

Submission  
No 88

## INQUIRY INTO PREVALENCE, CAUSES AND IMPACTS OF LONELINESS IN NEW SOUTH WALES

**Organisation:** Population Wellbeing and Environment Research Lab  
(PowerLab)

**Date Received:** 1 November 2024

---



**Response to the NSW Government Inquiry into Loneliness (1/11/2024)**

**Submitted by Professor Xiaoqi Feng and Professor Thomas Astell-Burt, founding co-directors of the Population Wellbeing and Environment Research Lab (PowerLab)**

[www.PowerLab.site](http://www.PowerLab.site)

## Foreword:

Obesity, type 2 diabetes, dementia and loneliness are the epidemics of modern times and have been linked to urbanization that does not prioritise people and contact with nature. As a result, standard interventions focussing on individuals are mostly reacting to emergencies, rather than addressing upstream issues that would keep people healthy and out of hospital.

PowerLab is a network of researchers based at the University of Sydney, University of New South Wales, and a range of other institutions around the world. Our goal is to enhance understandings of how people and equity orientated changes in urban environments can enable population wellbeing and human flourishing across the life course.

We do this by working with policymakers, practitioners and the public to co-produce, collaborate and communicate high quality evidence to drive positive change. Our research over the last decade has pioneered new understandings of urban greening and health that have supported and shaped major investments in making cities greener, fairer, and healthier in Australia and around the world. This report outlines some of those studies on loneliness.

## Executive Summary:

Loneliness is a felt deprivation of connection, companionship, and camaraderie [1]. The dominant narrative on loneliness blames individuals for perceived deficits in social skills or for certain personality traits. It perpetuates stigma leaving millions suffering in silence [2].

In fact, research is increasingly showing that the characteristics of neighbourhoods, workplaces and other settings humans interact can shape feelings of loneliness [3-5]. We are not destined to be lonely; it is the environments we've created that are *lonelygenic* [1].

Recognising that millions of Australians live in areas with few local public spaces that resonate with them, or to which they feel excluded, unfamiliar or unsafe to visit, is critical to explaining not only why 30-40% of adults feel lonely, but also why many loneliness interventions fail [6].

We call these place-based circumstances 'Lonelygenic Environments' [1].

Appreciating that our environments can create or perpetuate loneliness highlights the power that planners across all levels of government have for preventing and relieving loneliness.

We have generated preliminary evidence from multiple studies in Australia indicating:

- A) Australians with more parks and trees nearby have lower risks of becoming lonely [7, 8].
- B) Australians who feel lonely but spend time in nature are likely to find relief from it [9, 10].

We make the following recommendations to the Committee:

- 1) Recognise the concept of Lonelygenic Environments to shift the culture of blame for loneliness away from the individual and thereby enabling greater focus on investing in place-based initiatives that foster social connections, place-attachment, and belonging
- 2) Invest in high quality research on lonelygenic environments to inform urban planning, potentially focussing on Transport-Oriented Development as a starting point
- 3) Fund randomised trials to define ways of delivering and evaluating effective and cost-effective interventions that (re)connect people with nature (e.g., parks) across NSW that have already received significant investment through urban greening programs.

## 1. Loneliness and ‘Lonelygenic Environments’

Loneliness is a felt deprivation of connection, companionship, and camaraderie [1].

The current narrative on loneliness e.g. [2, 11] has (a) perpetuated loneliness and contributed to stigma that has aggravated the felt experience of being lonely, (b) ignored key determinants of loneliness and thus led to treatment-oriented actions that have not only been weak or ineffective [6, 12], but also solidified the misconceived notion that loneliness is a disease, and (c) undermined understandings of the full social and economic costs, and solutions to it.

Professors Xiaoqi Feng and Thomas Astell-Burt (‘we’) coined the concept of ‘Lonelygenic Environments’ [1] in 2022 to flip this dominant and harmful narrative on loneliness. In short, we are not destined to be lonely; it is the environments we’ve created that are *lonelygenic* [1].

Numerous studies document higher levels of loneliness in less advantaged suburbs e.g., [13], but loneliness research has been dominated by disciplines where the individual is central [14]. Reviews indicate limited research has been undertaken to fully understand how places influence loneliness [3-5]. This lack of research disempowers urban planners from being the catalysts of sustained change to minimise loneliness sustainably and for everyone.

We argue that being lonely is not simply due to a lack of socioeconomic resources. Or that people with less money or education may tend to have poorer social skills or personality traits that predispose towards feeling lonely. This is nonetheless what current ‘treatments’ for loneliness would indicate, erroneously indicating it is individuals who are the problem.

In contrast, we argue that children and adults in many less advantaged areas and some affluent ones too in New South Wales (NSW) are resident in suburbs that lack safe and attractive Third Places (e.g., parks) to play, socialise, and engage in prosocial behaviours that foster community, attachment and a sense of belonging, which is critical for human flourishing.

This is a result of often more affordable, distant and sprawling suburbs of cities built almost entirely around the private car. Locking people into car dependency for most daily demands and undermining opportunities to sustain basic needs for autonomy, competence, and relatedness. Reliance upon cars and centralisation of amenities and services means there is often nowhere to walk to nearby where people live, so they don’t and because of that, they also don’t meet their neighbours regularly to build those supportive, nourishing relationships.

These are the same issues we see shaping the epidemics of obesity and diabetes, referred to by some as ‘obesogenic’ and ‘diabetogenic’ environments. There is therefore an opportunity to address all these related issues by taking effective, place-based action.

Clearly, some people are more resilient than others. Social determinants of health research shows how people with more advantaged positions can command resources to transcend difficult circumstances. But many people are likely to be vulnerable to lonelygenic environments, such as those who are more dependent upon local amenities and Third Places because of personal circumstances, such as living with disability and mental illness, who are already more likely to be feeling lonely [15, 16].

As such, investments in place-based interventions for loneliness should be co-designed to be ‘equigenic’, i.e., helping to disproportionately strengthen and support those who are most vulnerable to loneliness in society. In the next section, we outline ways this can be achieved.

We see the valuable and visionary investments being made by this government in Transport-Oriented Development as an important opportunity to pilot and evaluate research to ensure we create connected communities with ample Third Places enabling everyone to flourish.

## 2. Nature-based solutions:

Loneliness is often described as the absence of quality relationships. We argue that these ought not be limited to relationships with other humans. It should also include a felt sense of connectedness with place, culture, heritage, and society. Even, and especially, the 'natural world'. For example, we quote from Professor Jakelin Troy's article in The Guardian [17]:

*"The last time I went back to my Country in the Snowy Mountains, I noticed tree after tree felled, chopped down seemingly without thought. For me, it was unfathomable. First Peoples worldwide have fundamentally and always understood trees to be community members for us – they are not entities that exist in some biological separateness, given a Linnaean taxonomy and classed with other non-sentient beings. Trees are part of our mob, part of our human world and active members of our communities, with lives, loves and feelings... When we destroy trees, we destroy ourselves. We cannot survive in a treeless world."*

Reviews of studies conducted worldwide demonstrate that a sense of connectedness to 'nature', often understood to be in the form of parks, forests and the resident wildlife that call those spaces home, increase human wellbeing and engagement in nature conservation [18-20]. This has been long understood with deep historical roots dating back to Hippocrates of Cos (460–370 BC), The Enlightenment, and the Romantic and Environmental movements [21]. We conducted a review, finding evidence that nature contact reduces loneliness [3].

Our pioneering research in Australia and overseas has demonstrated the following:

A) Australians with more parks and trees nearby have lower risks of becoming lonely [7, 8].

For example, in our national longitudinal study over 4 years, we found having at least 30% of local land-use as parkland supported a quarter reduction in the odds of becoming lonely, and halved those odds of loneliness onset in people living alone [7].

B) Australians who feel lonely but spend time in nature are likely to find relief from it [9, 10].

For example, in another national longitudinal study, we found adults who felt socially lonely but spent 1-2 hours per week in nature led to a 69% increase in the odds of finding relief from loneliness at 4 months; a benefit that increased to 110% at 16 months [10].

We are not destined to be lonely; it is the environments we've created that are lonelygenic [1]. We can begin to address the lonelygenic environments in our cities not only by investing in research that creates and evaluates the effectiveness of Third Places that bring people together, but also by trialling place-based programs intended to (re)connect people who are most vulnerable to loneliness to parks and activities taking place in natural settings.

These are often called 'nature prescriptions' and have already been shown to reduce blood pressure, depression and anxiety [22]. So, there is a case for a significant return on investment due to a range of co-benefits beyond relieving loneliness, including health and environmental.

No randomised trial has been conducted to definitively prove what types of nature prescriptions can sustain reductions in loneliness cost-effectively. This is important to do because our research in Australia and overseas (e.g., UK) has shown that a lack of another person to go with is a major barrier to spending time in nature [9]. Simply telling people to spend time in nature will not work; we need to co-design with community [23, 24].

Thus, we recommend investment in nature prescription randomised trials for loneliness. We have appended the following papers to this submission for further information (see overleaf).

### 3. List of appended papers:

Feng, X., & Astell-Burt, T. (2022). Lonelygenetic environments: a call for research on multilevel determinants of loneliness. *The lancet planetary health*, 6(12), e933-e934.

Astell-Burt, T., Hartig, T., Eckermann, S., Nieuwenhuijsen, M., McMunn, A., Frumkin, H., & Feng, X. (2022). More green, less lonely? A longitudinal cohort study. *International journal of epidemiology*, 51(1), 99-110.

Astell-Burt, T., Navakatikyan, M. A., & Feng, X. (2024). Contact with nature may be a remedy for loneliness: a nationally representative longitudinal cohort study. *Environmental Research*, 263, 120016.

Astell-Burt, T., Walsan, R., Davis, W., & Feng, X. (2023). What types of green space disrupt a lonelygenetic environment? A cohort study. *Social Psychiatry and Psychiatric Epidemiology*, 58(5), 745-755.

Astell-Burt, T., Kondo, M., Pritchard, T., Olcon, K., Hipp, J. A., Adlakha, D., ... & Feng, X. (2024). Contact with nature, nature prescriptions, and loneliness: Evidence from an international survey of adults in Australia, India, Singapore, the United Kingdom, and the United States. *Health & Place*, 90, 103331.

Astell-Burt, T., Hartig, T., Putra, I. G. N. E., Walsan, R., Dendup, T., & Feng, X. (2022). Green space and loneliness: A systematic review with theoretical and methodological guidance for future research. *Science of the total environment*, 847, 157521.

Astell-Burt, T., Hipp, J. A., Gatersleben, B., Adlakha, D., Marselle, M., Olcoń, K., ... & Feng, X. (2023). Need and interest in nature prescriptions to protect cardiovascular and mental health: a nationally-representative study with insights for future randomised trials. *Heart, lung and circulation*, 32(1), 114-123.

Astell-Burt, T., Pritchard, T., Francois, M., Ivers, R., Olcoń, K., Davidson, P. M., & Feng, X. (2023). Nature prescriptions should address motivations and barriers to be effective, equitable, and sustainable. *The Lancet Planetary Health*, 7(7), e542-e543.

Nguyen, P. Y., Astell-Burt, T., Rahimi-Ardabili, H., & Feng, X. (2023). Effect of nature prescriptions on cardiometabolic and mental health, and physical activity: a systematic review. *The Lancet Planetary Health*, 7(4), e313-e328.

#### 4. References

- [1] X. Feng and T. Astell-Burt, "Lonelygenetic environments: a call for research on multilevel determinants of loneliness," *The Lancet Planetary Health*, vol. 6, no. 12, pp. e933-e934, 2022.
- [2] M. Barreto, D. M. Doyle, and P. Qualter, "Changing the narrative: Loneliness as a social justice issue," *Political Psychology*, vol. 45, pp. 157-181, 2024.
- [3] T. Astell-Burt, T. Hartig, I. G. N. E. Putra, R. Walsan, T. Dendup, and X. Feng, "Green space and loneliness: A systematic review with theoretical and methodological guidance for future research," *Science of the Total Environment*, p. 157521, 2022.
- [4] M. Bower *et al.*, "The impact of the built environment on loneliness: a systematic review and narrative synthesis," *Health & place*, vol. 79, p. 102962, 2023.
- [5] Y. Lyu and A. Forsyth, "Planning, aging, and loneliness: reviewing evidence about built environment effects," *Journal of planning literature*, vol. 37, no. 1, pp. 28-48, 2022.
- [6] S. C. Akhter-Khan and R. Au, "Why loneliness interventions are unsuccessful: A call for precision health," *Advances in Geriatric Medicine and Research*, vol. 2, no. 3, 2020.
- [7] T. Astell-Burt *et al.*, "More green, less lonely? A longitudinal cohort study," *International journal of epidemiology*, vol. 51, no. 1, pp. 99-110, 2022.
- [8] T. Astell-Burt, R. Walsan, W. Davis, and X. Feng, "What types of green space disrupt a lonelygenetic environment? A cohort study," *Social Psychiatry and Psychiatric Epidemiology*, vol. 58, no. 5, pp. 745-755, 2023.
- [9] T. Astell-Burt *et al.*, "Contact with nature, nature prescriptions, and loneliness: Evidence from an international survey of adults in Australia, India, Singapore, the United Kingdom, and the United States," *Health and Place*, 2024.
- [10] T. Astell-Burt, M. A. Navakatikyan, and X. Feng, "Contact with nature may be a remedy for loneliness: A nationally representative longitudinal cohort study," *Environmental Research*, p. 120016, 2024.
- [11] M. Knibbe *et al.*, "Landscapes, cultures and technologies of loneliness: A call for participatory research with young adults," *Public Health*, vol. 237, pp. 147-149, 2024.
- [12] R. Fischer and L. Hartle, "Effective interventions to reduce loneliness in big cities," *Current Opinion in Psychiatry*, vol. 36, no. 3, pp. 206-212, 2023.
- [13] M. H. Lim, K. E. Manera, K. B. Owen, P. Phongsavan, and B. J. Smith, "The prevalence of chronic and episodic loneliness and social isolation from a longitudinal survey," *Scientific Reports*, vol. 13, no. 1, p. 12453, 2023.
- [14] M. Barjaková, A. Garneró, and B. d'Hombres, "Risk factors for loneliness: A literature review," *Social Science & Medicine*, p. 116163, 2023.
- [15] E. Emerson, N. Fortune, G. Llewellyn, and R. Stancliffe, "Loneliness, social support, social isolation and wellbeing among working age adults with and without disability: Cross-sectional study," *Disability and health journal*, vol. 14, no. 1, p. 100965, 2021.
- [16] K. Olcoñ, P. Destry, T. Astell-Burt, and J. Allan, "'I can get to a happy place by visiting nature': The benefits of implementing nature walking groups within mental health services," *Environmental Advances*, vol. 13, p. 100393, 2023.
- [17] J. Troy, "Trees are at the heart of our country – we should learn their Indigenous names," *The Guardian*, p. April 1, 2019.
- [18] G. Barragan-Jason, M. Loreau, C. de Mazancourt, M. C. Singer, and C. Parmesan, "Psychological and physical connections with nature improve both human well-being and nature conservation: A systematic review of meta-analyses," *Biological Conservation*, vol. 277, p. 109842, 2023.
- [19] A. Pritchard, M. Richardson, D. Sheffield, and K. McEwan, "The relationship between nature connectedness and eudaimonic well-being: A meta-analysis," *Journal of happiness studies*, vol. 21, pp. 1145-1167, 2020.
- [20] J. Whitburn, W. Linklater, and W. Abrahamse, "Meta-analysis of human connection to nature and proenvironmental behavior," *Conservation biology*, vol. 34, no. 1, pp. 180-193, 2020.
- [21] T. Hartig *et al.*, "Health benefits of nature experience," in *Forests, trees and human health*: Springer, 2011, pp. 127-168.
- [22] P.-Y. Nguyen, T. Astell-Burt, H. Rahimi-Ardabili, and X. Feng, "Effect of nature prescriptions on cardiometabolic and mental health, and physical activity: a systematic review," *The Lancet Planetary Health*, vol. 7, no. 4, pp. e313-e328, 2023.
- [23] T. Astell-Burt *et al.*, "Nature prescriptions should address motivations and barriers to be effective, equitable, and sustainable," *The Lancet Planetary Health*, vol. 7, no. 7, pp. e542-e543, 2023.
- [24] T. Astell-Burt, M. Navakatikyan, M. P. White, and X. Feng, "Exploring autonomous and controlled motivations for nature contact to maximise health benefits," *People and Nature*, vol. 6, no. 3, pp. 1155-1170, 2024.