

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

Organisation: KPMG

Date Received: 14 October 2024



Level 38, International Towers Three
300 Barangaroo Avenue
Sydney NSW 2000

P O Box H67 Australia Square
Sydney NSW 1213
Australia

ABN: 51 194 660 183
Telephone: +61 2 9335 7621
Facsimile: +61 2 9335 7001
DX: 1056 Sydney
www.kpmg.com.au

Hon Dr Sarah Kaine, MLC
Chair
Standing Committee on Social Issues
NSW Legislative Council
6 Macquarie Street
Sydney, NSW, 2000

Via email: socialissues@parliament.nsw.gov.au

14 October 2024

Dear Chair,

KPMG response to Inquiry into Prevalence, causes and impacts of loneliness in New South Wales

As a leading professional services firm, KPMG Australia (KPMG) is committed to meeting the requirements of all our stakeholders – not only the organisations we audit and advise, but also employees, governments, regulators and the wider community. We welcome the opportunity to respond to the NSW Standing Committee on Social Issues' inquiry into the Prevalence, causes and impacts of loneliness in New South Wales.

[Connections Matter](#), a global research report by KPMG Australia in collaboration with the Groundswell Foundation, has revealed the prevalence of loneliness in Australia, the significance of its impact on all areas of the community and outlines actions for both prevention and treatment of loneliness in Australia.

The report reveals that over five million Australians are impacted by loneliness. Other key findings of the report include:

- More than one-quarter of Australians experience loneliness, with young adults, single parents, older individuals, and minority groups being particularly vulnerable.



- Loneliness significantly increases the risk of death by 26 percent and has health impacts equivalent to smoking 15 cigarettes or consuming six alcoholic drinks per day.
- The economic burden of loneliness on Australia's healthcare system is estimated at \$2.7 billion annually, with related mental health issues costing up to \$60 billion each year.

Given these statistics, the report outlines three critical actions to address loneliness:

1. **Collaborate:** Establish clear policy directions at national, state, and local levels to prioritise and address loneliness.
2. **Communicate:** Engage stakeholders from public, private, and not-for-profit sectors to integrate loneliness into health and wellbeing initiatives.
3. **Track Progress:** Enhance data collection, research, and evaluation to build a robust evidence base for effective interventions.

The report also includes case studies showcasing successful interventions that have positively impacted reducing loneliness. It is our hope that this report will serve as a catalyst for meaningful action and policy development to mitigate the adverse effects of loneliness on individuals and society. The full report is attached for your reference.

We believe that addressing loneliness is not only a health priority but also a societal imperative. As we navigate the post-COVID-19 landscape, it is crucial to recognise and act upon the significant socio-economic and health impacts of loneliness.

We commend the NSW Parliament for its proactive approach in investigating this critical issue and hope that our findings and recommendations will contribute valuable insights to the inquiry.

Thank you for considering our submission. Should you require any further information, please do not hesitate to contact us.

Yours sincerely,

Martin Sheppard
National Chair
KPMG Australia

Connections Matter

A report on the impacts
of loneliness in Australia

November 2022

Foreword

Loneliness — in a world of always-on social media and digital connectedness, it seems almost inconceivable that loneliness could become a health crisis affecting up to one in four Australians. It's a health priority that has been almost entirely overlooked by health regulators and providers in Australia. And it's one that has been exacerbated by the recent COVID-19 pandemic.

A growing body of evidence, some of which has been summarised in this report, demonstrates how prevalent loneliness is in Australia and around the world — and its harmful consequences if left unaddressed.

Loneliness has a measurable economic impact — in Australia, the healthcare costs associated with loneliness are estimated at \$2.7b per annum. It has a social impact too, with those affected more predisposed to poor diet, physical inactivity and smoking, problem gambling, and even aggressive behaviour and bullying. It also has an impact on communities, with young adults, First Nations people, those who identify as LGBTQIA+ and migrants at greater risk of problematic levels of loneliness. And it has an impact at a family and individual level, with loneliness a risk factor for suicidal ideation and behaviour, and specific mental health issues including depression and conditions such as dementia and Alzheimer's disease.

Such is the prevalence of loneliness that its economic, social, community, family and individual effects touch most of us. And for those of us touched by these effects, the impact can be profound, even life-changing. It's my own experience of the effects of loneliness that set me on a journey of discovery about the scale of the problem and the initiatives in place to address it. This, in turn, led to the establishment of Groundswell Foundation and the formation of the Groundswell Foundation Research and Reference Committee, a group of like-minded and influential Australians who have been touched by the effects of loneliness and who want to bring about positive change in the community.

The Groundswell Foundation is focused on three pillars of activity:

- 1 Knowledge:** Building the data and evidence-based case for loneliness so it is properly considered in the context of health and wellbeing in Australia.
- 2 Awareness:** Identifying the best channels through which to broadcast messages about how to deal with loneliness and its impacts — and executing those messages so as to raise awareness.
- 3 Impact:** Activities and/or sponsorship that will have the greatest impact on addressing loneliness in Australia.

This report, a literature review researched and written by KPMG, offers a body of evidence that highlights the prevalence of loneliness and the significance of its impacts.

That there is so much source material, so many research reports and papers to review, confirms that we are not alone in recognising loneliness as a health and wellbeing crisis. Academics, universities, health groups, charities, communities, commercial enterprises, and political and business leaders have all lent their focus, energies and voices to identifying the extent and causes of loneliness and addressing the impact it is having.

The governments of the UK and Japan have recognised the scale of the loneliness issue, appointing ministers with responsibility for policy development and charged with taking action to address loneliness. ►

Foreword *continued*

Meanwhile, in Australia, no such appointments have been made and much is yet to be done to move beyond research towards meaningful action.

At the Groundswell Foundation, we believe that the evidence summarised in this report speaks loud and clear: the time has come to bring together leadership, policy, funding and action to address the issue of loneliness and its impact on mental health and wellbeing. Evidence-based, early intervention policies and actions are needed that focus on prevention. These policies and actions must reflect the scope of the issue — at an individual and family level, among communities at greater risk of problematic levels of loneliness, at a socio-economic level, and at local, state and federal government levels.

We are grateful to the team at KPMG for their hard work and professionalism in bringing together such an enlightening report. For Groundswell Foundation, this is our first step on a journey of a thousand steps.

For the reader, we hope the report resonates with your own experiences and stimulates you to think about how we can act individually and together to raise awareness of loneliness and reduce its prevalence and harmful effects.



Martin Blake
Chairman,
Groundswell Foundation

Contents

Foreword	02
Executive summary	05
Loneliness: A silent killer	06
Section 1: What is loneliness?	07
Section 2: Loneliness in Australia	08
Section 3: The impacts of loneliness	09
Section 4: Who is impacted by loneliness?	12
Section 5: Socioenvironmental factors contributing to loneliness	16
Section 6: International strategies for tackling loneliness	18
Section 7: The challenge in Australia	22
Section 8: The way forward	23
Appendix A: Authors and Reference Group	24
Appendix B: References	27



Executive summary

Loneliness affects more than one quarter of Australians and has significant impacts on health and the economy. Rates of loneliness have increased in recent years, particularly in light of the COVID-19 pandemic, with more Australians reporting feeling lonely than ever before. While other countries recognise loneliness as a serious health and wellbeing issue and are implementing strategies to address it, there is no clear national strategy to address loneliness in Australia. Without intervention and support across all levels of government, loneliness may become the Western world's next health crisis.

25%
of Australians
are lonely

37%
of young people
are lonely

Loneliness
costs the
Australian economy
\$2.7b
annually

26%
Increased risk of
death for lonely
people

54%
of Australians
reported feeling
lonelier after the
pandemic

Loneliness impacts over five million Australians and is a significant risk factor for poor physical health, increased health risk behaviours, mental health problems and decreased quality of life.^{[1][2]} Lonely people have a 26% increased risk of mortality, with the health impacts of loneliness likened to smoking 15 cigarettes or drinking six alcoholic drinks per day.^{[3][4][5]} People who are lonely are also at higher risk of mental ill-health and suicidal ideation and behaviour, as well as neurological conditions such as dementia and Alzheimer's disease.^{[3][6][7][8]}

Loneliness has significant economic repercussions, costing the economy an estimated \$2.7 billion annually, with the average cost approximately \$1565 per person per year.^[9]

Some people are at greater risk of experiencing loneliness than others. Environmental, socio-economic and intrapersonal factors can predispose someone to feeling lonely. In particular, young adults are at increased risk of loneliness, as well as mental ill-health.^{[10][11]} Other high risk groups include older people, parents, First Nations peoples, LGBTQIA+ Australians and migrants.^{[3][12][13][14]}

The prevalence of loneliness in Australia has increased in recent years, with the issue rising to public attention as a result of the COVID-19

pandemic, as more people report feeling lonely due to lockdown and isolation measures.^[12]

Despite an increasing number of Australians experiencing loneliness and a growing body of evidence on the detrimental impacts, loneliness remains an overlooked priority in Australian health policy.

The time has come for loneliness to become a priority on Australia's health and wellbeing agenda. This report highlights critical opportunities to address loneliness, including:

- establishing clear policy directions across all levels of government
- activating stakeholders from public, private and not-for-profit organisations to embed loneliness as a priority issue into new and existing health and wellbeing initiatives
- building the evidence base for loneliness and interventions in Australia.

Failure to address the loneliness crisis will mean a greater health and economic burden, with significant detrimental impacts felt by a large number of Australians.

Loneliness: A silent killer

Loneliness is experienced by more than one quarter of Australians and most Australians will experience loneliness in their lifetime.^[15]

Loneliness has risen to public attention in recent years, particularly in the wake of the COVID-19 pandemic when worldwide lockdown and isolation measures were introduced. There is mounting evidence that loneliness may become the Western world's next health crisis,^[4] with a growing body of research demonstrating significant health and economic impacts.^{[12][16][17]} Internationally, loneliness has become a prominent focus as many countries develop national approaches to tackle the problem.

Despite this, governments in Australia have not yet implemented a targeted strategy to address the issue. This report highlights recent developments in national and international research on loneliness. It also presents important opportunities for government, not-for-profits, business and community to consider. Without broad community recognition of loneliness and urgent support through policy and investment, loneliness will continue to negatively impact the health and wellbeing of Australians and the economy.



“ Internationally, loneliness has become a prominent focus as many countries develop national approaches to tackle the problem.”

What is loneliness?

Loneliness is a subjective, negative feeling associated with a perceived gap between a person's current social relationships and their desired social relationships.^[18] This is usually related to a belief that the quality of social relationships is poor.^[19] As such, an individual may be lonely even though they interact frequently with others. Loneliness can be a short-term, transient experience with feelings coming and going, or may persist in the long-term to become a chronic experience.^[20]

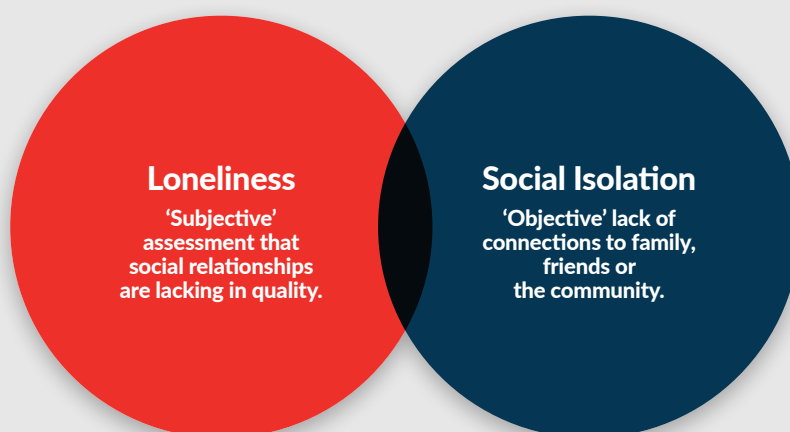
Loneliness is sometimes perceived as a mental health issue. However, while loneliness is a risk factor for poor mental health, it is a distinct phenomenon requiring different strategies. It is important that public awareness of loneliness as a standalone issue is emphasised and raised through national policy.

There are two types of loneliness: social and emotional. Social loneliness is described as the perceived absence of a broader social network and quality friendships, as well as the lack of the feeling to belong.^[21] Emotional loneliness is described as the perceived absence of a close attachment figure, such as a romantic partner.^[21] Both types of loneliness involve a mismatch between desired and actual social relationships and hence both dimensions of loneliness can be aggregated into 'loneliness'.^[22] This report will refer to loneliness in this way.

Loneliness is often confused with social isolation. Although loneliness and social isolation are closely related, they are distinct phenomena. Social isolation is an objective lack of social interaction with family members, friends or the wider community.^[18] While social isolation is quantifiable, loneliness is more difficult to quantify as it is a subjective evaluation and can occur regardless of geography or proximity to others. The extent to which an individual feels lonely depends on the quality of a person's relationships, rather than the quantity, as defined by social isolation.

Loneliness and social isolation do not necessarily co-exist and a person may be socially isolated but not lonely, or be socially connected but feel lonely.^[23] However, some definitions state that loneliness can be a reaction to being socially isolated, and therefore a person can experience both simultaneously.^[24]

Figure 1: The relationship between loneliness and social isolation



Adapted from: Kotwal, AA, Cenzer, IS, Waite, LJ, et al. The epidemiology of social isolation and loneliness among older adults during the last years of life. *J Am Geriatr Soc.* 2021; 69 (11): 3081–3091. <https://doi.org/10.1111/jgs.17366>

Loneliness in Australia



Approximately one quarter of Australians aged 12–89 experience problematic levels of loneliness, equating to around five million Australians.^{[10][25][1]} An Australian survey conducted in 2018 found that 51% of adults feel lonely for at least one day per week and 28% feel lonely for three or more days per week.^[25] In mid-2020, at the start of the COVID-19 pandemic, an estimated 54% of Australians reported feeling lonelier compared to at the beginning of the pandemic.^[26]



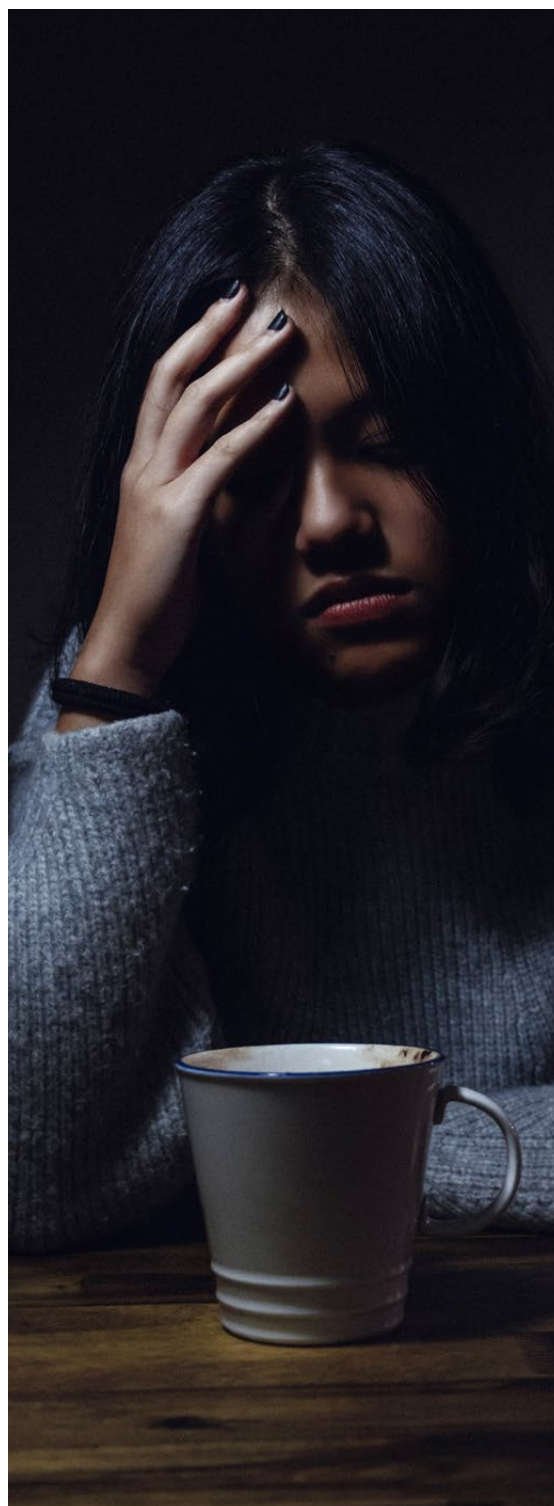
The rise of loneliness in Australia

More Australians report feeling lonely than ever before — and the issue appears to be getting worse.

Rates remained relatively stable at around 17% from 2010–2016. However, this has increased to approximately 25% of Australians experiencing loneliness as at 2019.^{[15][25]} These trends have been exacerbated by the COVID-19 pandemic, with lockdown restrictions causing greater feelings of loneliness. In a survey conducted in April 2020, 46% of respondents reported that they felt lonely during the past week.^[27] In January 2021, the proportion of respondents who reported experiencing loneliness decreased but remained high at 36%.^[28]

“

Trends have been exacerbated by COVID-19, with lockdown restrictions causing greater feelings of loneliness.



The impacts of loneliness



Physical health



Mental health



Social impacts



Economic impacts

Loneliness is a public health issue that many Australians identify with. However, it's at risk of being trivialised because its impacts remain widely unrecognised. There is robust evidence that loneliness is detrimental to physical health and mental health, and can have profound socio-economic impacts.

The impacts of loneliness include:

- increased risk of death, cancer and disease
- poorer mental health outcomes
- increased health-risk and antisocial behaviour
- significant healthcare costs
- reduced productivity and work performance

These significant impacts justify the need for a national policy response to raise public awareness and deliver effective solutions.



Physical health

Loneliness is a significant risk factor for poor physical health, decreased quality of life^[2] and is associated with a 26% increased risk of mortality.^[4]

For those who are socially isolated, this risk increases to 29%.^[4] These mortality risks have been found to be stronger than the risks associated with obesity and physical inactivity.^{[3][4][5][29]} Loneliness is also associated with increased incidence of cancer.^[30]

Loneliness increases the likelihood of cardiovascular disease and high blood pressure, reduces restorative sleep, decreases resistance to infection and increases cognitive decline.^{[31][32][5]} Loneliness is reported to have health effects equivalent to drinking six alcoholic drinks or smoking 15 cigarettes per day.^{[3][4][5][29]}

Loneliness is also a risk factor for specific neurological conditions. These include conditions such as dementia and Alzheimer's disease.^[6]

26% Increased risk of death for lonely people



Mental health

Loneliness is not a mental health issue. However, people who are lonely report poorer mental health.^[2] Research shows that there is a reciprocal relationship between loneliness and mental health. Those who are lonely are more likely to develop mental health illnesses and those with mental health issues are more likely to suffer from loneliness.^[33] In some populations, those who suffer from loneliness have twice the odds of having a severe mental illness than those who do not experience loneliness.^[34] This is particularly prevalent for people from minority communities, including First Nations Australians, LGBTQIA+ communities and migrants.^{[35][36]} Loneliness is also a risk factor for specific mental health illnesses like depression, as well as suicidal ideation and behaviour.^{[3][7]}

Young people are also at greater risk of mental ill-health, with people aged 16–24 reporting the highest prevalence of mental health issues of any age group.^[11] Coupled with an increased risk of loneliness, young adults are of particular concern and require targeted strategies to reduce both short- and long-term impacts.

Loneliness is a risk factor for suicidal ideation and behaviour.^{[7][8]} Young adults, First Nations peoples and the LGBTQIA+ community at higher risk of suicide than the general population.^{[35][37]}



Social impacts

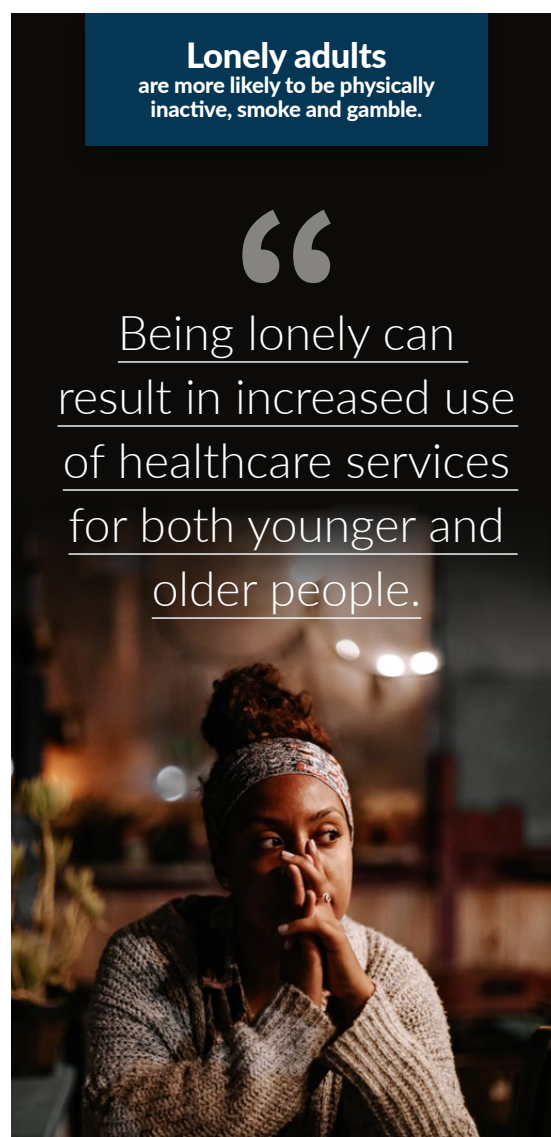
Loneliness has a variety of negative impacts on health and social behaviours in adults. While the health impacts of loneliness have previously been likened to the physical effects of smoking and physical inactivity, there is also an association between loneliness and these health-risk behaviours. Adults who are lonely are more likely to have a poor diet, be physically inactive and smoke daily, as well as have an increased chance of two or more of these risk behaviours occurring.^[38] Lonely adults also report increased sexual risk behaviour,¹ as well as problematic alcohol use.^{[4][39]} These social behaviours have further negative implications for health, including chronic disease and death.

The negative impacts of loneliness on social behaviours can compound and reinforce feelings of loneliness. For example, in young adults, loneliness has been linked to aggressive or bullying behaviour, heavy internet

usage and problematic social media use.^{11 [39][40][41]}

Aggressive behaviour is a barrier to establishing healthy social relationships that are crucial for reducing loneliness, while heavy internet use is related to poorer social skills.^[42] The importance of social skills in mitigating loneliness has been previously described.^[43]

Loneliness is similarly a risk factor for problem gambling behaviour.^[44] Research shows that some people may begin gambling to cope with feelings of loneliness. However, problem gambling can cause further loss of meaningful relationships.^[45] Hence, loneliness not only is associated with damaging social behaviours but, in turn, these behaviours can reinforce feelings of loneliness.



¹ Sexual risk behaviours are sexual activities that may put an individual at risk of sexually transmitted infection.

¹¹ Problematic social media use is the high frequency and/or passive use of social media.

People aged 15–85 who report feeling lonely are more likely to visit the doctor than those who don't feel lonely.^[46] Furthermore, lonely older people are 60% more likely to use emergency services and twice as likely to be admitted to residential aged care than non-lonely older people.^[47]

The increased use of health and aged care services has implications for higher taxpayer costs and limitations on resources. With the number of Australians aged 85 years and over projected to double by 2042, increasing to over one million people, these costs and limitations are also likely to increase accordingly.^[48]



Economic impacts

Loneliness costs Australia an estimated \$2.7 billion each year due to its negative impacts on health.^[9] The overall average healthcare cost associated with each person who becomes lonely in Australia estimated to be \$1565 per year.^[9]

In addition, mental health issues that are closely related to loneliness, such as depression, are estimated to cost the Australian economy up

to \$60 billion annually.^[49] Research from the Netherlands indicates that costs vary by age group, with loneliness and mental health expenditure stronger in younger adults than in older adults. For example, 6.3% of expenditure can be attributed to those aged 19–40 years, compared to 0.7% in 65–80-year-olds.^[50]

Loneliness also has a negative impact in the workplace, affecting both employees and employers. Workplace loneliness is related to lower job and team performance, reduced productivity, workplace errors, reduced organisational commitment and poorer staff retention.^[51] Lonely employees also take more sick leave, creating downstream impacts for the Australian economy.^[51]

Given the economic impacts of loneliness, there are strong financial gains to be made from interventions addressing loneliness. Economic modelling conducted in 2019 by the Australian National Mental Health Commission showed that for every \$1 invested in programs that address loneliness, the return on investment is between \$2.14 and \$2.87.^[52]

The cost of
loneliness per
person per year is

\$1565

“ Given the economic impacts of loneliness, there are strong financial gains to be made from interventions addressing loneliness. ”



Who is impacted by loneliness?



While all Australians will experience loneliness throughout their lifetime, certain population groups have a greater risk of loneliness. These groups include young adults, older adults, parents, First Nations peoples, people who identify as LGBTQIA+ and migrants. People with a lower socio-economic status and who live alone are also more likely to be lonely. Solutions must therefore recognise the diversity of people experiencing loneliness and be designed to address the specific needs and preferences of the target population.

37-50%

of young adults are lonely

1 in 3

people over the age of 60 are lonely

48%

of parents are lonely

80%

of stolen generations First Nations people were lonely during COVID-19

18%

of migrants report loneliness as a stressor post migration



Young Adults

The proportion of young adults (defined as those aged 18–24 years) experiencing loneliness in Australia is approximately 37%,^[10] although some research has estimated the prevalence may be as high as 50%.^[12] In addition, young adults are reported to experience the highest levels of social isolation of any age group.^{[26][53][10]} For younger people, risk factors for loneliness include developmental or transitional life changes, such as leaving school, fewer social interactions, autonomy from family and starting higher education or employment.^[54]



Older People

Research has highlighted that older people are vulnerable to experiencing loneliness, with UK research estimating that one-third of adults aged over 60 experience loneliness.^{[3][55]} Risk factors for loneliness and social isolation among older people include family separation, decreased mobility, financial difficulties, loss of loved ones, and poor health.^[56] It is thought that societal change, including reduced inter-generational living, greater geographical mobility and less cohesive

communities, have also contributed to higher levels of loneliness in the older population.^{[57][58]}



Parents

Parents with children under the age of 18 are at an increased risk of experiencing loneliness, with approximately 48% of Australian parents experiencing high levels of loneliness.^[12] This was exacerbated during the COVID-19 pandemic with two-fifths of Australian parents experiencing loneliness for the first time.^[12] Evidence suggests that parental loneliness can be attributed to a lack of social support, such as having access to peers in a similar situation, a lack of psychosocial resources, changes in relationships with partners, social support not meeting their needs and difficulties in seeking support.^[59]

Single parents also report experiencing loneliness, with single fathers reporting higher levels of loneliness than single mothers.^[15] An estimated 41% of male single parents aged 45–64 and 30% aged over 65 are lonely, compared to 25% and 20% of single female parents respectively.^[15]

Figure 2 shows the prevalence of loneliness by household type and gender.

First-time parents have also been identified as at risk for loneliness. Notably in the context of COVID-19, qualitative research relating to first-time parents in Australia showed that they experienced feelings of loneliness and isolation because they felt they were missing out on support from family and healthcare services.^[60] Loneliness in first-time parents has been associated with finding parenthood unexpectedly difficult, feeling vulnerable as a parent, having fewer social interactions after becoming a parent and feelings of insufficient support from partners and/or that parenting responsibility rested with them.^[61]



First Nations peoples

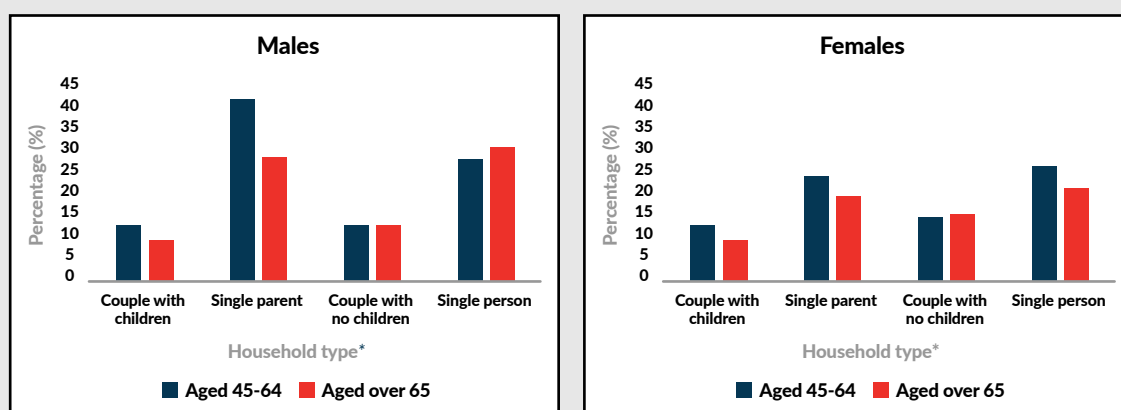
There is currently a paucity of data on the prevalence and manifestation of loneliness in First Nations peoples. However, one study shows that First Nations peoples report higher levels of loneliness than non-First Nations Australians. On a validated loneliness scale from 1–7, with 7 being

the highest level of loneliness, First Nations peoples reported a loneliness level of 3.03 compared to 2.81 for non-First Nations Australians.^[13]

First Nations peoples have a holistic and whole-of-life view that encompasses physical health, mental health, social and emotional health, as well as the importance of connections to Country, land, culture, spirituality, ancestry, family and community.^[62] For many First Nations peoples, feelings of loneliness are linked to risk factors including separation from family and community, historical trauma, racism and generalised community wellbeing.^[63]

For example, during the COVID-19 pandemic, a survey of the Stolen Generations (referring to the Aboriginal and Torres Strait Islander children who were removed from their families between 1910 and 1970) revealed how their separation from culture and community caused increased feelings of loneliness.^[64] More than 90% reported feeling disconnected from family and community, and more than 80% of respondents had increased feelings of loneliness.^[64]

Figure 2: Prevalence of reported loneliness in Australia by household type and gender



*Other household types were excluded due to small sample size.

Source: Relationships Australia, 'Is Australia experiencing an epidemic of loneliness? Findings from 16 waves of the Household Income and Labour Dynamics of Australia Survey,' Relationships Australia, Canberra, 2018.



LGBTQIA+ Australians

People who identify as Lesbian, Gay, Bisexual, Transgender, Queer, Intersex or other (LGBTQIA+) report higher levels of loneliness than members of the heterosexual population.^[14] For the LGBTQIA+ population, loneliness is associated with living alone, not being in a relationship, higher psychological distress and poorer mental health.^[65] LGBTQIA+ Australians report significantly increased levels of social isolation and mental health issues, including depression and social anxiety.^[14] The reciprocal relationship between poor mental health and loneliness has previously been described.^[33]



Migrants

In Australia, migrants from non-English-speaking countries report higher levels of loneliness

compared to non-migrant Australians and migrants from English speaking countries.^[13] Research shows that migrants from non-English-speaking countries have a loneliness level of approximately 3.00 / 7.00, which is higher than for non-migrant Australians (2.81) and migrants from English-speaking countries (2.66).^[13]

A study of nearly 2400 humanitarian migrants in Australia found that 18% report loneliness as a stressor post-migration.^{III[66]} Humanitarian migrants experiencing loneliness are approximately 1.6 times more likely to develop other health problems, such as poorer general health, severe mental illness and post-traumatic stress disorder, when compared to humanitarian migrants who never experience loneliness.^[34]



^{III} Humanitarian migrants are migrants who are fleeing trauma and persecution.



Single-person households

According to the Australian Bureau of Statistics Census of Population and Housing, in 2016, 25% of Australian households were lone person households compared with 8% in 1945, an increase of approximately 300%.^{[67][68]} Living alone and not being in a relationship with a partner are substantial risk factors for loneliness.^{[69][70][71]}



Socio-economic status

In Australia, loneliness can be related to household wealth, with people in the highest household income quintile showing a lower probability of loneliness by approximately 6% when compared to people in the lowest quintile.^[46] Older people, in particular, are known to be at risk of loneliness due to that group often experiencing increased financial difficulties.^[72]

Loneliness also varies by education level with those not completing high school reporting higher levels of loneliness than those with university-level

education. In Australia, approximately 15% of females and 13% of males with a university-level education report loneliness, but loneliness was 70% higher among respondents who did not complete high school.^[46]



Intrapersonal factors

Some people may be more predisposed to loneliness based on their personality types. Evidence shows people with higher degrees of introversion and neuroticism experience increased risks of loneliness.^[22]

People who are lonely may also hold negative perceptions towards new acquaintances and people in general. These perceptions can cause a person to consistently perceive that their need to belong is unsatisfied and, as a result, they withdraw from potentially meaningful social interaction, reinforcing loneliness.^[73] Lonely individuals may also have poorer-quality social skills that can prevent them forming relationships.^[74]



“Evidence shows people with higher degrees of introversion and neuroticism experience increased risks of loneliness.”

Socioenvironmental factors contributing to loneliness



Lonelygenic
environs



Social
media trends

Loneliness is a complex issue caused by a variety of socioenvironmental factors.^[72] Social media use and a lack of green space in urban environments can impact social connection and therefore contribute to loneliness. Public, private and community sector organisations have a responsibility to proactively consider the environment in which Australians live, work and play to develop solutions that improve social connectedness and benefit entire populations.



'Lonelygenic' environments and green space

Loneliness is associated with certain social environments. Feng and Astell-Burt have coined a new concept called 'lonelygenic environments' to describe the contextual conditions that cause or aggravate loneliness, as well as the absence of environmental factors that help to prevent or provide relief from loneliness.^[75] Lonelygenic environments, in particular those that do not foster social connection, have been found to exacerbate feelings

of loneliness.^[75] For example, a lack of green space has been linked to loneliness, with research showing that green space, such as gardens and parks, can provide a protective mechanism against loneliness.^[76] Adults in neighbourhoods where at least 30% of nearby land has green space have reported 26% lower odds of becoming lonely compared with people in areas with less than 10% green space.^[76] A possible explanation is that environments with green space can be important for providing social connection.^{[76][77]}

During COVID-19, adults who visited high-quality green spaces were over five times more likely to stay connected with their neighbours.^[117]

New Australian research

More trees, fewer Tweets!

Reconnecting with nature via city greening could halve the odds of becoming lonely, according to new research by Australian Research Council Future Fellow, Professor Thomas Astell-Burt.^[76]

The impact of this research

Professor Astell-Burt's research has influenced urban greening strategies in Australia, as evidenced by the City of Sydney's \$377 million plan to cover 40% of the city with greenery by 2050. Overseas, many cities are adopting the '3-30-300' rule for urban greening. This denotes that at least three trees should be visible from every home, that there should be 30% tree canopy cover in every neighbourhood and that homes should be no more than 300 metres from the nearest green space. Astell-Burt's research also supports uptake of 'nature prescribing' by health professionals in countries like Canada.

How increasing contact with nature reduces loneliness

Green spaces enable people to reconnect with communities, and generate a sense of belonging and connection with the natural world. Also, green spaces can reduce exposure to factors that can otherwise lead people to self-isolate indoors and become lonely, such as urban heat and violence.^[77]

Reference: Professor Thomas Astell-Burt @ProfAstellBurt www.PowerLab.site





Social media trends

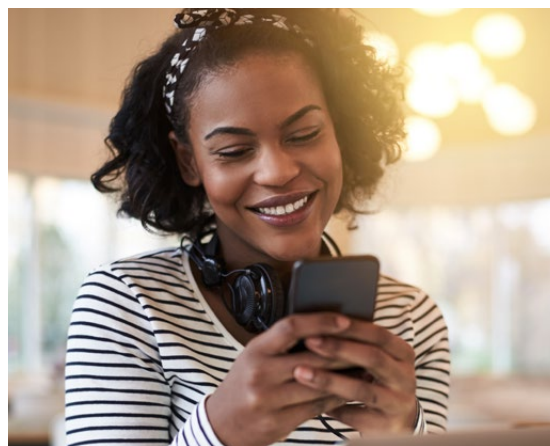
Social media has been linked to loneliness, with a systematic review conducted in 2020 finding that lonely people are more likely to have problematic social media use.^{IV[41]}

It has been argued that online socialising can increase levels of loneliness as these relationships are generally fragile and superficial.^[78] In a randomised control trial, university students who limited social media use to 30 minutes per day showed significant reductions in loneliness, anxiety and depression over three weeks compared to those in the regular use (control) group.^[79]

However, it is possible that social media can also provide benefits for lonely people. A cross-sectional study showed that an increase in the intensity of social media use, such as use of Facebook, has been associated with lower loneliness in university students.^[80] Social media may also be used to maintain friendships and therefore generate high levels of social capital, which can potentially reduce loneliness.^[81]

Use of digital communication tools such as social media may increase or decrease feelings of loneliness depending on how and why they are being used.^[72] Lonely people may seek out social support on social media to compensate for lack of in-person support and social connection.^[41] There is therefore a possible role for urban greening to encourage social connection and decrease reliance on social media.

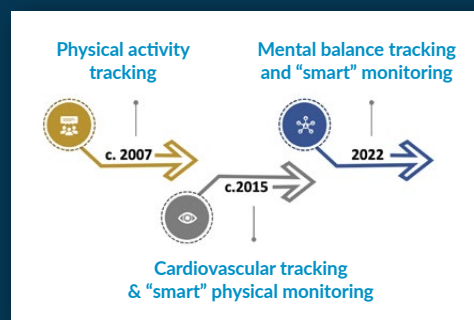
“ Social media may also be used to maintain friendships and therefore generate high levels of social capital, which can potentially reduce loneliness.^[81]



The Behavioural Pulse™

Cordouan Health's app and enterprise solution is designed to identify subtle changes in an individual's typical behaviour that can be early warning indicators that they may be on a path that could result in feelings of loneliness and social disconnection. The Cordouan Health app provides psychology-based notifications to nudge the individual off that path and towards their typical behavioural state.

A suite of AI tools uses existing data on an individuals' mobile phone to detect subtle behavioural changes (such as changes in time spent in green spaces, changes to exercise regimens, use of language – particularly negative language – in social media posts, changes in genres of music or movies/tv shows accessed). The results are aggregated into a personalised Behavioural Pulse™ which, just like a heartbeat pulse, can be monitored and tracked. This gives individuals the ability to see when their behavioural profile starts to change, which, in the early stages, is usually subconscious. When changes occur, the app provides nudges, information, tools and support to help individuals get back on a positive path.



^{IV} Commonly defined in terms of high frequency and/or passive use.

International strategies for tackling loneliness



Action and awareness



Social connections



Building skills

Despite there being complex and wide-ranging causes of loneliness, there are opportunities for governments, organisations and other stakeholders to effectively address loneliness through policy and evidence-based interventions. Interventions that meaningfully reduce loneliness have several key features:^[82]

- They're tailored to the needs of people for whom they are designed
- They support meaningful relationships
- They feature place-based approaches
- They promote social connection

Across the world, national governments, community organisations and independent stakeholders are implementing strategies to tackle loneliness at a societal, community and individual level. The case studies below provide examples of current policies and evidence-based strategies that have

demonstrated success in improving loneliness outcomes internationally.



National action and awareness

Loneliness must be identified, recognised and addressed as an important issue by national governments. Signalling government commitment to addressing loneliness is key for implementing comprehensive solutions and uniting different sectors, such as health, community, social services, aged care, industry and academia.

Table 1: Examples of national-level interventions and policies to address loneliness

Intervention	Country	Description
A connected society (2018) – UK National strategy to reduce loneliness	United Kingdom	The UK has published the world's first government loneliness strategy. The strategy addresses key issues and interventions for loneliness, including stigma, digital apps and green space, and provides an example of how policy is important in framing loneliness as a standalone issue. Implementation of the strategy is ongoing and therefore the effects on reducing loneliness are yet to be evaluated. However, annual reports relay progress related to the strategy's aims, which include: • initiatives to enable everyday services to connect with people at risk of loneliness, such as social prescribing (using 'link workers') • strengthening local infrastructure, developing community spaces and ensuring loneliness is considered in the housing and planning system • supporting community groups and digital inclusion (i.e. having the skills to use digital devices, connectivity and appropriate assistive technology) • reducing stigma and raising awareness of the importance of social connections. In conjunction with the strategy the UK Government has launched the first government fund dedicated to reducing loneliness worth £20 million to support organisations tackling loneliness.^[83]
Minister for Loneliness	United Kingdom and Japan	The UK created the world's first Minister for Loneliness in 2018. This was prompted by the Jo Cox Commission on Loneliness, which investigated ways to reduce loneliness in the UK.^[83] The Commission published a report in December 2017 that catalysed policy responses from the UK Government to address loneliness. Japan followed the UK's example and appointed a Minister for Loneliness in February 2021.^[84]
#LetsTalkLoneliness public awareness campaign	United Kingdom	This campaign was established in June 2019 to help raise awareness of loneliness and tackle the stigma associated with it.^[85]



Creating social connection in the community

Both social and built environments have the potential to positively influence loneliness outcomes. As such, place-based approaches that leverage existing infrastructure, built environment, community networks and services are essential to ensure solutions are fit-for-purpose and meet the needs of communities. In particular, urban planning that prioritises green space, and community group interventions that support meaningful social connection opportunities, have demonstrated positive impacts.

Educational interventions that focus on maintenance of social networks have also been effective in reducing loneliness.^[85] Similarly, initiatives that increase social interaction and improve social skills have demonstrated positive outcomes.^[43]

It is important that community-level interventions are supported by coordination and collaboration across all levels of government and sectors, including planning and environment, health, mental health and aged care.

Table 2: Examples of community-level interventions to address loneliness

Intervention	Setting	Description	Cohort	Outcome
British Red Cross developed and delivered a national social prescribing service. ^[86]	United Kingdom	Social prescribing aims to facilitate the connection of patients seen in primary care with non-medical-based community sources of support to reduce loneliness. Service users could receive up to 12 weeks' support from a link worker alongside volunteers who focused on developing service-users' confidence. Offering this support meant they felt able to socialise and facilitate access to community activities and services such as craft groups, adult learning and leisure facilities. ^[86]	Open to adults 18 years and older, although the service targeted young parents, individuals with health and/or mobility issues and people recently bereaved, retired or whose children had left home. ^[86]	72.6% of participants reported feeling less lonely after receiving support and there was a statistically significant change in their loneliness scores. ^[86] The intervention's cost-benefit analysis estimated a social return on investment of £3.42 per £1 invested in the service. ^[86]
Friendship Enrichment Program (FEP) ^[52]	Netherlands	A program has been developed to improve wellbeing and alleviate loneliness by teaching techniques for current friendships or developing new friendships. ^[52] It consists of groups of 10 women undertaking 12 lessons that include practicing skills that are important in friendship such as self-evaluation, setting goals in friendship, role playing and a homework assignment. ^[52]	Women aged 55 years and over ^[52]	The results showed that the number of women who were lonely and received the intervention decreased by 11% compared with a 6% decrease for lonely women who did not participate in the FEP. A cost-benefit analysis conducted for the FEP in an Australian context showed that the FEP is cost-effective. For every \$1 paid to run the intervention, the return will be \$1.35 after three years and \$2.87 after five years due to reductions in healthcare treatment costs and productivity gains. ^[52]

Table continues next page

Table 2 (continued from previous page): Examples of community-level interventions to address loneliness

Intervention	Setting	Description	Cohort	Outcome
Sydney Royal Botanic Garden operate a Community Greening program ^[87]	Sydney, Australia	This program provides opportunities for those in social housing to create community gardens to increase green space in these areas. Activities include growing seedlings, keeping the garden tidy, worm farming and composting, pruning and fertilising trees and plants. Workshops and courses are offered. ^[87]	Local community	While this initiative has not been specifically evaluated for reductions in loneliness, both qualitative and quantitative evidence suggest this type of greening activity is associated with a reduction in loneliness. In Melbourne, retirees reported community garden participation mitigating loneliness. ^[88] Community gardens are also known to be places where people of diverse backgrounds and interests come together. ^[88] It is also possible social prescribing could be applied to nature-based interventions such as community gardening. ^[89]
Group sessions in a nursing home ^[90]	Taipei, Taiwan	Eight weekly sessions were designed to increase awareness and expression of participants' feelings, to identify positive relationships from their past, and to apply these prior experiences to their current relationships. ^[90]	Elderly adults in a nursing home ^[90]	The program reduced loneliness and depression, and improved psychological wellbeing. ^[90]
BOOTSTRAP (Boot Camp Survival Training for Navy Recruits – A Prescription) ^[91]	Illinois, USA	Adults met for 45 minutes per week as a group for nine weeks to learn, discuss and practice strategies for increasing one's sense of belonging, decreasing thought distortion, and improving one's coping and stress management. ^[91]	Adults in the US Navy ^[91]	Participants showed statistically significant improvements in loneliness. ^[91]
Group mindfulness session	USA	A researcher guided undergraduate university students through mindfulness practice that targeted loneliness. The practice involved thinking about a time when they felt lonely, acknowledging negative feelings of loneliness and viewing them in a non-judgmental light.	University students	Students believed they were better equipped to deal with future instances of loneliness. ^[92]



Building skills to improve connection

Interventions that improve social skills, enhance social support and increase opportunities for social interaction have been shown to reduce loneliness.^[43] The use of technology, such as apps and social media, has shown to be beneficial in reducing loneliness across a broad range of

demographics, locations and communities.^[93] There are opportunities for governments to leverage digital interventions, as well as use technology more broadly, to serve a secondary purpose as a means of data collection and evaluation to better tailor, design and improve ongoing and future interventions.

RALLY4EVER makes a difference

Research shows that people who exercise regularly have better mental health and wellbeing, and lower rates of mental illness. While there is strong government funding for mental health, the majority of funding goes towards providing treatment services to help people recover from mental health problems. Limited funding is allocated to programs that aim to prevent mental health problems from developing in the first place.

Consequently, there are few organisations dedicated towards strengthening people's mental health through exercise and community-based programs.

Working closely with local government, RALLY4EVER takes action with its tennis programs that aim to transform individuals' lives through the power of exercise and human connection, bringing people from all walks of life together. It embraces those in society who may not have the confidence to join a regular exercise, community program or social group due to anxiety, mental health issues and loneliness.



Table 3: Example of a digital intervention to address loneliness

Intervention	Setting	Description	Outcome
Nod	Mobile App	Nod is designed to prevent loneliness in early young-adulthood during the transition to university using positive psychology, mindfulness-based self-compassion and cognitive-behavioural skills. Its key features include social challenges — suggested ideas for taking action to build social connections; reflections — short in-app exercises that help students process social experiences and reduce self-criticism; and written testimonials that encourage a growth mindset toward social connection building. Nod offers options for challenges that include both virtual and safe in-person connections.	Nod helped reduced feelings of loneliness within students. ^[94]

The challenge in Australia

Loneliness is a public health issue that affects the quality of life of millions of Australians across a vast range of ages and demographics. Critical action is required to address loneliness and improve opportunities for meaningful social connection. However, in Australia, there is currently no clear national strategy to tackle loneliness. There have been developments in related national policy and plans, such as the Australian Government's National Mental Health and Suicide Prevention Plan.^[95] But these plans neither acknowledge loneliness as a widespread, pervasive issue, nor do they delineate a clear path to reduce loneliness.

While many studies and surveys have estimated the prevalence of loneliness in Australia, there are no standardised measurements or data collection methods for assessing incidence and prevalence of loneliness in the population. The implication is that loneliness is difficult to quantify and, in the event that national policy and initiatives are implemented, it's hard to evaluate whether programs are having the desired effect.

Despite current evidence of loneliness as a public health and socioeconomic issue, multiple submissions to government from organisations for evidence-based policy and funding, loneliness remains a missing Australian health policy priority.

There are a wide range of benefits to be gained from addressing loneliness. For individuals, improving loneliness can lead to improved physical health, including reduced risk of death, cancer and cardiovascular disease, as well as improved mental health outcomes.

There are also economic benefits to be derived from improving physical and mental health outcomes and reducing healthcare costs, as well as supporting greater economic participation through improved workforce productivity and performance.

Furthermore, there are social benefits in addressing loneliness, including improved quality of life, reduced levels of anti-social behaviour and a reduction in the number of entries to residential care.

New Australian research

+Connect for loneliness

+Connect is a digital intervention designed to target loneliness in young people aged 18–25. It is a six-week smartphone intervention that delivers daily videos and posts in an engaging and 'gamified' way in an attempt to convey evidence-based concepts known to strengthen relationships and increase social connections. These include employing a positive psychology approach to help young people identify their strengths, increase positive affect and focus on building intimacy within existing relationships.^{[97][94]}



A pilot trial demonstrated that +Connect is a safe and feasible tool that may benefit lonely young people, particularly those with social anxiety disorder.

The way forward

Loneliness is a widely misunderstood, under-recognised and poorly addressed issue in Australia, even though most Australians will experience loneliness in their lifetime. It is more important than ever that we address loneliness as society progresses beyond COVID-19 lockdowns and isolation restrictions. This report outlines critical actions for both the prevention and treatment of loneliness in Australia.

1. Establish clear policy directions across national, state and local levels to raise awareness of loneliness as a priority issue and take targeted action

Developing clear multi-sectoral policies across all levels of government is an essential step towards recognising loneliness as an important health and socioenvironmental issue in Australia that spans sectors. Appointing a Minister for Social Connectedness (akin to the Ministers for Loneliness appointed by the UK and Japanese governments) could be a key step in raising loneliness as a priority issue. Public awareness campaigns and dedicated government budgets to support loneliness interventions have also had a demonstrated impact.

2. Develop a call-to-action to engage public, private and not-for-profit organisations to prioritise and address loneliness

Loneliness must be raised by many different stakeholder groups in the community to better integrate interventions into new and existing initiatives. This includes integration into health promotion and public awareness campaigns, mental health programs, community services, local urban design and infrastructure plans, and corporate wellbeing initiatives.

There is also a need to capitalise on the resources and support of grassroots organisations and businesses. For example, Ending Loneliness Together, a national network of organisations

dedicated to addressing loneliness, can help facilitate coordination and coalition-building among a variety of stakeholders. In addition to government, these stakeholders include people with a lived experience of loneliness, academia, not-for-profit charities and members of the corporate sector, such as Telstra and IBM, who are actively contributing to loneliness research and thought leadership.^{[12][16][96]}

3. Build the evidence base for loneliness through dedicated data collection, research and evaluation

Developments in reducing loneliness rely upon a dedicated evidence base to understand the prevalence, impacts and effectiveness of solutions. The evidence base on loneliness is emerging and more research is required to understand how loneliness affects a wide variety of populations. Research needs to be conducted in Australia to design context-specific solutions in order to maximise uptake and impact. Significant investment across local, state and federal government levels is needed to build this knowledge base.

It's important that baseline measurements of loneliness are taken to identify and evaluate trends and implement strategically targeted interventions. Loneliness could be incorporated as a dedicated area of inquiry into Australian institutions such as the Australian Bureau of Statistics or the Australian Institute for Health and Welfare which, aided by policy and funding, can collect national data.

“ It is more important than ever that we address loneliness as society progresses beyond COVID lockdowns and isolation restrictions.”

Appendix A: Authors and Reference Group

Authors



Steven Casey

Partner KPMG, Policy, Economics and Public Impact



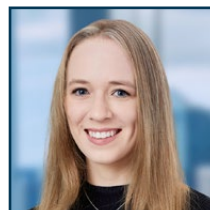
Andrew Dempster

Principal Director Mental Health Advisory Lead, KPMG Australia



Laura Stevens

Manager KPMG, Policy, Economics and Public Impact



Alexandra Hewish

Consultant KPMG, Policy, Economics and Public Impact

Groundswell Foundation Reference Group



Martin Blake

Chairman Groundswell Foundation, Former NSW Chairman KPMG, Chairman Sydney University Business School Advisory Board, Chairman iHelm Pty Ltd and Chairman the Groundswell Foundation

[LinkedIn](#)



Alex O'Mara

Former Group Deputy Secretary, Place Design and Public Spaces, Department of Planning Industry and Environment, Deputy Secretary, Create NSW, lawyer at Mallesons

[LinkedIn](#)



Professor Brock Bastian

University of Melbourne, President, Society for Australasian Social Psychologist and Director of the Ethics and Wellbeing

[LinkedIn](#)

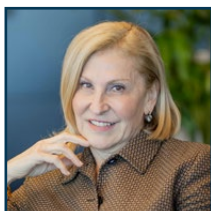


Professor Thomas Astell-Burt

Professor University of Wollongong, Australian Research Council Future Fellow (Level 3, commencing Jan 2023), Founding Co-Director, Population Wellbeing and Environment Research Lab (www.PowerLab.site)

[LinkedIn](#)

Groundswell Foundation Reference Group *continued*



Arlene Tansey

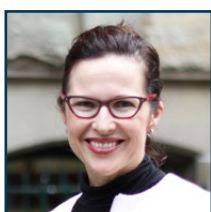
TPG Telcom Non-Executive Director and Chair Board Audit Committee, WiseTech Global, Aristocrat Leisure, Infrastructure NSW, Lendlease Investment Management, ANZ Bank

[LinkedIn](#)



Geoff Ross

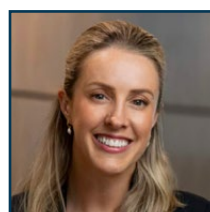
Executive Chairman Gao Fu Ltd



Johanna Pitman

CEO Advance, Co-Founder Women in Smart Cities Global, Program Director, City Connect, BlueChilli Group, Deputy CEO Committee for Sydney, Director Innovation, Industry Policy NSW Trade & Investment

[LinkedIn](#)



Georgie Skipper

Group Executive, Sun Cable; Board of Advice, University of Sydney Business School; Fulbright Scholar; Former Senior Adviser to Australian Foreign Minister

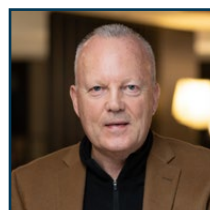
[LinkedIn](#)



Associate Professor Helena Nguyen

Academic Director, University of Sydney Business School & Co-Director, Body Heart and Mind in Business Research Group

[LinkedIn](#)



Mike Pratt AM

Former Secretary of NSW Treasury & NSW Industrial Relations

[LinkedIn](#)



Joel Ramirez

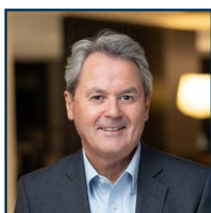
Author, *Better Together – Why loneliness is killing us and what we can do about it*. Co-Founder at Wiise.com, Co-Founder at Foundwell

[LinkedIn](#)



Craig Meller

Former CEO AMP, Director National Mutual Life, AMP Ltd, AMP Capital Holdings Ltd



Dr Eddie Jackson

Former CEO Belfast Local Strategy Partnership, recognised social policy expert in conflict management & urban renewal, former CEO Liverpool City Council

[LinkedIn](#)



Grant Saxon

NSW Managing Partner BDO Australia, former Partner & Head of Assurance Services PKF Australia

[LinkedIn](#)

Groundswell Foundation Reference Group *continued*



Michael Tyler

Vice President Global Supply Chain at ResMed and former Vice President, GlaxoSmithKline Global Manufacturing and Supply Chain

[LinkedIn](#)



Tim Beresford

CEO Australian Financial Security Authority, former Deputy CEO Austrade, Chair of Benevolent Society

[LinkedIn](#)



Catherine Dean

Partner Corporate & International Tax at BDO Australia

[LinkedIn](#)



Dylan Buckley

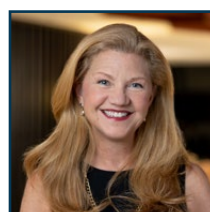
Associate, Asset Management & Performance at Aurecon



Trevor Matthews

Non-executive chairman of FNZ APAC, State Insurance Regulatory Authority, CMC Markets

[LinkedIn](#)



Pauline Blake

Chief Operating Officer, Groundswell Foundation

[LinkedIn](#)



Hon Warwick Smith AO

Chairman of Ord Minnett Investments Limited, Former Australian Liberal politician, Former executive director of Macquarie Bank, Head of the Australia China Business Council, Australia's first Telecommunications Ombudsman



Geoff Campbell

Founder and Managing Director, The Content Professionals

[LinkedIn](#)

Appendix B: References

- [1] L. Peplau and D. Perlman, "Perspectives on Loneliness A Sourcebook of Current Theory, Research and Therapy," pp. 1–20, 1982.
- [2] World Health Organization (WHO), "Social isolation and loneliness among older people: advocacy brief," WHO, Geneva, 2021.
- [3] F. Landeiro, P. Barrows, E. Nuttall Musson, A. Gray and J. Leal, "Reducing social isolation and loneliness in older people: a systematic review protocol," *BMJ Open*, vol. 7, no. 5, p. e013778, 2016.
- [4] J. Holt-Lunstad, T. Smith, M. Baker, T. Harris and D. Stephenson, "Loneliness and social isolation as risk factors for mortality: a meta-analytic review," *Perspect Psychol Sci*, vol. 10, no. 2, pp. 227–37, 2015.
- [5] C. Luanaigh and B. Lawlor, "Loneliness and the health of older people," *Int J Geriatr Psychiatry*, vol. 23, no. 12, pp. 1213–21, 2008.
- [6] R. Wilson, K. Krueger, S. Arnold, J. Schneider, J. Kelly and L. Barnes, "Loneliness and risk of Alzheimer disease," *Archives of General Psychiatry*, vol. 62, no. 2, pp. 234–240, 2007.
- [7] H. McClelland, J. Evans, R. Nowland, E. Ferguson and R. O'Connor, "Loneliness as a predictor of suicidal ideation and behaviour: a systematic review and meta-analysis of prospective studies," *J Affect Disord*, vol. 1, no. 274, pp. 880–896, 2020.
- [8] M. Yadegarfar, M. Meinhold-Bergmann and R. Ho, "Family rejection, social isolation, and loneliness as predictors of negative health outcomes (depression, suicidal ideation, and sexual risk behavior) among Thai Male-to-Female transgender adolescents," *Journal of LGBT Youth*, vol. 11, no. 4, p. 347–363, 2014.
- [9] A. Duncan, K. D. A. Mavisakalyan, A. Peters, R. Seymour, C. Twomey and L. Vu, "Stronger Together: Loneliness and social connectedness in Australia Focus on the States Series, No. 8/21," Bankwest Curtin Economics Centre, 2021.
- [10] M. Lim, R. Eres and C. Peck, "The young Australian loneliness survey understanding loneliness in adolescence and young adulthood," Victorian Health Promotion Foundation, Hawthorn, 2019.
- [11] Australian Bureau of Statistics, "National Study of Mental Health and Wellbeing," 22 July 2022. [Online]. Available: <https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/latest-release#key-statistics>. [Accessed 19 October 2022].
- [12] M. Lim and Telstra, "Talking Loneliness Report," Telstra, 2021.
- [13] J. Lam, "Neighborhood Characteristics, Neighborhood Satisfaction, and Loneliness Differences Across Ethnic-Migrant Groups in Australia," *The Journals of Gerontology: Series B*, 2021.
- [14] R. Eres, N. Postolovski, M. Thielking and M. Lim, "Loneliness, mental health, and social health indicators in LGBTQIA+ Australians," *Am J Orthopsychiatry*, vol. 91, no. 3, pp. 358–366, 2021.
- [15] Relationships Australia, "Is Australia experiencing an epidemic of loneliness? Findings from 16 waves of the Household Income and Labour Dynamics of Australia Survey," Relationships Australia, Canberra, 2018.
- [16] Medibank, "New Medibank research reveals majority of Australians are lonely," 2 February 2022. [Online]. Available: <https://www.medibank.com.au/livebetter/newsroom/post/new-medibank-research-reveals-majority-of-australians-are-lonely>. [Accessed 28 September 2022].
- [17] Headspace, "insights: loneliness over time headspace National Youth Mental Health Survey 2020," Headspace, 2020.
- [18] D. Russell, L. Peplau and C. Cutrona, "The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence," *Journal of Personality and Social Psychology*, vol. 39, no. 3, p. 472–480, 1980.
- [19] L. Peplau and D. Perlman, "Loneliness: A sourcebook of current theory, research, and therapy," 1982.
- [20] A. Goodman, J. Wrigley, K. Silversides and N. Venus-Balgorin, "Measuring your impact on loneliness in later life," Campaign to End Loneliness, London, 2015.

- [21] S. Cacioppo, A. J. Grippo, S. London, L. Goossens and J. T. Cacioppo, "Loneliness: Clinical import and interventions," *Perspectives on Psychological Science*, vol. 10, pp. 238–249, 2015.
- [22] S. Buecker, M. Maes, J. Denissen and M. Luhmann, "Loneliness and the big five personality traits: a meta-analysis," *European Journal of Personality*, vol. 34, no. 1, pp. 8–28, 2020.
- [23] Australian Psychological Society, "Australian loneliness report: A survey exploring the loneliness levels of Australians and the impact on their health and wellbeing," APS, Melbourne, 2018.
- [24] L. Heinrich and E. Gullone, "The clinical significance of loneliness: A literature review," *Clinical Psychology Review*, vol. 26, pp. 695–718, 2006.
- [25] M. Lim, "Australian Loneliness Report," Australian Psychological Society, 2018.
- [26] M. Lim, G. Lambert, L. Thurston, T. Argent and R. Eres, "Survey of Health and Wellbeing – Monitoring the Impact of COVID-19," Swinburne University of Technology Iverson Health Innovation Research Institute, 2020.
- [27] N. Biddle, B. Edwards, M. Gray and K. Sollis, "PDF Download Mental health and relationships during the COVID-19 pandemic," Australian National University: ANU Centre for Social Research and Methods, Canberra, 2020a.
- [28] N. Biddle and M. Gray, "Tracking outcomes during the COVID-19 pandemic (January 2021) – Cautious optimism," Australian National University: ANU Centre for Social Research and Methods, Canberra, 2021a.
- [29] A. Beer, D. Faulkner, J. Law, G. Lewin, A. Tinker, L. Buys, R. Bentley, A. Watt, S. McKechnie and S. Chessman, "Regional variation in social isolation amongst older Australians," *Regional Studies, Regional Science*, vol. 3, no. 1, pp. 170–84, 2016.
- [30] S. Kraav, S. Lehto, J. Kauhanen, S. Hantunen and T. Tolmunen, "Loneliness and social isolation increase cancer incidence in a cohort of Finnish middle-aged men. A longitudinal study," *Psychiatry research*, vol. 299, p. 113868, 2021.
- [31] N. Leigh-Hunt, D. Baguley, K. Bash, V. Turner, S. Turnbull, N. Valtorta and W. Caan, "An overview of systematic reviews on the public health consequences of social isolation and loneliness," *Public Health*, vol. 151, pp. 157–171, 2017.
- [32] J. Cacioppo, L. Hawkley, L. Crawford, J. Ernst, M. Burleson and R. Kowalewski, "Loneliness and health: Potential mechanisms," *Psychosomatic Medicine*, vol. 64, no. 3, pp. 407–417, 2002.
- [33] E. Schwartz and H. Litwin, "The reciprocal relationship between social connectedness and mental health among older European adults: A SHARE-based analysis," *The Journals of Gerontology – Series B, Psychological sciences and social sciences*, vol. 74, no. 4, pp. 694–702, 2019.
- [34] W. Chen, S. Wu, L. Ling and A. Renzaho, "Impacts of social integration and loneliness on mental health of humanitarian migrants in Australia: evidence from a longitudinal study," *Australian and New Zealand Journal of Public Health*, vol. 43, pp. 46–55, 2019.
- [35] A. Hill, A. Bourne, R. McNair, M. Carman and A. Lyons, "Private Lives 3: The health and wellbeing of LGBTIQ people in Australia. ARCSHS Monograph Series No. 122," Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, 2020.
- [36] F. Shawyer, J. Enticott, A. Block, I.-H. Cheng and G. Meadows, "The mental health status of refugees and asylum seekers attending a refugee health clinic including comparisons with a matched sample of Australian-born residents," *BMC Psychiatry*, vol. 17, no. 76, 2017.
- [37] Australian Institute of Health and Welfare, "Suicide & self-harm monitoring data," 3 August 2022. [Online]. Available: <https://www.aihw.gov.au/suicide-self-harm-monitoring/data/suicide-self-harm-monitoring-data>. [Accessed 15 September 2022].
- [38] M. Algren, O. Ekholm, L. Nielsen, A. Ersbøll, C. Bak and P. Andersen, "Social isolation, loneliness, socioeconomic status, and health-risk behaviour in deprived neighbourhoods in Denmark: A cross-sectional study," *SSM-population health*, vol. 10, p. 100546, 2020.
- [39] K. Peltzer and S. Pengpid, "Loneliness: Its correlates and associations with health risk behaviours among university students in 25 countries," *Journal of Psychology in Africa*, vol. 27, no. 3, pp. 247–255, 2017.
- [40] J. Ireland and C. Power, "Attachment, emotional loneliness, and bullying behaviour: A study of adult and young offenders," *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, vol. 30, no. 4, pp. 298–312, 2004.

- [41] E. O'Day and R. Heimberg, "Social media use, social anxiety, and loneliness: A systematic review," *Computers in Human Behavior Reports*, vol. 3, p. 100070, 2021.
- [42] F. Karaoglan Yilmaz, U. Avci and R. Yilmaz, "The role of loneliness and aggression on smartphone addiction among university students," *Current psychology*, pp. 1–9, 2022.
- [43] C. Masi, H. Chen, L. Hawkey and J. Cacioppo, "A meta-analysis of interventions to reduce loneliness," *Personal Soc Psychol Rev*, vol. 15, no. 3, p. 219–266, 2011.
- [44] A. McQuade and P. Gill, "The role of loneliness and self-control in predicting problem gambling behaviour," *Gambling Research: Journal of the National Association for Gambling Studies (Australia)*, vol. 24, no. 1, pp. 18–30, 2012.
- [45] L. Holdsworth, E. Nuske and H. Breen, "Only the lonely: An analysis of women's experiences of poker machine gambling," *Gambling Research: Journal of the National Association for Gambling Studies (Australia)*, vol. 23, no. 2, pp. 17–38, 2012.
- [46] C. Kung, J. Kunz and M. Shields, "Economic Aspects of Loneliness in Australia," *Aust Econ Rev*, vol. 54, no. 1, pp. 147–163, 2021.
- [47] A. Steptoe, A. Shankar, P. Demakakos and J. Wardle, "Social isolation, loneliness, and all-cause mortality in older men and women," *Proceedings of the National Academy of Sciences*, vol. 110, no. 15, pp. 5797–5801, 2013.
- [48] Australian Bureau of Statistics, "Population Projections," 22 November 2018. [Online]. Available: <https://www.abs.gov.au/articles/population-aged-over-85-double-next-25-years>. [Accessed 15 September 2022].
- [49] KPMG, "Investing to Save – The economic benefits for Australia of investment in mental health reform," Mental Health Australia and KPMG, 2018.
- [50] R. Meisters, D. Westra, P. Putrik, H. Bosma, D. Ruwaard and M. Jansen, "Does loneliness have a cost? A population-wide study of the association between loneliness and healthcare expenditure," *International journal of public health*, vol. 1, 2021.
- [51] H. Ozcelik and S. Barsade, "No employee an island: Workplace loneliness and job performance," *Academy of Management Journal*, vol. 61, no. 6, pp. 2343–2366, 2018.
- [52] National Mental Health Commission, "Return on Investment: Prevention in mental health Educational interventions to reduce older persons' loneliness," Australian Government, 2019.
- [53] Australian Institute of Health and Welfare (AIHW), "Social isolation and loneliness - Australian Institute of Health and Welfare," 16 September 2021. [Online]. Available: <https://www.aihw.gov.au/reports/australias-welfare/social-isolation-and-loneliness-covid-pandemic>. [Accessed 22 August 2022].
- [54] A. Miething, Y. B. Almquist, V. Ostberg, M. Rostila, C. Edling and J. Rydgren, "Friendship networks and psychological well-being from late adolescence to young adulthood: A gender-specific structural equation modeling approach," *BioMed Central Psychology*, vol. 4, no. 34, 2016.
- [55] H. Griffiths, "Social isolation and loneliness in the UK – With a focus on the use of technology to tackle these conditions," *Internet of Things UK, Future Cities Catapult*, 2017.
- [56] O. Fakoya, N. McCorry and M. Donnelly, "Loneliness and social isolation interventions for older adults: a scoping review of reviews," *BMC Public Health*, vol. 20, no. 129, 2020.
- [57] Social Care Institute for Excellence, "SCIE: At a glance 60: Preventing loneliness and social isolation among older people," 2012. [Online]. Available: <https://www.scie.org.uk/publications/atag glance/atag glance60.asp>. [Accessed 22 August 2022].
- [58] S. Bernard, "Loneliness and Social isolation among older people in North Yorkshire project commissioned by North Yorkshire older People's partnership board executive summary," 2013. [Online]. Available: <https://eprints.whiterose.ac.uk/77336/1/Lone.pdf>. [Accessed 22 August 2022].
- [59] R. Nowland, G. Thomson, L. McNally, T. Smith and K. Whittaker, "Experiencing loneliness in parenthood: a scoping review," *Perspectives in Public Health*, vol. 141, no. 4, pp. 214–225, 2021.
- [60] J. Baxter, "Families in Australia Survey: Towards COVID Normal Report no. 7: Becoming a new parent in the COVID 19 pandemic," *The Australian Institute of Family Studies*, Melbourne, 2022.
- [61] K. Lee, K. Vasileiou and J. Barnett, "Lonely within the mother: an exploratory study of first-time mothers' experiences of loneliness," *J Health Psychol*, vol. 24, no. 10, pp. 1334–44, 2019.

- [62] T. L. Butler, K. Anderson, G. Garvey, J. Cunningham, J. Ratcliffe, A. Tong, L. Whop, A. Cass, M. Dickson and K. Howard, "Aboriginal and Torres Strait Islander people's domains of wellbeing: A comprehensive literature review," *Soc Sci Med*, vol. 233, pp. 138–157, 2019.
- [63] Apunipima Cape York Health Council, "Submission to The Queensland Parliamentary Committee for Community Support and Services Inquiry into Social Isolation and Loneliness in Queensland," Queensland Government, 2021.
- [64] Healing Foundation, "Impacts of COVID-19 on Stolen Generations survivors," Healing Foundation, Canberra, 2021.
- [65] M. Hughes, "Loneliness and social support among lesbian, gay, bisexual, transgender and intersex people aged 50 and over," *Ageing & society*, vol. 36, no. 9, pp. 1961–81, 2016.
- [66] W. Chen, B. Hall, L. Ling and A. Renzaho, "Pre-migration and post-migration factors associated with mental health in humanitarian migrants in Australia and the moderation effect of post-migration stressors: Findings from the first wave data of the BNLA cohort study," *Lancet Psychiatry*, vol. 4, no. 3, pp. 218–29, 2017.
- [67] Australian Bureau of Statistics, "Household and Family Projections, Australia, 2016 - 2041," 14 March 2019. [Online]. Available: <https://www.abs.gov.au/statistics/people/population/household-and-family-projections-australia/latest-release#:~:text=Family%20households%20are%20projected%20to,all%20Australian%20households%20in%202041..> [Accessed 14 September 2022].
- [68] D. De Vaus and L. Qu, "Demographics of living alone," The Australian Institute of Family Studies, Melbourne, 2015.
- [69] M. Flood, "Mapping Loneliness in Australia," The Australia Institute, Canberra, 2005.
- [70] W. Lauder, S. Sharkey and K. Mummary, "A community survey of loneliness," *Journal of Advanced Nursing*, vol. 46, pp. 88–94, 2004.
- [71] Relationships Australia, "Issues and concerns for Australian relationships today: Relationships Indicators Survey 2011," Relationships Australia, Canberra, 2011.
- [72] M. Lim, R. Eres and S. Vasan, "Understanding loneliness in the twenty-first century: an update on correlates, risk factors, and potential solutions," *Social Psychiatry and Psychiatric Epidemiology*, vol. 55, pp. 793–810, 2020.
- [73] G. Bellucci, "Positive attitudes and negative expectations in lonely individuals," *Scientific Reports*, vol. 10, no. 1, pp. 1–9, 2020.
- [74] M. Wittenberg and H. Reis, "Loneliness, Social Skills, and Social Perception," *Personality and Social Psychology Bulletin*, vol. 12, no. 1, pp. 121–130, 1986.
- [75] X. Feng and T. Astell-Burt, "1 in 4 Australians is lonely. Quality green spaces in our cities offer a solution," 17 August 2022. [Online]. Available: <https://theconversation.com/1-in-4-australians-is-lonely-quality-green-spaces-in-our-cities-offer-a-solution-188007>. [Accessed 28 September 2022].
- [76] T. Astell-Burt, T. Hartig, S. Eckermann, M. Nieuwenhuijsen, A. McMunn, H. Frumkin and X. Feng, "More green, less lonely? A longitudinal cohort study. *International journal of epidemiology*," *International journal of epidemiology*, vol. 51, no. 1, pp. 99–110, 2022.
- [77] T. Astell-Burt, T. Hartig, I. Putra, R. Walsan, T. Dendup and X. Feng (2022), "Green space and loneliness: a systematic review with theoretical and methodological guidance for future research," *Science of the Total Environment*, vol. 22: 157521.
- [78] A. Franklin, "On Loneliness," *Geografiska Annaler. Series B, Human Geography*, vol. 91, pp. 343–54, 2009.
- [79] M. Hunt, R. Marx, C. Lipson and J. Young, "No more FOMO: Limiting social media decreases loneliness and depression," *Journal of Social and Clinical Psychology*, vol. 37, no. 10, pp. 751–768, 2018.
- [80] L. Lou, Z. Yan, A. Nickerson and R. McMorris, "An examination of the reciprocal relationship of loneliness and Facebook use among first-year college students," *Journal of Educational Computing Research*, vol. 46, no. 1, pp. 105–117, 2012.
- [81] L. Thomas, E. Orme and F. Kerrigan, "Student loneliness: The role of social media through life transitions," *Computers & Education*, vol. 146, p. 103754, 2020.
- [82] C. Victor and K. Yang, "The prevalence of loneliness among adults: a case study of the United Kingdom," *The Journal of psychology*, vol. 146, no. 1–2, pp. 85–104, 2012.
- [83] M. Macdonald and A. Kulakiewicz, "Tackling loneliness," House of Commons Library UK Parliament, 2021.

- [84] R. Armont, "Lending an ear to end loneliness in Japan," SBS Dateline, 14 June 2022. [Online]. Available: <https://www.sbs.com.au/news/dateline/article/lending-an-ear-to-end-loneliness-in-japan/Ourfepoes>. [Accessed 15 September 2022].
- [85] J. Cohen-Mansfield and R. Perach, "Interventions for alleviating loneliness among older persons: a critical review," *American Journal of Health Promotion*, vol. 29, no. 3, pp. e109–e125, 2015.
- [86] A. Foster, J. Thompson, E. Holding, S. Ariss, C. Mukuria, R. Jacques, R. Akparido and A. Haywood, "Impact of social prescribing to address loneliness: A mixed methods evaluation of a national social prescribing programme," *Health & Social Care*, vol. 29, no. 5, pp. 1439–1449, 2021.
- [87] NSW Government, "FACT SHEET: Community Greening," 3 Feb 2021. [Online]. Available: https://facs-web.squiz.cloud/_data/assets/pdf_file/0019/801541/Community-Greening-Program-Factsheet.pdf. [Accessed 8 September 2022].
- [88] J. Kingsley, E. Foenander and A. Bailey, " "You feel like you're part of something bigger": exploring motivations for community garden participation in Melbourne, Australia," *BMC Public Health*, vol. 19, no. 1, pp. 1–12, 2019.
- [89] M. Leavell, J. Leiferman, M. Gascon, F. Braddick, J. Gonzalez and J. Litt, "Nature-based social prescribing in urban settings to improve social connectedness and mental well-being: a review," *Current Environmental Health Reports*, vol. 6, no. 4, pp. 297–308, 2019.
- [90] K. Chiang, H. Chu, H. Chang, M. Chung, C. Chen, H. Chiou and K. Chou, "The effects of reminiscence therapy on psychological well-being, depression, and loneliness among the institutionalized aged," *International Journal of Geriatric Psychiatry*, vol. 25, p. 380–388, 2009.
- [91] R. Williams, B. Hagerty, S. Yousha, J. Horrocks, K. Hoyle and D. Liu, "Psychosocial effects of the boot strap intervention in Navy recruits," *Military Medicine*, vol. 169, pp. 814–820, 2004.
- [92] R. Besse, W. Whitaker, L. Brannon and 2022., "Psychological Reports," *Reducing loneliness: The impact of mindfulness, social cognitions, and coping*, vol. 125, no. 3, pp. 1289–1304, 2022.
- [93] M. Bessaha, E. Sabbath and Z. Morris, "A Systematic Review of Loneliness Interventions Among Non-elderly Adults," *Clin Soc Work J*, vol. 48, pp. 110–125, 2020.
- [94] D. Ramo and M. H. Lim, "Technology Matters: Using apps to address loneliness in adolescents and young adults—leveraging tech engagement among digital natives," *Child and Adolescent Mental Health*, vol. 26, no. 2, pp. 186–188, 2021.
- [95] Department of Health, "National Mental Health and Suicide Prevention Plan," Australian Government, 2021.
- [96] Headspace, "Over half of young Australians are lonely says new research," 2021 June 2021. [Online]. Available: <https://headspace.org.au/our-organisation/media-releases/over-half-of-young-australians-are-lonely-says-new-research/>. [Accessed 28 September 2022].
- [97] M. H. Lim, T. L. Rodebaugh, R. Eres, K. M. Long, D. L. Penn and J. F. Gleeson, "A pilot digital intervention targeting loneliness in youth mental health," *Frontiers in Psychiatry*, vol. 10, p. 604, 2019.
- [98] Australian Communications and Media Authority, "Trends in online behaviour and technology usage ACMA consumer survey 2020," ACMA, 2020.
- [99] KPMG, "Report," vol. 1, no. 12, 2022.
- [100] J. Cacioppo and W. Patrick, *Loneliness: Human Nature and the Need for Social Connection*, New York: W.W. Norton & Company, 2008.
- [101] Baker, "All the lonely people: loneliness in Australia," The Australia Institute, Canberra, 2012.
- [102] P. Qualter, L. Arseneault, M. Barreto, A. Fett, N. Hey, S. Johnson, K. Kharicha, T. Matthews, D. McDaid, E. Pearce, A. Pitman and C. Victor, "Tackling loneliness evidence review," The UK Government Department for Digital, Culture, Media and Sport, 2022.
- [103] P. Qualter, S. Brown and K. Rotenberg, "Trajectories of loneliness during childhood and adolescence: predictors and health outcomes," *J Adolesc*, vol. 36, no. 6, pp. 1283–93, 2013.
- [104] D. Mellor, M. Stokes and L. Firth, "Need for belonging, relationship satisfaction, loneliness, and life satisfaction," *Pers Individ Differ*, vol. 45, no. 3, pp. 213–18, 2008.
- [105] R. Atkins, G. Gage and T. Kelly, "Exploring expressions of depression in Black single mothers," *Issues Ment Health Nurs*, vol. 39, no. 11, pp. 935–45, 2018.
- [106] D. McDaid, A. Bauer and A. Park, "Making the economic case for investing in actions to prevent and/or tackle loneliness: a systematic review," London School of Economics and Political Science, 2017.

- [107] Productivity Commission, "Mental Health Inquiry Report," Australian Government, Canberra, 2020.
- [108] T. Fokkema and L. Kuyper, "The relation between social embeddedness and loneliness among older lesbian, gay, and bisexual adults in the Netherlands," *Arch Sex Behav*, vol. 38, no. 2, pp. 264–75, 2009.
- [109] "ECCV Glossary of Terms," Ethnic Communities Council of Victoria, 2012. [Online]. Available: <https://eccv.org.au/glossary-of-terms/>. [Accessed 1 September 2022].
- [110] H. Minas, R. Kakuma, L. Too, H. Vayani, S. Orapeleng, R. Prasad-Ildes and D. Oehm, "Mental health research and evaluation in multicultural Australia: Developing a culture of inclusion," *International Journal of Mental Health Systems*, vol. 7, no. 1, pp. 23–48, 2013.
- [111] Australian Bureau of Statistics, "Migration, Australia," 23 April 2021. [Online]. Available: <https://www.abs.gov.au/statistics/people/population/migration-australia/latest-release>. [Accessed 3 September 2022].
- [112] S. Leske, D. Crompton and K. Kölves, "Suicide in Queensland: Annual Report 2019," Australian Institute for Suicide Research and Prevention, Griffith University, Brisbane, Queensland, 2019.
- [113] Australian Communications and Media Authority, "Communications and media in Australia The digital lives of older australians," ACMA, Melbourne, 2021.
- [114] Australian Communications and Media Authority, "Communications and media in Australia The digital lives of younger australians," ACMA, Melbourne, 2021.
- [115] G. Reinhardt, D. Vidovic and C. Hammerton, "Understanding loneliness: a systematic review of the impact of social prescribing initiatives on loneliness.," *Perspectives in public health*, vol. 14, no. 4, pp. 204–213, 2021.
- [116] National Mental Health Commission, "Return on Investment: Prevention in mental health Educational interventions to reduce older persons' loneliness," Australian Government, 2019.
- [117] X. Feng and T. Astell-Burt, "Perceived qualities, visitation and felt benefits of preferred nature spaces during the COVID-19 pandemic in Australia: a nationally-representative cross-sectional study of 2940 adults," *Land*, vol. 11, no. 6, p. 904, 2022.

