects under their *Mental Health Programme Strategy* to learn more about potential 'active ingredients' in interventions to prevent/treat/manage anxiety and depression among young people aged 14-24 years

- https://wellcome.org/what-we-do/our-work/mental-health-transforming-research-and-treatments/strategy

- A multi-disciplinary team at UWE Bristol conducted a review into the role of **exposure to green space in urban settings** (June-September 2020)

What Is Known Already

- Approximately 0.7 billion 14-24-year olds living in urban settings globally
- Urbanisation is a risk factor for poorer mental health
- The relationship between **green space** and **mental health** has been demonstrated in a number of systematic reviews for children / adolescents / adults, but not specifically young people aged 14-24, despite the fact that this is when majority of mental health conditions develop
- Young people's mental health, and access to urban green space, are increasing concerns in light of the Covid-19 pandemic

Objective

- This review combined a wide range of evidence from the literature with insights from young people to answer the question:

  "In which ways, in which contexts and for whom does exposure to green space reduce the risk of anxiety and depression among young people aged 14-24 living in urban settings?"

Methods

Literature search strategy informed by scoping review and two panels of young people with lived experience of anxiety and depression

(four aged 14-18, three aged 19-24)

Screening:

- 9,204 titles and abstracts → 699
- 699 full text assessed → 86 (main reason for exclusion was age range)
- 86 considered against key criteria → 47:
    1. neighbourhood green space
    2. anxiety/depression
    3. all participants 14-24
    4. intervention studies

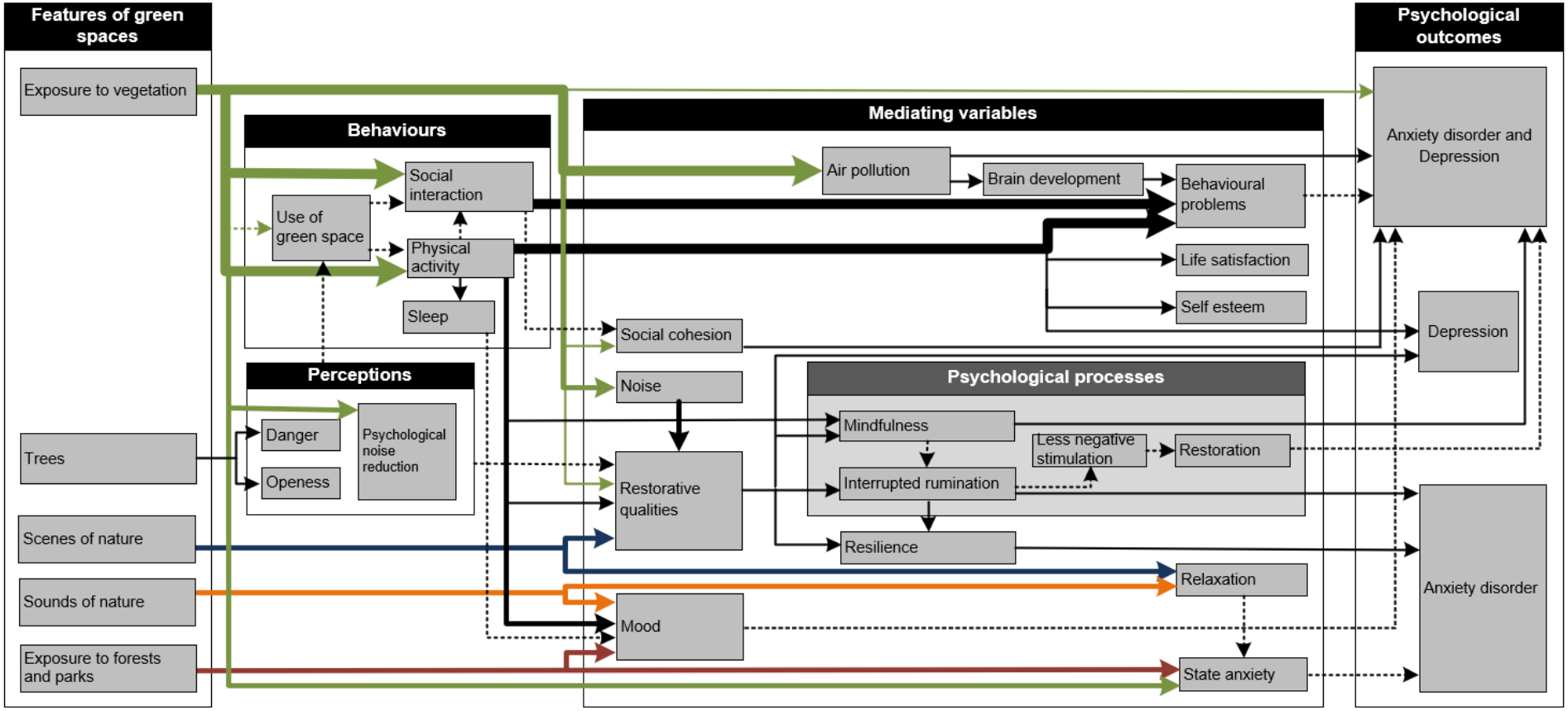
Included studies

- 13 studies that compare urban streets, urban parks and forests (experimental)
- 8 Studies that assess particular aspects of being in green/natural environments (7 experimental)
- 7 studies compare physical activity in a green/blue environment and indoors, or evaluate physical activity programmes (experimental)
- 11 studies that evaluate outdoor adventure programs, and education, training or employment in green environments - complex interventions (group belonging, physical activity, reflection)
- 4 studies of exposure to residential vegetation (observational)
- 4 studies of young people's perceptions of green spaces

Results: Overall

- Exposure to forest environments leads to greater momentary mental wellbeing compared to being on an urban street
- Urban parks can deliver similar benefits to forests
- Some evidence of larger and longer-lasting effects from forests
- Absence of traffic/noise/people/social media → noticing nature → mindfulness → interrupted rumination → restoration

Conceptual Model



Line thickness denotes the strength of the evidence: thicker lines represent evidence from a systematic review, medium lines represent evidence from experimental studies and thinner lines represent evidence from observational studies. Colour coding differentiates pathways from each feature of green space.

Results: What works for different groups

- Studies did not compare males and females, but many forest interventions were either male or female sample, with similar results
- Few studies reported ethnic or socio-economic diversity within their sample, and none compared outcomes in different groups
- Those with high-trait anxiety levels experienced a greater reduction in feeling of “depression–dejection” after walking through forest areas than those with normal and low-trait anxiety levels

Recommendations

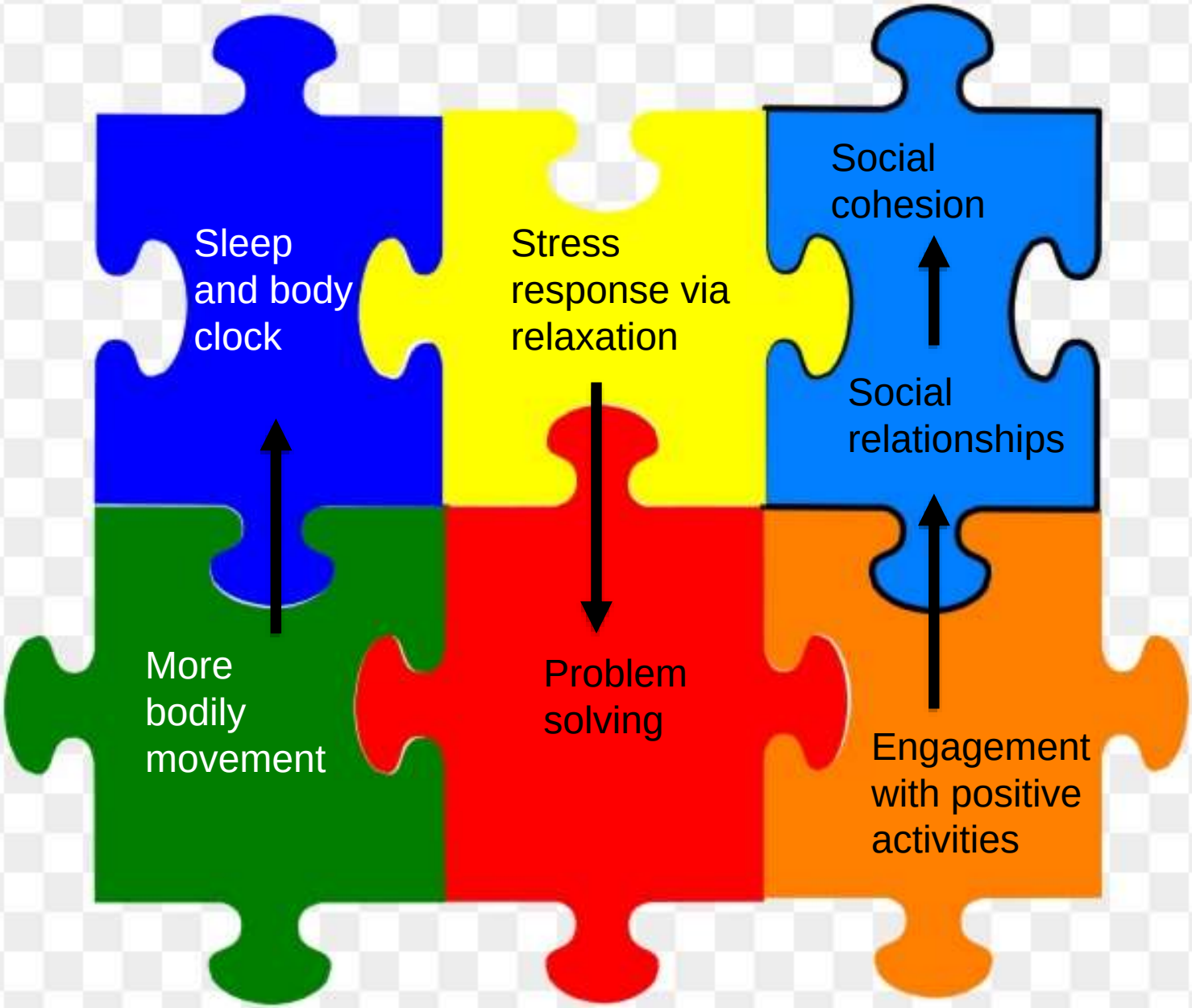
- Opportunities for activities in green/natural spaces should be built into school and college curricula
- Neighbourhood green space and vegetation is crucial to the wellbeing of young people
- Increasing urban access (e.g. through local parks, school grounds, university campuses, workplaces) is a structural change – potential for broad reach and lasting benefits

Recommendations

- Increasing urban access to green space is likely to reduce inequalities, as those in the most deprived areas (often with less access to private gardens or high-quality green spaces) are likely to gain the most benefit

- It will also improve thermal comfort and biodiversity in cities, reduce pollution and risk of flooding, all of which have health implications for the future health of today's young people

Finally, it facilitates many of the other 'active ingredients' studied….


Sleep and body clock
Stress response via relaxation
Social cohesion
Social relationships
More bodily movement
Problem solving
Engagement with positive activities

Mental health in young people is a serious concern

1 in **5** young adults have symptoms of depression or anxiety

Depression is **4th** and anxiety is **9th** most common cause of illness and disability in 15 to 19 year olds

Rates of depression are soaring in 14-24 year olds

Suicide is the **2nd** leading cause of death in 15 to 29 year olds

16-24 year olds experience loneliness more often and more intensely than any other age group

40% of 16-24 year olds feel lonely often or very often

Social media activity among adolescents is associated with symptoms of anxiety and depression, and feelings of loneliness

81%

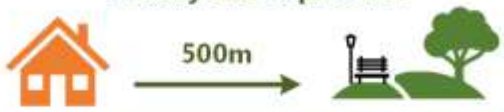
adolescents are not sufficiently physically active

Urban green spaces provide an accessible place for young people to walk, run, cycle, play sports, meet friends and take time out

14% to 19% reduction in anxiety from just 15 minutes walking in an urban park instead of a street with traffic

23% to 31% reduction in anxiety from just 15 minutes walking in a forest instead of a street with traffic

Young people who have higher levels of vegetation within 500m of their home have improved mindfulness and resilience and reduced risk of anxiety and depression



Blue spaces such as streams, rivers, ponds and lakes and are also good for young people's mental health

Observing nature promotes mindfulness, which helps young people to deal with stress

Urban environments with traffic increase feelings of anxiety and anger

Trees reduce noise and pollution from traffic, which have harmful effects on young people's physical and mental health

Being in green spaces encourages young people to take a break from screens and social media

Green environments reduce perceived noise and provide a space for young people to relax

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