From loneliness

to social connection

Charting a path to healthier societies

Report of the WHO Commission on Social Connection

World Health Organization | WHO Commission on Social Connection

From loneliness

to social connection

Charting a path to healthier societies

Report of the WHO Commission on Social Connection

World Health Organization | WHO Commission on Social Connection

From loneliness to social connection - charting a path to healthier societies: report of the WHO Commission on Social Connection

ISBN 978-92-4-011236-0 (electronic version)
ISBN 978-92-4-011237-7 (print version)

Contents

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Foreword

From loneliness to social connection – charting a path to healthier societies

The facts are undeniable: loneliness and social isolation are major public health challenges, and they must be addressed now. The report of the World Health Organization (WHO) Commission on Social Connection makes one thing clear: social connection is essential for the health, strength and resilience of individuals and societies. The data in this report demonstrate the urgent need for action. The consequences of social disconnection are severe – and the solutions are within our reach.

This is a critical moment, and we cannot afford to wait. Social disconnection affects people of all ages and all backgrounds in every region. From mental health issues such as depression and anxiety to physical conditions such as heart disease and stroke to early death, the impact of loneliness is profound. Yet, it is often overlooked, despite being just as damaging as other well known public health risks.

We're proud to present this landmark report. It draws on decades of research, expertise and collaboration by leaders and people with lived experience around the world, who all recognize that social connection is a key to a healthy, prosperous future. This report emphasizes a fundamental truth: our ability to thrive, both as individuals and as nations, depends on our ability to connect with others. When we build relationships and nurture trust, we build stronger, more resilient societies.

Make no mistake – connection is not just a nice idea. It is fundamental. It strengthens communities, fosters cooperation and creates opportunities. Without connection, we will not succeed in solving the problems facing us today – whether they are public health, economic growth or social stability.

Alongside rigorous data and public health recommendations, we are also motivated by something profoundly simple: the knowledge that a smile, a kind word or a meaningful conversation can make life better. These small acts of connection are powerful tools – not just for individuals but for improving our societies.

This is a moment of real opportunity. Tackling loneliness and isolation requires bold action. It calls for leadership in all sectors – government, business, community and the private sector. The potential for change is enormous. By focusing on connection, we can create communities in which everyone has a sense of belonging and purpose, relationships are valued and people live with dignity.

It will take determination, investment and hard work, but the results will be worth it. We are at a crossroads. The time for complacency has passed. Now is the time to take action: now is the time to make connection a priority.

Together, we will succeed.
WHO Commission on Social Connection *(1)*

Co-chairs of the Commission:

Ms Chido Mpemba

Dr Vivek Murthy

Commissioners:

Dr Karen DeSalvo

Mr Jakob Forssmed

Ms Haben Girma

Ms Hina Jilani

Dr Cleopa Mailu

Ms Junko Mihara

Mr Ralph Regenvanu

Dr Ximena Aguilera

Mr Amine Tehraoui

Preface

In the timeless words of the WHO Constitution, health is not merely the absence of disease, but a state of complete physical, mental, and social well-being. And yet the social dimension of health is often overlooked.

This report from the WHO Commission on Social Connection brings long-overdue attention to a critical but under-recognized public health challenge: social disconnection. While social isolation and loneliness are often thought of as individual struggles, this new report shows their impacts extend to communities and societies. Social disconnection presents a serious threat to global health, contributing to increased risks of disease, early death, and poorer mental health, along with significant social and economic costs. Rapid social, demographic, and technological changes are reshaping how we live, work, and relate to one another - in many cases exacerbating a growing crisis of social disconnection. Nearly one in six people around the world experiences loneliness.

This report serves as both a wake-up call and a roadmap for progress. It demonstrates how the harms of social disconnection can be prevented, and provides evidence-based, practical ways to address the problem. By addressing policy and research gaps, offering targeted interventions, strengthening community infrastructure, improving measurement, and fostering collaboration across networks and coalitions, it provides a roadmap for countries and communities to take action.

In recognition of the scale and urgency of this issue, the World Health Assembly adopted the first resolution on social connection in May 2025—affirming that social connection is vital to public health and committing to coordinated action.

WHO welcomes this landmark report and commends the commissioners for their leadership. Their work speaks to the truth that human connection is a necessity, and must be embedded in how we plan cities, design services, leverage technology, and shape our social policies.

As we confront complex global challenges—including ageing populations, mental health disorders, rising inequalities and the social impacts of digital life—strengthening social connection must be part of the solution. By acting now, we can build societies where everyone can feel seen, supported, and meaningfully connected.

I urge leaders across all sectors to recognize social connection not only as a public health priority, but as a foundation for a healthier, more inclusive, and more resilient world.

Dr Tedros Adhanom Ghebreyesus
Director-General
World Health Organization

Acknowledgements

References

1. WHO Commission on Social Connection [website]. Geneva: World Health Organization; 2025 (https://www.who.int/groups/commission-on-social-connection).

2. Herz M, Lalander P. Being alone or becoming lonely? The complexity of portraying 'unaccompanied children' as being alone in Sweden. J Youth Stud. 2017;20:1062–76 (https://doi.org/10.1080/13676261.2017.1306037).

3. Akhter-Khan SC, Drewelies J, Wai KM. Coping with loneliness in southern Myanmar. Asian Anthropol. 2022;21:254–62 (https://doi.org/10.1080/1683478X.2022.2115623).

Abbreviations

AI	artificial intelligence
CBT	cognitive behavioural therapy
COVID-19	coronavirus disease 2019
CVD	cardiovascular disease
ICT	information and communication technology
LGBTIQ+	lesbian, gay, bisexual, transgender, intersex, queer (or sometimes questioning) and others
RCT	randomized controlled trial
UCLA	University of California at Los Angeles
UI	uncertainty interval
WHO	World Health Organization

Glossary

Activities of daily living	A term used to describe the fundamental skills necessary to care for oneself independently, such as eating, bathing and mobility *(1)*.
Blue infrastructure	The natural or man-made bodies of water in a city that slow runoff by providing temporary storage, emit long-wave radiation to cool surfaces and absorb short-wave radiation and release it by evaporation *(2)*.
Cognitive behavioural therapy (CBT)	A psychotherapeutic treatment to help people to identify and change destructive or disturbing thought patterns that have a negative influence on their behaviour and emotions *(3)*.
Green infrastructure	Human-made (or -influenced) infrastructure installed to ease environmental pressures such as flooding and extreme temperature fluctuations. Includes assets such as networks of public open spaces, urban tree canopies, wetlands (natural or constructed), biofiltration systems, green walls and green roofs *(4)*.
Health	A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity *(5)*.

Lived experience	All aspects of what a person has undergone and learnt during their history and their perspectives and identity. It is distinct from professional or educational experience. Lived experience should be seen as a valuable asset, as it is a form of expertise that can improve societal systems, research, policies and programmes. In this document, the term "people with lived experience" reflects the expertise gained through experience of loneliness, social isolation or social connection *(6)*.
Psychoeducation	Systematic provision of relevant, broad, up-to-date information about an illness or condition, including its diagnosis and treatment *(7)*.
Social capital	The resources to which individuals and groups have access through their social networks *(8)*.
Social cohesion	Vertical and horizontal interactions among members of society characterized by attitudes and norms that include trust, a sense of belonging and willingness to participate and help and their behavioural manifestations *(9)*.
Social determinants of health	Non-medical factors that affect health outcomes, including the conditions in which people are born, grow, work, live and age. Also include the broader forces and systems that shape everyday living conditions *(10)*.
Social exclusion	A complex, multi-dimensional process involving lack or denial of resources, rights, goods and services and inability to participate in the normal relationships and activities that are available to the majority of people in a society, in economic, social, cultural and political spheres *(11)*.
Social health	Adequate quantity and quality of relationships in a particular context to meet an individual's need for meaningful human connection *(12)*.
Social inclusion	The process of improving the terms on which individuals and groups take part in society, with an emphasis on enhancing opportunities and access to resources and rights among groups who are disadvantaged and at risk of poverty and social exclusion *(13)*.
Social infrastructure	The policies, services, resources and related public spaces to which people have access that enable them to participate fully in social, civic and economic life without barriers *(14)*.
Social negativity	Behaviours directed at a recipient that are perceived as aversive or unwanted; not simply negative feelings about another person *(15)*.
Social network	The patterns of social ties among a group of actors, which may consist of individuals, organizations, groups or other salient social units *(8)*.
Social participation	A person's involvement in activities that include interaction with others in the society or community *(16)*.
Social support	The actual or perceived availability of resources (e.g. informational, tangible, emotional) from others; typically, one's social network *(17)*.
Social trust	An individual's expectation of positive intent and benevolence from the actions of other people and groups *(18)*.

References

1. Katz S. Assessing self-maintenance: activities of daily living, mobility, and instrumental activities of daily living. J Am Geriatr Soc. 1983;31:721–7. https://doi.org/10.1111/j.1532-5415.1983.tb03391.x.

2. Almaaitah T, Appleby M, Rosenblat H, Drake J, Joksimovic D. The potential of blue-green infrastructure as a climate change adaptation strategy: a systematic literature review. Blue-Green Syst. 2021;3:223–48. https://doi.org/10.2166/bgs.2021.016.

3. Hofmann SG, Asnaani A, Vonk IJ, Sawyer AT, Fang A. The efficacy of cognitive behavioral therapy: a review of meta-analyses. Cognit Ther Res. 2012;36:427–40. https://doi.org/10.1007/s10608-012-9476-1.

4. Parker J, de Baro ME. Green infrastructure in the urban environment: a systematic quantitative review. Sustainability. 2019;11(11):3182. https://doi.org/10.3390/su11113182.

5. Constitution of the World Health Organization. Geneva: World Health Organization; 1948 (https://www.who.int/about/governance/constitution).

6. European regional status report on preventing violence against children 2020. Copenhagen: WHO Regional Office for Europe; 2021. https://iris.who.int/handle/10665/341048. Licence: CC BY-NC-SA 3.0 IGO.

7. Motlova LB, Balon R, Beresin EV, Brenner AM, Coverdale JH, Guerrero AP et al. Psychoeducation as an opportunity for patients, psychiatrists, and psychiatric educators: Why do we ignore it? Acad Psychiatry. 2017;41:447–51. https://doi.org/10.1007/s40596-017-0728-y.

8. Moore S, Kawachi I. Twenty years of social capital and health research: a glossary. J Epidemiol Community Health. 2017;71:513–7. https://doi.org/10.1136/jech-2016-208313.

9. Chan J, To HP, Chan E. Reconsidering social cohesion: developing a definition and analytical framework for empirical research. Soc Indic Res. 2006;75:273–302. https://doi.org/10.1007/s11205-005-2118-1.

10. Social determinants of health [website]. Geneva: World Health Organization; 2025 (https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1).

11. Levitas R, Pantazis C, Fahmy E, Gordon D, Lloyd-Reichling E, Patsios D. The multi-dimensional analysis of social exclusion. Bristol: University of Bristol; 2007 (https://repository.uel.ac.uk/item/8666q).

12. Doyle DM, Link BG. On social health: history, conceptualization, and population patterning. Health Psychol Rev. 2024;18:619–48. https://doi.org/10.1080/17437199.2024.2314506.

13. Sones M, Firth CL, Fuller D, Holden M, Kestens Y, Winters M. Situating social connectedness in healthy cities: a conceptual primer for research and policy. Cities Health. 2022;6(3):1–14 (https://doi.org/10.1080/23748834.2021.1926657).

14. World report on social determinants of health equity. Geneva: World Health Organization 2025 (https://iris.who.int/handle/10665/381152). Licence: CC BY-NC-SA 3.0 IGO.

15. Brooks KP, Dunkel Schetter C. Social negativity and health: conceptual and measurement issues. Soc Personality Psychol Compass. 2011;5:904–18. https://doi.org/10.1111/j.1751-9004.2011.00395.x.

16. Levasseur M, Richard L, Gauvin L, Raymond É. Inventory and analysis of definitions of social participation found in the aging literature: proposed taxonomy of social activities. Soc Sci Med. 2010;71:2141–9. https://doi.org/10.1016/j.socscimed.2010.09.041.

17. Social isolation and loneliness in older adults: opportunities for the health care system. Washington, DC: National Academies Press; 2020. https://doi.org/10.17226/25663.

18. Our epidemic of loneliness and isolation: The US Surgeon General's Advisory on the healing effects of social connection and community. Washington, DC: US Department of Health and Human Services; 2023 (https://pubmed.ncbi.nlm.nih.gov/37792968/).

Executive summary

Social health is a vital but often overlooked pillar of health: It is just as essential as physical and mental health. Social connection can reduce the risk of disease, lengthen life expectancy and strengthen the fabric of communities and society. Social connection enhances life, giving us meaning and a sense of belonging.

Health is, according to the WHO Constitution, "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". Social health is not an optional extra. It is integral to health. At its core is the power of social connection, an important and – until recently – neglected determinant of physical and mental health.

Yet, today, social disconnection is widespread. Loneliness affects nearly one in six people globally (2014–2023) and causes about 871 000 deaths annually (2014–2019). This has probably been the case for years, but the coronavirus disease 2019 (COVID-19) pandemic and growing concern about digital technology have brought more attention to the issue, including from governments.

This report has three key messages. 1) Social disconnection is widespread, in all regions and all age groups. 2) Its consequences are severe and underrecognized, impacting mortality, physical and mental health, well-being, education, the economy and wider society. Its widespread occurrence and its severe consequences make it a serious global public health issue. 3) But, there is hope. Effective strategies to foster social connection exist and should be scaled up.

The report of the WHO Commission on Social Connection was prepared by the 11 Commissioners, supported by the WHO Secretariat, which in turn was guided by the WHO Technical Advisory Group on Social Connection.

The first part of the report describes the problem. It defines social connection, social isolation and loneliness and summarizes current evidence on their scale, impacts and drivers. The second part addresses solutions. It presents the most effective strategies for strengthening social connection and mitigating social isolation and loneliness. The report concludes with five strategic areas for action – policy, research, interventions, measurement and data, and engagement.

The problem

Key concepts

Clear definitions of social connection, social isolation and loneliness are achieving consensus. Social connection refers to how people relate to and interact with others. Social isolation, a form of social disconnection, is the objective state of having few roles, relationships and social interactions with others. Loneliness, another form of social disconnection, is a negative, subjective emotional state resulting from a discrepancy between one's desired and actual experience of connection. How these concepts differ among cultures and along the life course is beginning to be explored.

Scale

Between 2014 and 2023, an estimated 16% of people worldwide – one in six – experienced loneliness. It affects all ages and regions but is most common among adolescents and young adults (20.9% among 13–17-year-olds and 17.4% among 18–29-year-olds) and decreases with age. It is also more common in low-income countries, where nearly one in four people (24%) report feeling lonely. The highest rates are found in the WHO African Region (24%), followed by the Eastern Mediterranean (21%), and the South-East Asia (18%) regions. The European Region has the lowest rate, at about 10%. Data on social isolation – which differs from loneliness – are more limited; however, estimates suggest that 25–34% of older people are socially isolated (1990–2022). About 72% of people of all ages say they feel fairly or very connected to others. Marginalized groups – such as people with disabilities, lesbian, gay, bisexual, transgender, intersex, queer (or sometimes questioning) and others (LGBTIQ+) individuals and migrants – are more likely to experience loneliness and isolation than other groups. Previous data are too limited to determine whether the rates of social isolation and loneliness have risen or fallen.

Drivers

Many factors, such as modernity, industrialization, technological change and secularization, are blamed for what is often assumed be an increase in social isolation and loneliness, but most remain unproven. What we do know is that certain factors increase the risk of individuals experiencing social disconnection. These include poor physical or mental health (especially depression), personality traits such as neuroticism, being without a partner or unmarried, living alone and features of the built environment such as poor access to public transport. The impact of digital technology is still unclear, but experts urge caution, particularly to protect the mental health and well-being of young people.

Impacts

Social connection is an underrecognized factor in individual and societal health and well-being. It mitigates many serious risks, improves outcomes and may extend

the lifespan. Social isolation and loneliness have serious impacts on mortality, physical health (e.g. cardiovascular disease and type 2 diabetes), mental health (e.g. depression and anxiety) and society (e.g. education, employment, economic growth, innovation). New estimates suggest that loneliness accounts for approximately 871 000 deaths each year (2014–2019). The economic costs to employers, health care and individuals are significant and are only beginning to be estimated.

Solutions

Advocacy, campaigns, networks and coalitions

Advocacy, public campaigns, networks and coalitions are increasingly used to promote social connection in society. While evidence of their effectiveness is still limited, these approaches can raise awareness, mobilize support, build constituencies, strengthen policy and shift public attitudes and behaviour. Networks and coalitions also help to coordinate activities and advocate for effective interventions. A recent global stakeholder mapping exercise identified nearly 200 organizations that work specifically on social connection. It also found, however, that local, national and global networks are underdeveloped. Institutions should have clear strategies and incentives to foster collaboration and support the formation of political coalitions, especially beyond the health sector.

Policies

Policies have immense potential to improve social connection. A promising recent development is that eight Member States – all high-income countries – have adopted policies on this topic: Denmark, Germany, Japan, Finland, Netherlands (Kingdom of the), Sweden, the United Kingdom (England, Scotland and Wales) and the United States of America (USA). Most of the policies address loneliness. Common recommendations include promoting a whole-of-society approach, strengthening the evidence base, increasing public awareness to reduce stigma and fostering cross-sectoral collaboration.

Community strategies

Communities are the heart of social connection: they are where people live, work, learn, play and age. Community strategies can create more chances for people to connect. One approach is to strengthen social infrastructure, such as libraries, parks, transport and social services, even when connection is not their primary aim. This includes designing public spaces to bring people together, ensuring fair access for all, investing in community programmes and involving communities in planning and decisions. Related strategies include improving the built environment, supporting community groups and linking people to non-clinical community services to improve their health and well-being.

Individual and relationship strategies

Evidence of the effectiveness of interventions for social isolation and loneliness is increasing rapidly, with most interventions addressing individual and relationship strategies. Psychological approaches show the most promise. What works differs by population, and more research should be conducted on specific groups. Digital technology, including artificial intelligence (AI) and virtual reality, may help, but its effectiveness and risks require further study.

Key research gaps in finding solutions include lack of rigorous evaluation of policies, limited high-quality studies on community interventions, particularly in low- and middle-income countries, and insufficient evidence on approaches to promote social connection at individual and relationship levels.

The way forward – five strategic areas

The WHO Commission on Social Connection proposed three priority actions in each of five areas – policy, research, interventions, measurement and data, and engagement:

- **Policy:** support national policy development, strengthen policy leadership and facilitate knowledge exchange among countries as well as across sectors.

- **Research:** build research capacity, set and fund research priorities and launch a Grand Challenges initiative to answer critical scientific questions.

- **Interventions:** develop guidance, create an "intervention accelerator" to develop and scale up effective solutions and support their implementation in countries.

- **Measurement and data:** strengthen national monitoring, develop a global index of social connection and collect more and better data globally.

- **Engagement:** prioritize social connection on global agendas, raise awareness through campaigns and a unified narrative and build a movement.

The Commissioners are confident that these actions, implemented on a large scale, will positively transform the lives of individuals, communities and whole societies. They will increase mental and physical well-being, prevent deaths, improve educational and economic outcomes and ease the heavy costs of social disconnection. By strengthening social connection worldwide, resources will be freed for a healthier, more productive, more meaningful future.

Introduction

The World Health Organization (WHO) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" *(1)*. This report addresses social health, an essential but often overlooked pillar of health. At the core of social health is social connection, which is the focus of this report and the work of the WHO Commission on Social Connection.

Why social connection matters

Social health is as important as physical and mental health *(2, 3)*. Just as there is no health without physical or mental health, there is no health without social health. All three dimensions of health are strongly interdependent. Social disconnection, as shown in Chapter 2 of the report, has serious impacts on mortality, physical and mental health and on social and economic outcomes.

Humanity's inherently social nature has been a central topic throughout history. Aristotle famously declared, "Man is by nature a social animal". One way in which the African relational and communitarian ethic of *Ubuntu* is sometimes summed up is "A person is a person through other people" *(4)*. In western Europe and north America, communitarian thinkers have challenged an overly individualistic view of humans as self-sufficient and separate from society, arguing that humans are largely shaped by social relations that are prior to and constitute them *(5)*.

Scientific research, particularly in psychology and evolutionary science, supports these views. Attachment theory in psychology and emerging fields such as interpersonal neuroscience have shown that brain development, neural processes and mental health are shaped by social connections, including caregiver–infant relations, throughout the child's lifetime *(6–8)*.

The effects of social disconnection on morbidity and mortality have deep evolutionary origins, which reach further down the phylogenetic tree than our immediate ancestors. This indicates just how fundamental social connection is to human beings. Social isolation and weak social bonds adversely affect the health and survival of both humans and other social animals, including primates, rodents and ungulates *(9)*. Evidence from studies of human evolution indicates that the need for social connection and cooperation within increasingly complex groups has driven the development of larger brains, language and advanced cognitive abilities *(10)*.

Why has the Commission issued a report on social connection?

The COVID-19 pandemic and attendant restrictions brought home to many the critical importance of social relations. Additionally, we are in a time of unprecedented technological transformation. Digital technology, social media and artificial intelligence (AI) are reaching into every aspect of our lives and reshaping them – both individually and as societies – raising serious concerns about their impact on social connections and mental health, addressed in Chapter 3. Several governments have begun prioritizing social connection, as discussed in Chapter 6.

Furthermore, scientific evidence on the effects of social connection on mortality and on mental and physical health has been accumulating rapidly in the past 10 or 15 years *(2, 11, 12)*. This growing focus on social connection has occurred against the backdrop of several long-term historical trends that began with the rise of modernity. Factors such as industrialization, urbanization, increased solitary living, technological advancements (e.g. trains, cars, radio, television), secularization and colonialism are hypothesized to have contributed to weakening close-knit, organic communities, contributing to greater social isolation and loneliness.

Aims and structure

The messages that this report seeks to convey are that social isolation and loneliness – forms of social disconnection – are widespread; they have severe, under-recognized health, social and economic consequences; and that scalable solutions to foster social connection and reduce disconnection are available. There is a compelling case for urgent action, and matching resources, commensurate with the scale and severity of the problem.

The three main aims of this report are to:

- summarize the science on the nature, scale, drivers and impacts of social connection, social isolation and loneliness;

- review effective strategies, including advocacy, campaigns, networks and coalitions; policies; community strategies; and individual and relationship strategies; and

- propose a 10-year agenda for action, outlining concrete steps to foster social connection globally.

Additional aims are to:

- position social connection as a global public health issue that affects all age groups and regions, not just older people in high-income countries;

- balance the focus from reducing social isolation and loneliness to also actively promoting social connection; and

- show that recent scientific advances provide enough knowledge to take action now.

This report is directed to policy-makers, practitioners, researchers, development agencies, members of the private sector and civil society.

Chapters 1–4 provide a foundation by defining social connection, social isolation and loneliness (Chapter 1); describing their scale and time trends (Chapter 2); exploring their drivers (Chapter 3); and analysing their impacts on mortality, health and social and economic outcomes (Chapter 4).

Chapters 5–8 review strategies to promote social connection and address social isolation and loneliness, including advocacy, campaigns, networks and coalitions (Chapter 5); national policies (Chapter 6); community strategies (Chapter 7); and individual and relationship strategies (Chapter 8).

Chapter 9 proposes a way forward consisting of five strategic areas for action: policy, research, interventions, measurement and data, and engagement.

Development of the report

This report is based on rigorous research, expert guidance and real-world experiences. It draws on:

- four background papers:

    - global and regional estimates of the prevalence of loneliness and of mortality due to loneliness (the first of their kind);
    - a global review of policy documents;
    - prioritization of research and action in this field; and
    - network mapping and analysis;

- high-quality evidence, prioritizing systematic reviews, meta-analyses and large-scale multi-country studies;

- the expertise of the WHO Technical Advisory Group on Social Connection, composed of 20 leading global experts;

- WHO initiatives and policy documents; and

- 64 people's lived experience of social connection, social isolation and loneliness.

The report underwent comprehensive, stringent peer review, internal and external to WHO.

Moving forward
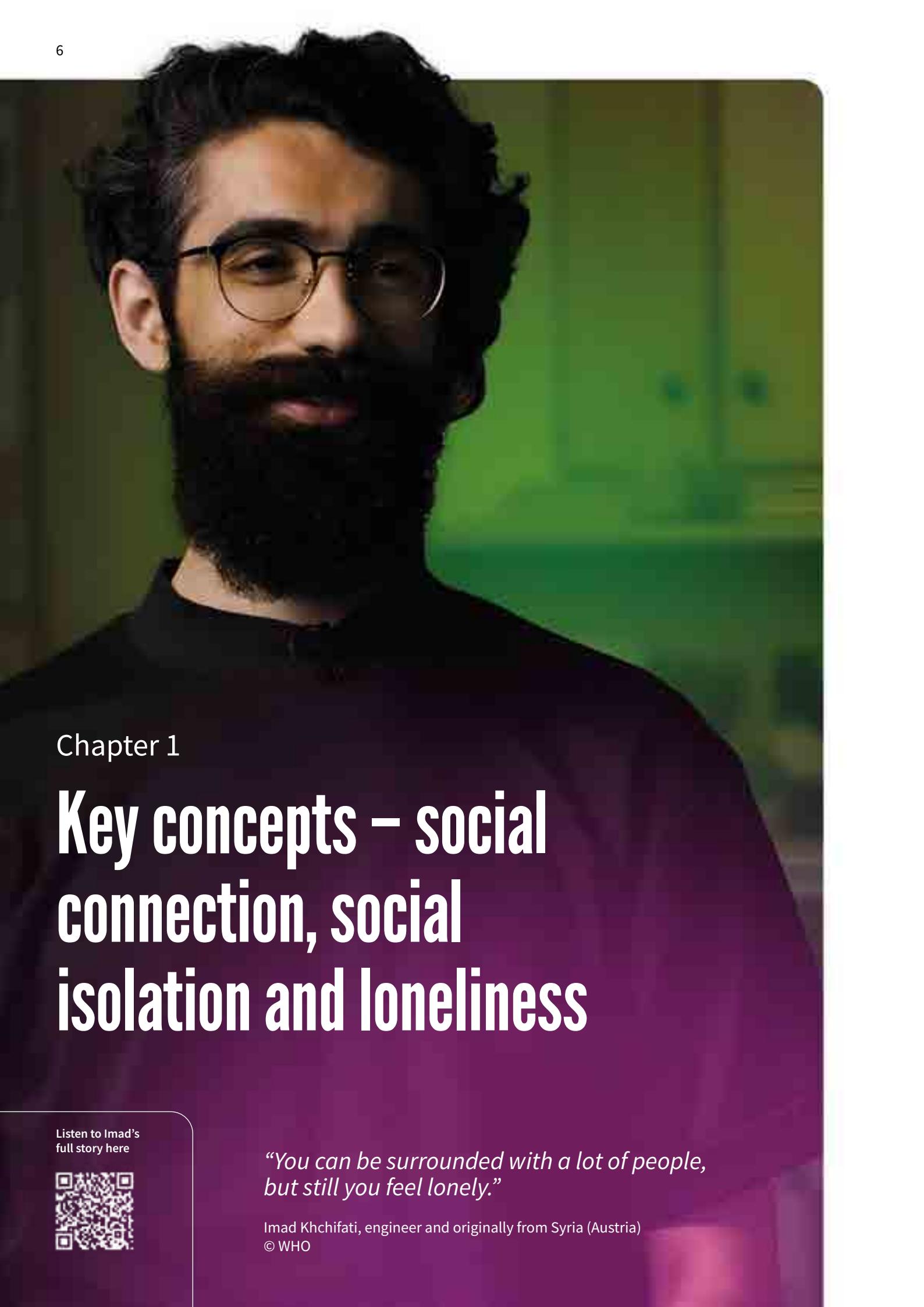
This report by the WHO Commission on Social Connection presents the most recent evidence on social health – covering social connection, isolation and loneliness. It proposes a clear agenda for action and calls on policy-makers, researchers and stakeholders worldwide to treat social health with the same urgency as physical and mental health. It recommends mobilization of the necessary resources and scaling up the proposed solutions globally to strengthen social connection and reduce social isolation and loneliness.

The aspiration of the Commissioners is that this report will contribute to concrete actions at all levels and in all sectors to improve physical and mental well-being, prevent deaths and improve educational and economic outcomes. It will also ease the financial strain that social isolation and loneliness place on individuals and societies, freeing resources for more productive and meaningful purposes.

Furthermore, it will support the integration of social connection into health and development agendas, including the Agenda 2030 Sustainable Development Goals.

References

1.   Constitution of the World Health Organization. Geneva: World Health Organization; 1948 (https://www.who.int/about/governance/constitution).

2.   Doyle DM, Link BG. On social health: history, conceptualization, and population patterning. Health Psychol Rev. 2024;18:619–48 (https://doi.org/10.1080/17437199.2024.2314506).

3.   Pietromonaco PR, Collins NL. Interpersonal mechanisms linking close relationships to health. Am Psychol. 2017;72:531–42 (https://doi.org/10.1037/amp0000129).

4.   Jecker NS. African ethics, respect for persons, and moral dissent. Theoria. 2022;88:666–78 (https://doi.org/10.1111/theo.12390).

5.   Bell D. Communitarianism. In: Stanford Encyclopedia of Philosophy. Stanford (CA): Metaphysics Research Lab, Stanford University; 2024 (https://plato.stanford.edu/archives/sum2024/entries/communitarianism/).

6.   Chen P, Hong W. Neural circuit mechanisms of social behavior. Neuron. 2018;98:16–30. (https://doi.org/10.1016/j.neuron.2018.02.026).

7.   Ilyka D, Johnson MH, Lloyd-Fox S. Infant social interactions and brain development: a systematic review. Neurosci Biobehav Rev. 2021;130:448–69 (https://doi.org/10.1016/j.neubiorev.2021.09.001).

8.   Optimizing brain health across the life course: WHO position paper. Geneva: World Health Organization; 2022 (https://iris.who.int/handle/10665/361251). Licence: CC BY-NC-SA 3.0 IGO.

9.   Snyder-Mackler N, Burger JR, Gaydosh L, Belsky DW, Noppert GA, Campos FA et al. Social determinants of health and survival in humans and other animals. Science. 2020;368:6493 (https://doi.org/10.1126/science.aax9553).

10.   Dunbar RIM. The social brain hypothesis. Evol Anthropol. 1998;6:178–90 (https://doi.org/10.1002/(SICI)1520-6505(1998)6:5<178::AID-EVAN5>3.0.CO;2-8).

11.   Holt-Lunstad J. Social connection as a public health issue: the evidence and a systemic framework for prioritizing the "social" in social determinants of health. Annu Rev Public Health. 2022;43:193–213 (https://doi.org/10.1146/annurev-publhealth-052020-110732).

12.   Social isolation and loneliness in older adults: opportunities for the health care system. Washington, DC: National Academies of Sciences, Engineering, and Medicine; 2020 (https://nap.nationalacademies.org/catalog/25663/social-isolation-and-loneliness-in-older-adults-opportunities-for-the).

Chapter 1

Key concepts – social connection, social isolation and loneliness

"You can be surrounded with a lot of people, but still you feel lonely."

Imad Khchifati, engineer and originally from Syria (Austria)
© WHO

"When I think about loneliness, I think about not having a person to depend on. I always feel isolated because I don't think I have people that understand me."

Macy Maboi, single mother and pre-school teacher (South Africa)
© WHO

Key messages

- **Clear definitions of social connection, social isolation and loneliness – the three key concepts at the heart of this report – have recently become well established in the field.**

- **"Social connection" is an umbrella term describing the three dimensions – structural, functional and quality – of how people relate to and interact with each other.**

- **Social isolation, a form of social disconnection, is the objective state of having few roles, relationships and social interactions with others.**

- **Loneliness, also a form of social disconnection, is a negative, subjective emotional state resulting from a discrepancy between one's desired and actual experiences of connection.**

- **Exploration of differences in these concepts across cultures and along the life-course has begun only recently. It is further advanced for loneliness.**

This chapter provides an overview of the concepts of social connection, social isolation and loneliness. Section 1.1 defines the three concepts and the relations among them. Section 1.2 summarizes what is known about how and why they differ by culture, and Section 1.3 summarizes differences along the life course.

Clear definitions and accurate measurement are crucial *(1–3)*. Without them, it is difficult to correctly identify people who are, for instance, lonely or socially isolated, understand the scale and distribution of the problem and specify its drivers. Misidentification can lead to ineffective interventions, as treatments may fail to address the actual causes, and study participants may not represent true cases. Furthermore, arriving at adequate definitions and measurement in a global context is challenging, as the concepts of interest may differ by country and culture *(4–6)*.
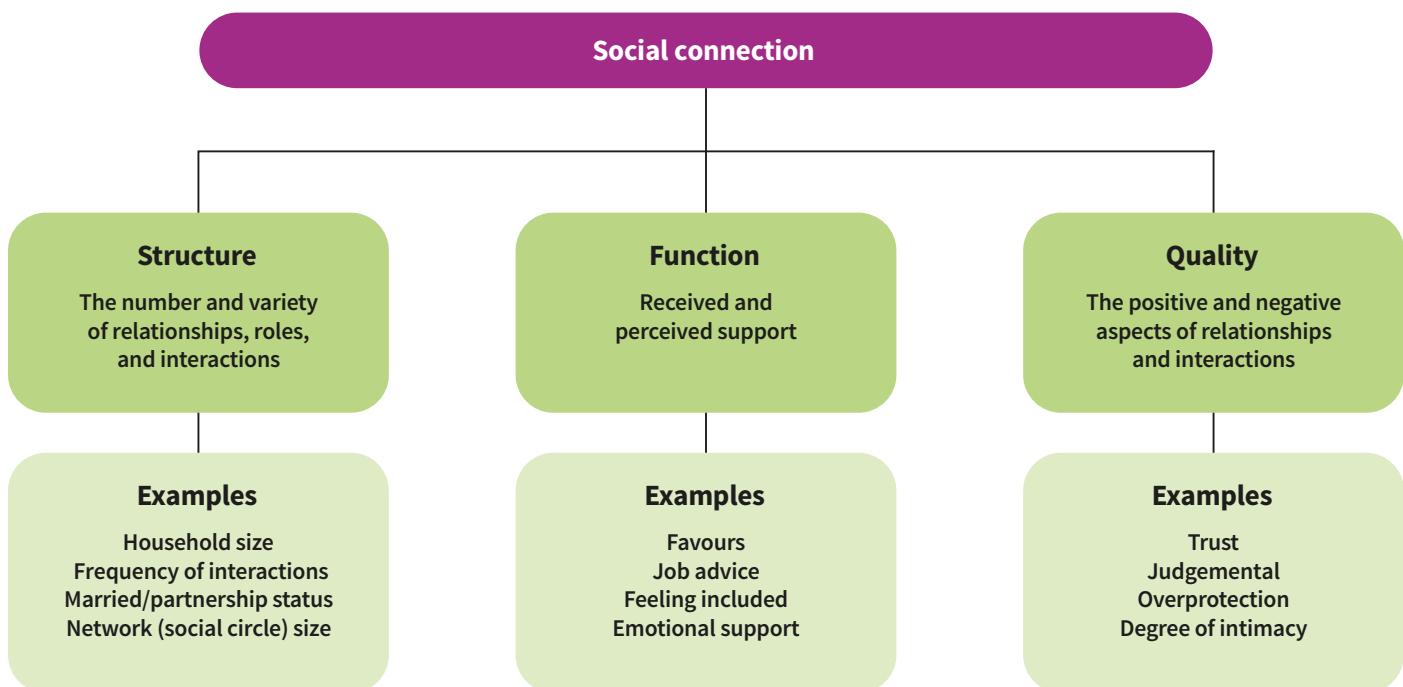
1.1 Defining social connection, social isolation and loneliness

Social connection: social connection is an umbrella term to describe how people relate to and interact with each other in three dimensions: structural, functional and quality (Fig. 1). These three dimensions can exist in both online and face-to-face interactions and can have objective and subjective aspects *(7–9)*.

- **Structural dimension:** the number and variety of relationships and roles a person has, as well as the frequency, duration and mode (e.g. face-to-face or online) of interactions. The structural dimension refers to the existence of and interconnections among different social relationships and roles, which compose a person's social network. It is, in a sense, the foundation for the other two dimensions *(10)*.

- **Functional dimension:** the extent to which support is received and perceived as available from relationships. A person's relationships can serve various purposes, including the provision of practical, financial, informational, emotional or "belonging" support.

- **Quality dimension:** the nature of the relationships and interactions, which may range from positive (e.g. loving, intimate and satisfying) to negative (e.g. strained, conflictual, judgemental or violent) or ambivalent.

Fig. 1.

Three dimensions of social connection

Source: Adapted from Holt-Lunstad *(11)*.

The umbrella term "social connection" encompasses many related but distinct terms. These include social cohesion, social participation, social negativity, social support, social capital and social trust – all of which are defined in the **Glossary**.

The structural, functional and quality dimensions of social connection are the relationships and roles a person has in their lives and whether they seem them as positive or negative. The three dimensions of social connection are distinct. For example, a broad social network (structural) does not guarantee that support needs will be met (functional) or that they will be positive (quality). Nevertheless, in practice, having many social connections creates more opportunities for support to be exchanged (functional) and for having high-quality social connections *(12, 13)*.

Everyone occupies a specific place in the three-dimensional space of social connection, depending on the structure, function and quality of their particular social connections. An individual's precise location in this space is sometimes referred to as "social connectedness" *(7, 14)*.

Social connection is not limited to face-to-face physical interactions. It also includes digital communications, such as social media and professional and community networks, which have become an everyday part of contemporary life. While digital interactions can be beneficial in some circumstances, evidence is beginning to be reported that excessive use of some types of digital communication can be seriously harmful (Box 2 in Chapter 3).

Social connection and disconnection are increasingly viewed as important but, until recently, largely neglected, social determinants of health *(15, 16)*. Social disconnection has, as shown in Chapter 4, serious impacts on mortality and physical and mental health. The US Centers for Disease Control and Prevention have identified social connection as one of the five priority social determinants of health *(17)*, and loneliness has been referred to as the "21st century social determinant of health" *(15)*. Social connection is also fundamental to achieving health according to WHO's definition – complete physical, mental and social well-being and not merely the absence of disease. At its core, social health depends on fostering and maintaining meaningful connections

Social disconnection: the opposite of social connection is the absence or deficit of social connection. It may result from a low standing in one or more of the three dimensions that make up social connection – structure, function and quality.

Social disconnection can take many forms, such as social isolation, loneliness, lack of social support, low social capital and social negativity. This report addresses the two forms of social disconnection – social isolation and loneliness – for which there is the most evidence.

Social isolation is defined by an objective lack of roles, relationships or interactions with others. It is characterized by a restricted social network (size and or density), group membership and infrequent social interactions, regardless of how an individual subjectively views their social life. Social isolation specifically reflects a deficit in the structural dimension of social connection and not the functional or quality dimensions. It is a concept that can be quantified and implies a threshold below which a person's social connections are considered inadequate *(7, 8, 18)*. Whether a threshold is required and determination of such a threshold are, however, matters of debate. The threshold probably varies over the life course by culture, mode of interaction (e.g. face-to-face or online), personality and levels of ability.

Loneliness is a subjective experience, which refers to a negative "emotional state" *(19)* arising from a discrepancy between one's desired and actual experience of social connection *(14, 20–24)*, which is influenced by social expectations *(25)*. Such a discrepancy can result from too few social connections, insufficient support from those connections or poor-quality interactions – linking loneliness to the structural, functional and quality dimensions of social connection. For example, a person may feel lonely despite having objectively high levels on one or more dimensions of social connection. Loneliness may not be experienced even when one or more of the dimensions of social connection is objectively low, such as when a person has a strained or conflictual relationship (low quality).

Loneliness differs from being alone – the objective absence of other people – and from solitude – the voluntary state of being alone to recuperate, relax, reflect, pursue artistic endeavours, meditate or engage in a spiritual practice *(18, 20, 22, 23, 26, 27)*. In some cultures, the term "involuntary" or "undesired" loneliness is used (section 1.2). In this report, loneliness is considered to be involuntary and undesired. Loneliness is often categorized by duration, as transient or chronic. Transient loneliness is a temporary response to life events, such as leaving home, the end of a relationship, job loss, retirement or bereavement *(23, 28)*. Chronic loneliness persists over a long period *(9, 23, 29)*, sometimes defined as 2 years or more *(30, 31)*. When transient loneliness becomes chronic is a matter of debate *(32)*.

From an evolutionary perspective, transient, but not chronic, loneliness is considered to be a heritable biological adaptation. It serves as an aversive state – like hunger, thirst and pain – that motivates individuals to reconnect with others *(26, 33, 34)*. Loneliness has been described as "double-edged" *(35)*: transient, short-term loneliness is adaptive, while longer-term, chronic loneliness is maladaptive and is associated with a range of serious health and other consequences (Chapter 4). Three types of loneliness are sometimes distinguished according to their source: emotional, social and existential *(20, 22, 23, 36)*.

An important aspect of loneliness is that it is often stigmatized. This is harmful in itself and also prevents people who feel lonely from seeking help. In relation to loneliness, social stigma refers to "a constellation of beliefs that derogate and devalue those who feel lonely, so as to encourage them to have appropriate standards for social connection and to fulfil those standards" *(37)*.

Differences between social connection, social isolation and loneliness: social connection is an umbrella concept that encompasses many other terms. Social isolation and loneliness are two forms, among several, of deficits in social connection. The three concepts are distinct, and the differences among them have important implications for measurement, intervention, policy and beyond *(10)*.

Reflections from lived experience: defining and disclosing social disconnection

Matthew

Living with bipolar disorder as a younger, non-binary queer person (Australia)

"I think it is important for people to understand you can be lonely and disconnected even when you are surrounded by people. This is a common experience for people living with psychosocial disabilities due to […] experiences of trauma but also stigma and discrimination."

Maria

Older woman living in Kibera, an informal settlement (Kenya)

"If I just see someone who wants to help me, tears just start rolling down my face. It's important not to be alone."

April

**Younger woman running
a loneliness charity**
(United Kingdom)

"Admitting I was lonely [was challenging], the shame was difficult to overcome – walking past people on a Saturday night having dinner together and thinking, 'I wish I could join them' and then feeling embarrassed."

Joe

**Doctoral health student
and LGBTIQ+, living with OCD**
(Australia)

"I think that the biggest barrier that I have experienced to getting support for loneliness and social isolation is the stigma that is associated with it. I found it easier to disclose my mental illness diagnosis than my experiences of loneliness."

Adel **(Not his real name)**

**Younger male refugee
from Uganda** (Sweden)

"I am all alone here in Sweden, but I am never alone here [points to his head]. My family is here all the time."

Social isolation and loneliness have been found to be only weakly correlated. Someone can be socially isolated (i.e. objectively have few relationships and interactions) but not feel lonely. Such a person may still, however, be at increased risk of poor health (Chapter 4).

Empirical studies show that the measures of loneliness, social isolation and living alone (one indicator of social isolation) have independent effects on mortality and health *(15, 38)*. "Thus, when we only measure one of these, we cannot assume that we are capturing the full scope of how social factors influence health" *(10)*. An intervention to address only one of these cannot be assumed to reduce the impact of the others.

To obtain a full picture of the effects of social connection and deficits in social connection on mortality, health and other outcomes and a comprehensive understanding of the underlying causes in order to develop effective strategies to address them (through, for instance, policies, interventions and strengthening the social infrastructure), the distinct contributions of each dimension of social connection, its structure, function and quality must be considered *(10)*.

It is also important to consider how the three key concepts of social connection, social isolation and loneliness differ by culture and during the life course.

1.2   Differences among cultures

"Culture" refers to a shared set of beliefs, norms, values and ways of behaving or living *(39)*. It connects communities through shared beliefs and practices, within or beyond geographical boundaries (e.g. diaspora cultures). Culture shapes all aspects of social connection, social isolation and loneliness. It influences how these concepts are defined (Chapter 1) and how they are measured and the prevalence at which they occur (Chapter 2). It shapes the drivers of social connection, social isolation and loneliness (Chapter 3) and their impacts (Chapter 4). Culture also influences the strategies used to address social connection, social isolation and loneliness (Chapters 5–8).

Differences in key concepts across cultures: The definitions of the three terms at the heart of this report, although developed mainly in Europe and North America, are presumed to apply broadly to all cultures *(22, 40–42)*. Detailed empirical work to demonstrate this premise, while still limited, nonetheless points to some differences.

For example, in French and Hausa, the same word is used for being alone voluntarily (solitude, in English) and the negative or aversive state of lacking desired social connections (loneliness, in English, as defined above). In other languages, however, such as English and Turkish, separate words are used to designate the two states *(43)*. Thus, the term used for loneliness in French and Hausa (which also covers the English

"solitude") only partly overlaps with the definition of the term used for loneliness in English or Turkish (which does not cover "solitude").

Such a lack of equivalence among cultures in definitions of what are ostensibly the same concepts can have a cascade of negative effects, such as those of inadequate definitions described at the beginning of this chapter. So, when examining social connection, social isolation and loneliness in a global context, it is critical to explore the cross-cultural equivalence of definitions empirically. Further, because social connection, social isolation and loneliness have become the object of scientific study only relatively recently, more formal scientific definitions of these terms may not yet have been developed in some languages.

A review of the understanding of loneliness in 24 studies in 15 low- and middle-income countries was conducted in 2024 *(40)*. Although many common features of loneliness were found, significant differences were detected. Loneliness was described as a subjective state in almost all the studies. The feature of loneliness described most frequently after that, in 10 (41.7%) studies, was a sense of rejection and feeling like an outsider, alienated, closed off, blamed or abandoned. The third most frequently described feature of loneliness, in eight (33.3%) studies, was a distinction between loneliness and being alone or solitude. Seven (29.2%) studies described loneliness as closely related to depression.

Fewer differences were found, however, in a review of studies in 10 high-income countries *(19).* In 21 of the 23 studies (91.3%), loneliness was described as involving negative interpersonal experiences, such as feeling left out, rejected, betrayed, ostracized or discriminated against, often on the basis of sexuality, race, ethnicity or immigration status. In 22 studies (95.7%), loneliness was described as involving feelings of disconnection, being cut off from others, not being understood and not fitting in with surrounding social groups. In almost all the studies, loneliness was viewed as connected to but separate from aloneness, isolation and solitude *(19).*

Social expectations or norms play a key role in shaping the desired social connections at the heart of the definition of loneliness as a negative "emotional state" *(19)*, arising from a discrepancy between one's desired or expected and actual experience of social connection *(44).* While the effect of social norms on social connections is universal, the content of those norms differs among cultures. For instance, collectivistic cultures with relatively restrictive norms about social relationships, such as more demanding norms about visiting parents or relatives, may decrease the likelihood of social isolation (i.e. lacking social interaction) but increase the likelihood of loneliness due to being forced into emotionally unsatisfying relationships. By contrast, looser norms in some individualistic cultures may increase the risk of social isolation but decrease that of emotionally unsatisfying relationships *(45, 46).*

Furthermore, individuals who deviate from social norms are more likely to experience alienation, inauthenticity, lower self-worth, social rejection, relationship dissatisfaction and/or unfulfilled relationship needs, all of which contribute to loneliness and less social connection.

While cross-cultural differences in the concept of loneliness have begun to be explored empirically and shown to differ somewhat, less work has been done on social connection and social isolation. The concepts of social connection and social isolation are likely to vary less across culture than the subjective experience of loneliness. It is reasonable to assume that the broad definition of social connection – an umbrella term for the structure, function and quality of people's relationships and interactions – applies in all cultures, although the specific roles, relationships and interactions, their functions and the criteria for evaluating their quality may differ to some extent.

Similarly, the definition of social isolation as an objective state of having too few roles, relationships and social interactions with others is also likely to be valid among cultures. Social norms governing types of roles, relationships and interactions will, however, differ, and the cut-off point separating too few from enough might have to be adjusted, probably with less difference regarding extreme social isolation. Social norms may also indirectly impact social isolation by prompting changes in individual behaviour to either seek or avoid social interactions.

1.3   Differences along the life course

This section addresses differences in the concepts of social connection, social isolation and loneliness during the life course. Variations in the scale of problem along the life course are examined in Chapter 2, how the drivers differ in Chapter 3 and how the impacts differ in Chapter 4. Adaptation of the strategies used to address social connection, social isolation and loneliness to different stages of the life course is addressed in Chapters 5–8.

Concepts of social connection and disconnection differ during the passage from childhood to adolescence and on to early adulthood, with developments in four areas: (i) types of relationships that are important; (ii) the functions they serve; (iii) periods of change that influence experiences; and (iv) understanding of social connectedness *(34, 47)*.

Deficits in the types and functions of relationships that are the most important may result in loneliness. For example, peer friendships, which provide companionship and opportunities for activities, are important for younger children. Close friendships, which provide a sense of being allies and confidants and of being liked, play a significant role for older children. Acceptance by a peer group is key for younger adolescents. And romantic relations, which provide a sense of acceptance as a possible mate and being fellow explorers in a search for identity, are critical in late adolescence and early adulthood. Peer friendships and romantic relationships often remain important throughout the life course *(47, 48)*.

The other two of the four areas – periods of change that influence experiences and understanding of social connectedness – during the life course are related to cognitive and emotional development. As children develop, loneliness changes from being associated mainly with the quantity of social connections associated with fear and distress about physical exclusion to the quality of social connections as social emotions such as shame, humiliation and social anxiety develop. Thus, as children develop, they are increasingly likely to differentiate being alone from feeling lonely *(49, 50).*

At the end of the life course, among older people, the types of expectations of social relationships expand *(51)*. This increases the potential sources of loneliness. In one classification of social relationship expectations into six types, two are particularly salient in older age – generativity (having opportunities to contribute meaningfully and provide care for future generations) and respect (feeling valued and actively included). Four other types of social relationship expectations are relevant throughout the life course – fun (sharing interests and enjoyable experiences), intimacy (feeling close, understood and listened to), support (feeling cared for and able to rely on others) and proximity (available social contacts) *(51).*

Changes in personal expectations and desires for social connection may also be associated with major – and sometimes disruptive – life events. These include, for example, transition to school in childhood; puberty and transitions from an academic to a vocational environment in adolescence and young adulthood *(52)*; marriage, childbirth and child-rearing in adulthood *(53)*; and retirement in older adulthood *(54).*

Some life events may be more disruptive and affect an individual's social connections and network more than others. For example, while parenthood may decrease an individual's degree of social isolation, it may also increase experiences of loneliness *(53).* Loneliness in parenthood can be linked to parenting difficulties, especially for first-time parents, who may feel inadequate and fear judgement for not meeting cultural expectations of an ideal parent *(55)*. Such feelings of inadequacy may encourage social withdrawal and disconnection, especially among parents who have been marginalized, such as ethnic minority parents or parents of chronically ill children *(53).* Older adulthood, often marked by life events like retirement, bereavement and loss of social contacts, carries a higher risk of social isolation, with one in four older adults estimated to be experiencing social isolation *(56).*

These findings on differences in key concepts among cultures and during the life course have potentially important implications for the measurement and identification of drivers of social connection, social isolation and loneliness and for policies to address them.

Future research directions

- The proposed three-dimensional structure of social connection, made up of structural, functional and quality dimensions, should be validated empirically, with clarification of the extent of independence and overlap among the three dimensions.

- Further studies should be conducted on how much social connection a person requires – in terms of quantity, types, support provided and quality – and differences by culture, gender, socioeconomic class and stage of the life course.

- The threshold at which transient loneliness becomes chronic should be specified more clearly and validated.

- The nature of the negative subjective experience constituted by loneliness should be better described, such as whether it is a feeling, an emotion or a cluster of emotions, and what kinds.

- More research is required on differences in understanding of the three key concepts among cultures and during the life course, with a focus on low- and middle-income countries.

Conclusion

Adequate definitions of key concepts are foundational for any field. Drawing on the literature, this chapter has presented definitions of the three key concepts at the heart of this report – social connection, social isolation and loneliness. Wide adoption and further refinement of these definitions would be beneficial (see "Future research directions"). Cumulative knowledge depends, in part, on consensus on definitions. Although there is growing consensus on these definitions in Europe and North America, where they were originally developed, their cross-cultural equivalence is only beginning to be explored.

References

1. Cheng AT. Case definition and culture: are people all the same? Br J Psychiatry. 2001;179:1–3 (https://doi.org/10.1192/bjp.179.1.1).

2. Eronen MI, Bringmann LF. The theory crisis in psychology: How to move forward. Perspect Psychol Sci. 2021;16:779–88 (https://doi.org/10.1177/1745691620970586).

3. Flake JK, Fried EI. Measurement schmeasurement: questionable measurement practices and how to avoid them. Adv Meth Pract Psychol Sci. 2020;3:456–65 (https://doi.org/10.1177/2515245920952393).

4. Hedrih V. Adapting psychological tests and measurement instruments for cross-cultural research: an introduction. Abingdon: Routledge; 2019 (https://www.routledge.com/Adapting-Psychological-Tests-and-Measurement-Instruments-for-Cross-Cultural-Research-An-Introduction/Hedrih/p/book/9780367210045?srsltid=AfmBOoouMH-KfxUStQIqsp1RYJj3sJ76iQDioE05WjdDldtCE-8WD_Oq).

5. Matsumoto D, van de Vijver FJR. Cross-cultural research methods. In: Cooper H, Coutanche MN, McMullen LM, Panter AT, Rindskopf, Sher KJ, editors. APA Handbook of Research Methods in Psychology. Vol. 1: Foundations, Planning, Measures, and Psychometrics. Washington, DC: American Psychological Association; 2023:97-113 2 (https://www.apa.org/pubs/books/apa-handbook-research-methods-psychology).

6. Van de Vijver FJ, Leung K. Methods and data analysis for cross-cultural research. Cambridge: Cambridge University Press; 2021 (https://doi.org/10.1017/9781107415188).

7. GILC position statements. London: Global Initiative on Loneliness and Connection; 2022 (https://www.gilc.global/_files/ugd/410bdf_62e236db3a7146cd9f2654877a87dbc6.pdf).

8. Holt-Lunstad J. Social connection as a public health issue: the evidence and a systemic framework for prioritizing the "social" in social determinants of health. Annu Rev Public Health. 2022;43:193–213 (https://doi.org/10.1146/annurev-publhealth-052020-110732).

9. Measuring social connectedness in OECD countries – A scoping review. Paris: Organisation for Economic Co-operation and Development; 2024 (https://www.oecd.org/en/publications/measuring-social-connectedness-in-oecd-countries_f758bd20-en.html).

10. Holt-Lunstad J. Social connection as a critical factor for mental and physical health: evidence, trends, challenges, and future implications. World Psychiatr. 2024;23 (https://doi.org/10.1002/wps.21224).

11. Holt-Lunstad J. Why social relationships are important for physical health: A systems approach to understanding and modifying risk and protection. Ann Rev Psychol. 2018;69(1):437–58 (https://doi.org/10.1146/annurev-psych-122216-011902).

12. Holt-Lunstad J, Uchino BN. Social ambivalence and disease (SAD): a theoretical model aimed at understanding the health implications of ambivalent relationships. Perspect Psychol Sci. 2019;14:941–66 (https://doi.org/10.1177/1745691619861392).

13. Ross KM, Rook K, Winczewski L, Collins N, Schetter CD. Close relationships and health: the interactive effect of positive and negative aspects. Soc Personal Psychol Compass. 2019;13:e12468 (https://doi.org/10.1111/spc3.12468).

14. Our epidemic of loneliness and isolation: The US Surgeon General's Advisory on the Healing Effects of Social Connection and Community. Washinton, DC: Office of the US Surgeon General; 2023 (https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf).

15. Holt-Lunstad J. Why social relationships are important for physical health: a systems approach to understanding and modifying risk and protection. Annu Rev Psychol. 2018;69:437–58 (https://doi.org/10.1146/annurev-psych-122216-011902).

16. Prohaska T, Burholt V, Burns A, Golden J, Hawkley L, Lawlor B et al. Consensus statement: loneliness in older adults, the 21st century social determinant of health? BMJ Open. 2020;10:e034967 (https://doi.org/10.1136/bmjopen-2019-034967).

17. Social determinants of health. Atlanta (GA): US Centers for Disease Control and Prevention; 2024 (https://www.cdc.gov/nccdphp/divisions-offices/about-the-division-of-population-health.html).

18. Advocacy brief: Social isolation and loneliness among older people. Geneva: World Health Organization; 2021 (https://iris.who.int/handle/10665/343206). Licence: CC BY-NC-SA 3.0 IGO.

19. McKenna-Plumley PE, Turner RN, Yang K, Groarke JM. Experiences of loneliness across the lifespan: a systematic review and thematic synthesis of qualitative studies. Int J Qual Stud Health Well-being. 2023;18:2223868 (https://doi.org/10.1080/17482631.2023.2223868).

20. De Jong Gierveld J, van Tilburg T, Dykstra P. New ways of theorizing and conducting research in the field of loneliness and social isolation. In: Vangelisti AL, Perlman ALVD, editors. The Cambridge Handbook of Personal Relationships. New York: Cambridge University Press; 2016:29 (https://www.cambridge.org/core/books/abs/%20cambridge-handbook-of-personal-relationships/new-ways-of-theorizing-and-conducting-research-in-the-field-ofloneliness-and-social-isolation/71807A0831CB49849DF0CF3EA19320E9).

21. Heinrich LM, Gullone E. The clinical significance of loneliness: a literature review. Clin Psychol Rev. 2006;26:695–718 (https://doi.org/10.1016/j.cpr.2006.04.002).

22. Heu LC, Hansen N, van Zomeren M, Levy A, Ivanova TT, Gangadhar A et al. Loneliness across cultures with different levels of social embeddedness: A qualitative study. Pers Relat. 2021;28:379–405 (https://doi.org/10.1111/pere.12367).

23. Mansfield L, Daykin N, Meads C, Tomlinson A, Gray K, Lane J et al. A conceptual review of loneliness across the adult life course (16+ years): Synthesis of qualitative studies. London: What Works Wellbeing; 2019 (https://whatworkswellbeing.org/product/loneliness-conceptual-review/).

24. Peplau LA, Miceli M, Morasch B. Chapter 9. Theoretical approaches to loneliness. In: Perlman D, Peplau LA. Loneliness: A Sourcebook of Current Theory, Research and Therapy. New York: John Wiley & Sons; 1982:125–51 (https://peplau.psych.ucla.edu/wp-content/uploads/sites/141/2017/07/Peplau_Miceli_Morasch_82.pdf).

25. Heu L, Hansen N, van Zomeren M. Resolving the cultural loneliness paradox of choice: The role of cultural norms about individual choice regarding relationships in explaining loneliness in four European countries. J Soc Pers Relat. 2021;38:2053–72 (https://doi.org/10.1177/02654075211002663).

26. Cacioppo JT, Cacioppo S, Boomsma DI. Evolutionary mechanisms for loneliness. Cogn Emot. 2014;28:3–21 (https://doi.org/10.1080/02699931.2013.837379).

27. Luhmann M, Buecker S, Rusberg M. Loneliness across time and space. Nat Rev Psychol. 2023;2:9–23 (https://doi.org/10.1038/s44159-022-00124-1).

28. Beck AT, Young JE. College blues. Psychol Today. 1978;12:80.

29. Motta V. Key concept: loneliness. Philos Psychiatr Psychol. 2021;28:71–81 (https://doi.org/10.1353/ppp.2021.0012).

30. Wolska K, Creaven AM. Associations between transient and chronic loneliness, and depression, in the understanding society study. Br J Clin Psychol. 2023;62:112–28 (https://doi.org/10.1111/bjc.12397).

31. Young JE. Loneliness, depression and cognitive therapy: theory and application. In: Peplau L, Perlman D, editors. Loneliness: A sourcebook of current theory, research and therapy. New York: John Wiley & Sons Inc; 1982:1–18.

32. Qualter P, Arseneault L, Barreto M, Fett A, Hey N, Johnson S et al. Tackling loneliness evidence review: main report. London: Department for Digital, Culture Media & Sport. 2022 (https://www.gov.uk/government/publications/tackling-loneliness-evidence-review/tackling-loneliness-evidence-review-full-report).

33. Cacioppo JT, Cacioppo S, Cole SW, Capitanio JP, Goossens L, Boomsma DI. Loneliness across phylogeny and a call for comparative studies and animal models. Perspect Psychol Sci. 2015;10:202–12 (https://doi.org/10.1177/1745691614564876).

34. Qualter P, Vanhalst J, Harris R, Van Roekel E, Lodder G, Bangee M et al. Loneliness across the life span. Perspect Psychol Sci. 2015;10:250–64 (https://doi.org/10.1177/1745691615568999).

35. Maes M, Vanhalst J. Loneliness as a double-edged sword: an adaptive function with maladaptive consequences. Eur J Dev Psychol. 2024:1–13 (https://doi.org/10.1080/17405629.2024.2333584).

36. Weiss RS. Loneliness: the experience of emotional and social isolation. Cambridge (MA): The MIT Press; 1973 (https://mitpress.mit.edu/9780262730419/loneliness/).

37. Barreto M, van Breen J, Victor C, Hammond C, Eccles A, Richins MT et al. Exploring the nature and variation of the stigma associated with loneliness. J Soc Pers Relat. 2022;39:2658–79 (https://doi.org/10.1177/02654075221087190).

38. Valtorta NK, Kanaan M, Gilbody S, Hanratty B. Loneliness, social isolation and social relationships: what are we measuring? A novel framework for classifying and comparing tools. BMJ Open. 2016;6:e010799 (https://doi.org/10.1136/bmjopen-2015-010799).

39. Mental health: culture, race, and ethnicity – a supplement to Mental Health: A Report of the Surgeon General. Rockville (MD): Department of Health and Human Services, Substance Abuse and Mental Health Services Administrations, Center for Mental Health Services; 2001 (https://www.ncbi.nlm.nih.gov/books/NBK44243/).

40. Akhter-Khan SC, van Es W, Prina M, Lawrence V, Piri I, Rokach A et al. Experiences of loneliness in lower- and middle-income countries: a systematic review of qualitative studies. Soc Sci Med. 2024;340:116438 (https://doi.org/10.1016/j.socscimed.2023.116438).

41. Heu L, van Zomeren M, Hansen N. Does loneliness thrive in relational freedom or restriction? The culture-loneliness framework. Rev Gen Psychol. 2021;25:60–72 (https://doi.org/10.1177/1089268020959033).

42. van Staden WC, Coetzee K. Conceptual relations between loneliness and culture. Curr Opin Psychiatr. 2010;23:524–9 (https://doi.org/10.1097/YCO.0b013e32833f2ff9).

43. Heu LC. Loneliness and solitude in different languages. Charlottesville (VA): Center for Open Science; 2024 (https://doi.org/10.17605/OSF.IO/2KMU6).

44. Heu LC. The loneliness of the odd one out: how deviations from social norms can help explain loneliness across cultures. Perspect Psychol Sci. 2023:17456916231192485 (https://doi.org/10.1177/174569162311924).

45. Barreto M, Victor C, Hammond C, Eccles A, Richins MT, Qualter P. Loneliness around the world: age, gender, and cultural differences in loneliness. Pers Individ Diff. 2021;169:110066 (https://doi.org/10.1016/j.paid.2020.110066).

46. Heu LC, Hansen N, van Zomeren M, Levy A, Ivanova TT, Gangadhar A, Radwan M. Loneliness across cultures with different levels of social embeddedness: A qualitative study. Pers Relat. 2021 Jun;28(2):379-405 (https://doi.org/10.1111/pere.12367).

47. Parkhurst JT, Hopmeyer A. Developmental change in the sources of loneliness in childhood and adolescence: constructing a theoretical model. Chapter 4. In: Rotenberg KJ, Hymel S, editors. Loneliness in Childhood and Adolescence. Cambridge: Cambridge University Press; 1999;56–79 (https://www.cambridge.org/core/books/abs/loneliness-in-childhood-and-adolescence/developmental-change-in-the-sources-of-loneliness-in-childhood-and-adolescence-constructing-a-theoretical-model/6A68B448D92022B80DA18C7B6CA5C1F2).

48. Qualter P, Vanhalst J, Harris R, Van Roekel E, Lodder G, Bangee M et al. Loneliness across the life span. Perspect Psychol Sci. 2015;10:250–64 (https://doi.org/10.1177/1745691615568999).

49. Chipuer HM. Australian children's understanding of loneliness. Aust J Psychol. 2010;56:147–53 (https://doi.org/10.1080/00049530412331283372).

50. Liepins M, Cline T. The development of concepts of loneliness during the early years in school. School Psychol Int. 2011;32:397–411 (https://doi.org/10.1177/01430343114041).

51. Akhter-Khan SC, Prina M, Wong GH, Mayston R, Li L. Understanding and addressing older adults' loneliness: the social relationship expectations framework. Perspect Psychol Sci. 2023;18:762–77 (https://doi.org/10.1177/17456916221127218).

52. Diehl K, Jansen C, Ishchanova K, Hilger-Kolb J. Loneliness at universities: determinants of emotional and social loneliness among students. Int J Environ Res Public Health. 2018;15 (https://doi.org/10.3390/ijerph15091865).

53. Nowland R, Thomson G, McNally L, Smith T, Whittaker K. Experiencing loneliness in parenthood: a scoping review. Perspect Public Health. 2021;141:214–25 (https://doi.org/10.1177/17579139211018243).

54. Segel-Karpas D, Ayalon L, Lachman ME. Loneliness and depressive symptoms: the moderating role of the transition into retirement. Aging Ment Health. 2018;22:135–40 (https://doi.org/10.1080/13607863.2016.1226770).

55. Kent-Marvick J, Simonsen S, Pentecost R, Taylor E, McFarland MM. Loneliness in pregnant and postpartum people and parents of children aged 5 years or younger: scoping review. Syst Rev. 2022;11(1):196 (https://doi.org/10.1186/s13643-022-02065-5).

56. Teo RH, Cheng WH, Cheng LJ, Lau Y, Lau ST. Global prevalence of social isolation among community-dwelling older adults: a systematic review and meta-analysis. Arch Gerontol Geriatr. 2023;107:104904 (https://doi.org/10.1016/j.archger.2022.104904).

Chapter 2

Scale of
the problem

*"Loneliness, perhaps it's there for everyone, right?
It exists in the lives of all people, right?"*

Roz Maini, youth social worker (India)
© WHO

"When I became alone, when my husband and child died, even among my siblings there were those that understood me and those that didn't. But sometimes even strangers can understand what your heart is feeling."

Katsumi Tsuchiya, older woman living alone (Japan)
© WHO

Key messages
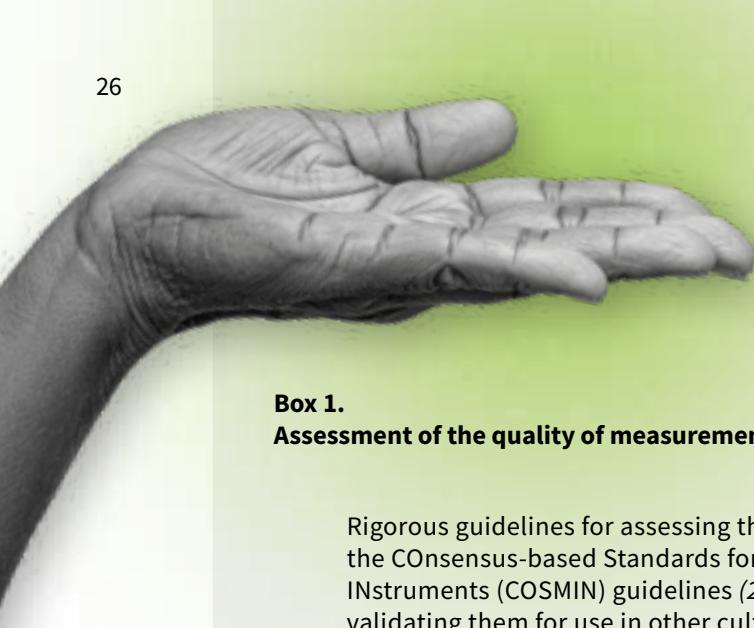
- Between 2014 and 2023, an estimated 16% of people on this planet reported being lonely, equivalent to almost one person in six.

- Loneliness and social isolation affect populations in all regions and age groups.

- Globally, the estimated rates of loneliness are highest among adolescents (20.9% among 13–17-year olds) and young adults (17.4% among 18–29-year olds), followed by adults (15.1% among 30–59-year olds) and lowest in older people (11.8% among people aged ≥ 60 years).

- Overall, the estimated rates of loneliness in females and males are similar (16.1% and 15.4%, respectively), with the largest estimated differences between adolescents (24.3% among females and 17.2% among males) and older adults (13.0% among females and 9.9% among males).

- Overall, the lower the income group of a country, the higher the rate of loneliness. Low-income countries are estimated to have the highest prevalence (24.3%), followed by lower–middle-income countries (19.3%), upper–middle-income countries (12.1%) and high-income countries (10.6%).

- Overall, the estimated rates of loneliness are highest in the WHO African Region (24.3%), followed by the Eastern Mediterranean (21.0%), South-East Asia (18.3%), Americas (13.6%) and Western Pacific (11.0%) regions and lowest in the European Region (10.1%).

- The best current estimates indicate that 25.0–33.6% of older people globally are socially isolated (1990–2022).

- A recent survey suggested that 72% of the global population feels very or fairly connected to others, with minimal differences between genders and age groups.

- Populations experiencing marginalization – such as people with disabilities, the lesbian, gay, bisexual, transgender, intersex, queer (or sometimes questioning) and others community, migrants and refugees, ethnic minorities and indigenous people – are more likely to experience social disconnection than people in their adopted country.

- Currently, the data on long or short-term trends are limited. More evidence, derived with rigorous methods, is required.

- There is an urgent need for accurate, regular global, regional and national monitoring of social connection, social isolation and loneliness conducted with standardized, comparable measures.

This chapter addresses the scale and distribution of social connection, social isolation and loneliness. Section 2.1 discusses measurement, including commonly used instruments and their quality. Section 2.2 addresses the global prevalence of the issue, presenting the first global and regional estimates of loneliness over the past 10 years and summarizing what is known about the prevalence of social isolation and social connection. Section 2.3 explores time trends.

Determination of the scale of social connection, social isolation and loneliness is important for several reasons. First, it is a prerequisite, with ascertainment of the severity of its impacts (Chapter 4), for determining the global burden of social disconnection, a key consideration in setting global health priorities *(1)*. Secondly, it is a prerequisite for identifying the drivers of the issue (Chapter 3), to be targeted by interventions (Chapters 5–8). Thirdly, without regular monitoring of the issue, it cannot be determined whether the measures taken to address it are having the desired effect. Fourthly, determining the burden of social disconnection is essential to advocate for more attention and resources to address it.

2.1   Measurement instruments

Determining the scale of a health issue requires accurate measurement instruments (Box 1). This section surveys the main instruments for measuring social connection, social isolation and loneliness and what is known about their quality. Measures of loneliness are discussed in more detail than measures of social connection and social isolation as there is greater consensus on those to be used.

Box 1.
Assessment of the quality of measurement instruments in a global context

Rigorous guidelines for assessing the quality of measurement instruments, the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) guidelines *(2)*, and for translating, adapting and validating them for use in other cultures, the International Test Commission's Guidelines for Translating and Adapting Tests *(3, 4)*, have been widely adopted.

They must continue to be applied in addressing social connection, social isolation and loneliness, because poor measurement, like poor definitions (Chapter 1), has a cascade of negative effects. It results in inaccurate estimates of the scale and distribution of the problem, the mis-specification of determinants, and less effective interventions, all of which can lead to potential biases in policy and resource allocation.

Nevertheless, the concepts and measurement of social connection, social isolation and loneliness may differ not only among cultures but also over the life course (see Chapter 1) *(5, 6)*.

Social connection and social isolation

There are currently no validated instruments for measuring the three-dimensional concept of social connection presented in Chapter 1, mainly because the concept is very recent. In a recent global survey entitled "The Global State of Social Connections" *(7)*, therefore, a single question was asked to measure social connection: "In general, how connected do you feel to people?", with four response options (very, fairly, a little or not at all). Currently, limited data are available on how well this question measures social connection *(8)*.

Instruments are available, however, for measuring concepts related to one or more of the dimensions of social connection, such as social isolation, loneliness, social cohesion *(9)*, social capital *(10)*, social network and social support *(11)*. Common examples of instruments for measuring social network and social support are listed in Table 1. The quality of these measures has not been analysed in a review, and there is no consensus on which measure to use for clinical and research purposes.

Instruments for measuring concepts unrelated to social connection may also include single-item questions to identify potential indicators of isolation or loneliness *(17, 18)*. For example, the Geriatric Depression Scale includes the items "Have you dropped many of your activities and interests" and "Do you prefer to stay at home, rather than going out and doing new things". The limitations of such measures should be borne in mind when interpreting the findings.

Table 1.

Common instruments for measuring social networks and social support

Instrument and reference	Social network			Social support	
	Quantity of social relationships	Frequency of contact	Relationship or cohabitation status	Perceived closeness	Sense of belonging or purpose
Berkman-Syme Social Network Index *(12)*		X		X	
Cohen's Social Network Index *(13)*	X	X			
Duke Social Support Index *(14)*	X	X		X	X
Lubben Social Network Scale *(15)*	X	X		X	
Steptoe Social Isolation Index *(16)*		X	X		

Loneliness

The two main types of instruments for measuring loneliness are multi-item scales and single-item measures.

Scale measures: in scale measures of loneliness, questions or items are posed that result in an overall score of either "lonely" or "not lonely". Scale measures are often indirect measures of loneliness. The questions or items avoid the term "lonely" to minimize bias due to the stigma associated with loneliness *(19)*.

The two most widely used scale measures of loneliness are the University of California at Los Angeles (UCLA) Loneliness Scale *(20)* and the De Jong-Gierveld Loneliness Scale *(21)*. A full and (several) shorter versions are available for each scale, so that they can be included in large surveys *(22)*. The De Jong-Gierveld Scale also measures two types of loneliness: social and emotional loneliness (Chapter 1) *(23)*. Two reviews in which the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) guidelines were used synthesized studies on the quality of each scale. The first review did not recommend the De Jong-Gierveld Loneliness Scale because of limited evidence for its quality *(24)*. The second recommended use of the UCLA Scale, particularly the short versions, including in cross-cultural contexts *(25)*.

Single-item measures: single-item measures of loneliness are individual questions about a person's experience of loneliness. The questions used differ widely, however.

They may address an individual's experience of loneliness in terms of frequency (e.g. all the time, most of the time, some of the time, rarely), intensity (e.g. severe, moderate, mild), recall period (e.g. over the past year, month, week or ever) or simply the existence of loneliness (e.g. "I feel lonely": "Yes" or "No") *(26).* Such differences in single-item questions among surveys on loneliness make it difficult to compare findings.

Most large surveys of population prevalence tend to use single-item measures of loneliness because of their ease of use, practicality and low cost *(26, 27).* They have, however, been criticized, as they do not capture the complexity and nuances of the experience of loneliness *(28)* and are susceptible to social desirability bias (i.e. people's reluctance to admit to loneliness when asked directly) *(19).* Nevertheless, some studies suggest that the results of single-item measures correlate well with scale measures of loneliness *(27, 29, 30).*

As explained in Chapter 1, measures of different facets of social disconnection – including social isolation and loneliness – are not highly correlated and have independent effects on mortality and health. To capture the full scope of how social factors influence health, it is necessary to measure the contributions of all dimensions of social connection and disconnection – the structural, functional and quality dimensions *(31).* Currently, no single measure is available to do this and development of such an instrument should be a priority.

2.2 Estimates of the prevalence of loneliness, social connection and social isolation
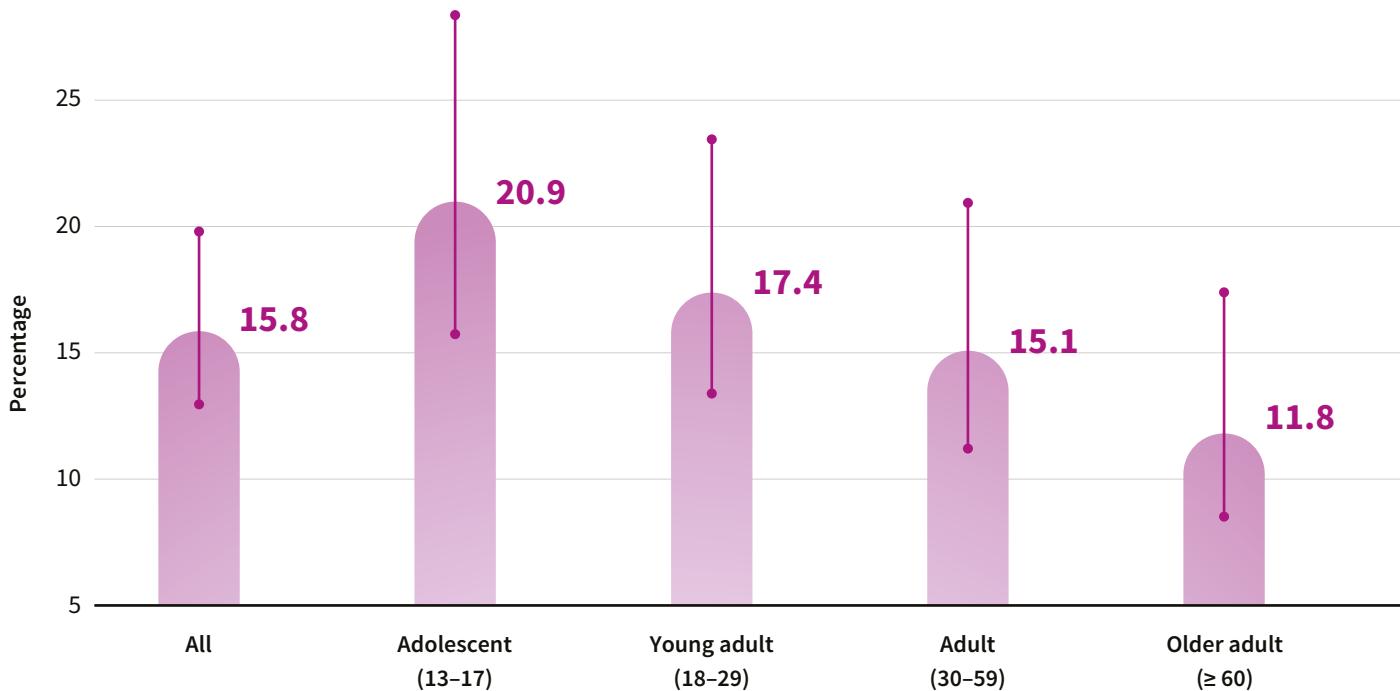
Loneliness

The estimates of the prevalence of loneliness presented in this section are the first of their kind. They draw on 23 datasets, which included both single- and multi-country studies and which cover 153 countries and territories (see Annex 1 for details of datasets, the methods used and their limitations).

Global estimates and differences by age: overall, an estimated 15.8% (95% uncertainty intervals (UI): 12.8–20.1%) of the world's population was lonely between 2014 and 2023 (Fig. 2). The prevalence of loneliness decreases with age. Adolescents (13–17 years old) are estimated to have the highest prevalence, at 20.9% (UI 95%: 15.6–28.5%), followed by young adults (18–29 years) at 17.4% (13.2–23.6%), adults (30–59 years old) at 15.1% (UI 95%: 11.0–21.2%) and older adults (≥ 60 years old) at 11.8% (UI 95%: 8.4–17.6%).

The finding of high rates of loneliness among adolescents is consistent with the results of previous research *(26)*, although the result may be subject to both developmental and methodological considerations (Annex 1). As loneliness results from a perceived discrepancy between actual and desired or expected social connections, the higher rate in adolescence may be due to higher expectations of social connections during this developmental stage, which is marked by significant emotional and psychological changes *(32)* (Chapter 3). Older people report comparatively greater satisfaction with their social relationships. Widely used measurement instruments have been developed for older people that are different from those for children or adolescents *(5, 33)*, resulting in measurement of slightly different concepts.

Fig. 2.

Global prevalence (%) of loneliness by age group, 2014–2023 (with 95% uncertainty intervals)
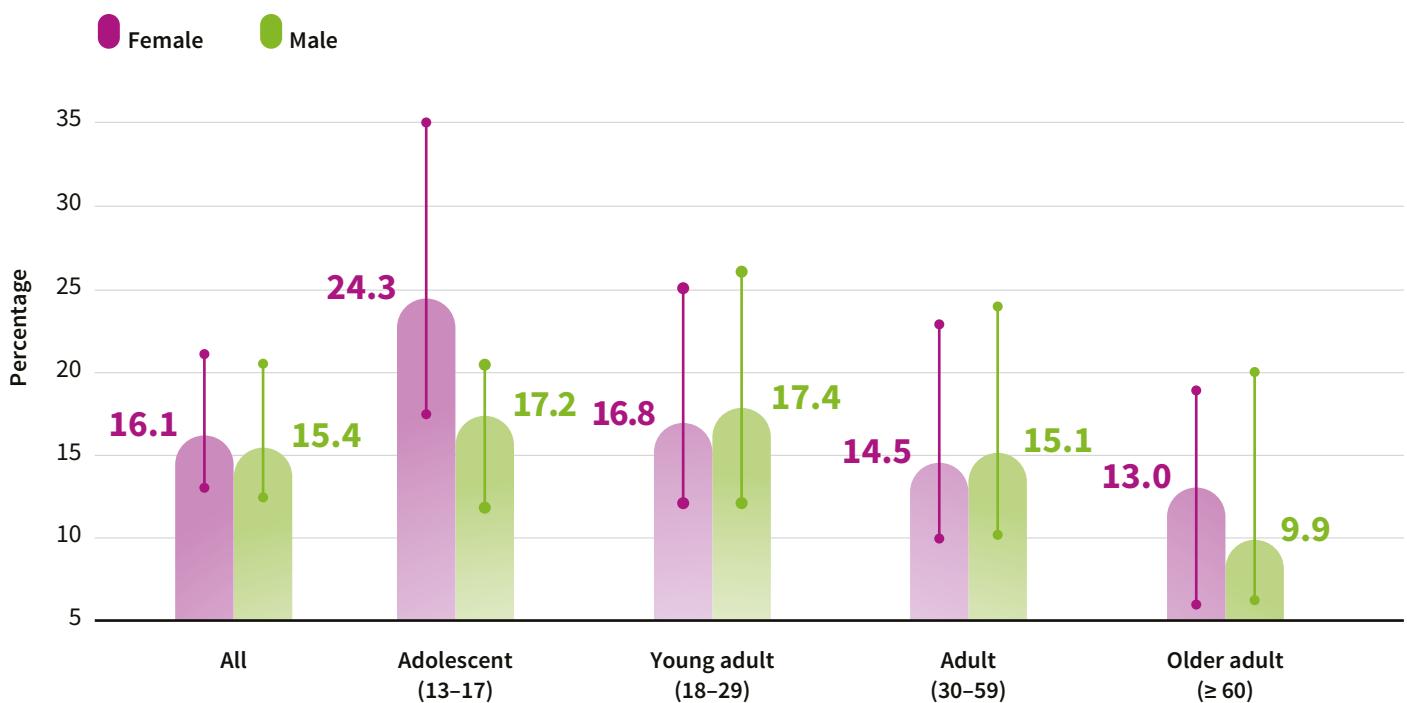
According to these estimates, older adults have the lowest rates of loneliness, which contradicts previous studies in which it was found that older adults had some of the highest rates *(26)*. This may be due to the limited availability and quality of previous data on older people. It is important to note that the category of "older adults" includes both younger (in their 60s) and older "older adults" (in their 80s or more). It is possible that the prevalence of loneliness is higher among adults who are ≥ 80 years old. This conclusion is consistent with those of previous studies, in which a U-shape distribution of loneliness was found among older adults *(34)*. Furthermore, previous studies on loneliness in older adults may have included various age boundaries, yielding potentially different, less comparable results.

Global estimates and differences by sex: overall, the estimated prevalence of loneliness in females and males was 16.1% (95% UI: 12.6–21.3%) and 15.4% (95% UI: 11.8–20.7%), respectively, a very slight difference when uncertainty intervals are taken into account (Fig. 3). The prevalence was estimated to be highest in female adolescents (24.3%, UI 95%: 17.2–35.1%) and decreased with age: young adults (16.8%, UI 95%: 12.1–25.0%), adults (14.5%, UI 95%: 10.0–22.7%), older adults (13.0%, UI 95%: 8.7–21.5%). For males, young adults were estimated to have the highest prevalence of loneliness (17.4%, UI 95%: 12.1–26.0%), followed by adolescents (17.2%, UI 95%: 11.7–26.4%), adults (15.1%, UI 95%: 10.2–23.8%) and older adults (9.9%, UI 95%: 6.4–17.4%).

Fig. 3.
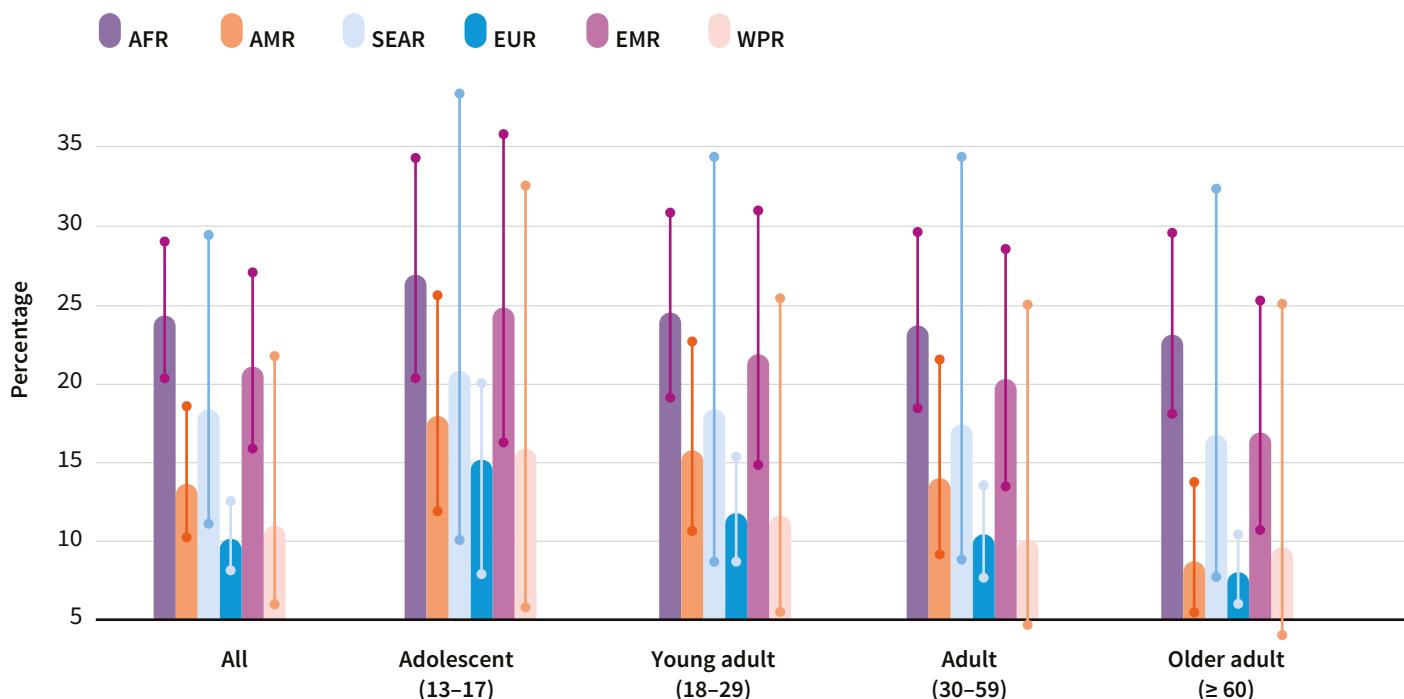
Global prevalence (%) of loneliness by sex and age group, 2014–2023 (with 95% uncertainty intervals)

Differences by WHO region: overall, the WHO African Region was estimated to have the highest prevalence of loneliness (24.3%, UI 95%: 20.4–29.0%), followed by the Eastern Mediterranean Region (21.0%, UI 95%: 15.9–27.1%), the South-East Asia Region (18.3%, UI 95%: 11.2–29.3%), the Region of the Americas (13.6%, UI 95%: 10.2–18.6%) and the Western Pacific Region (11.0%, UI 95%: 6.1–21.7%). The European Region was estimated to have the lowest rate (10.1%, UI 95%: 8.2–12.5%) (Fig. 4). These trends were consistent by sex and age groups, with a few exceptions.

Fig. 4.

Global prevalence (%) of loneliness by WHO region, 2014–2023 (with 95% uncertainty intervals)
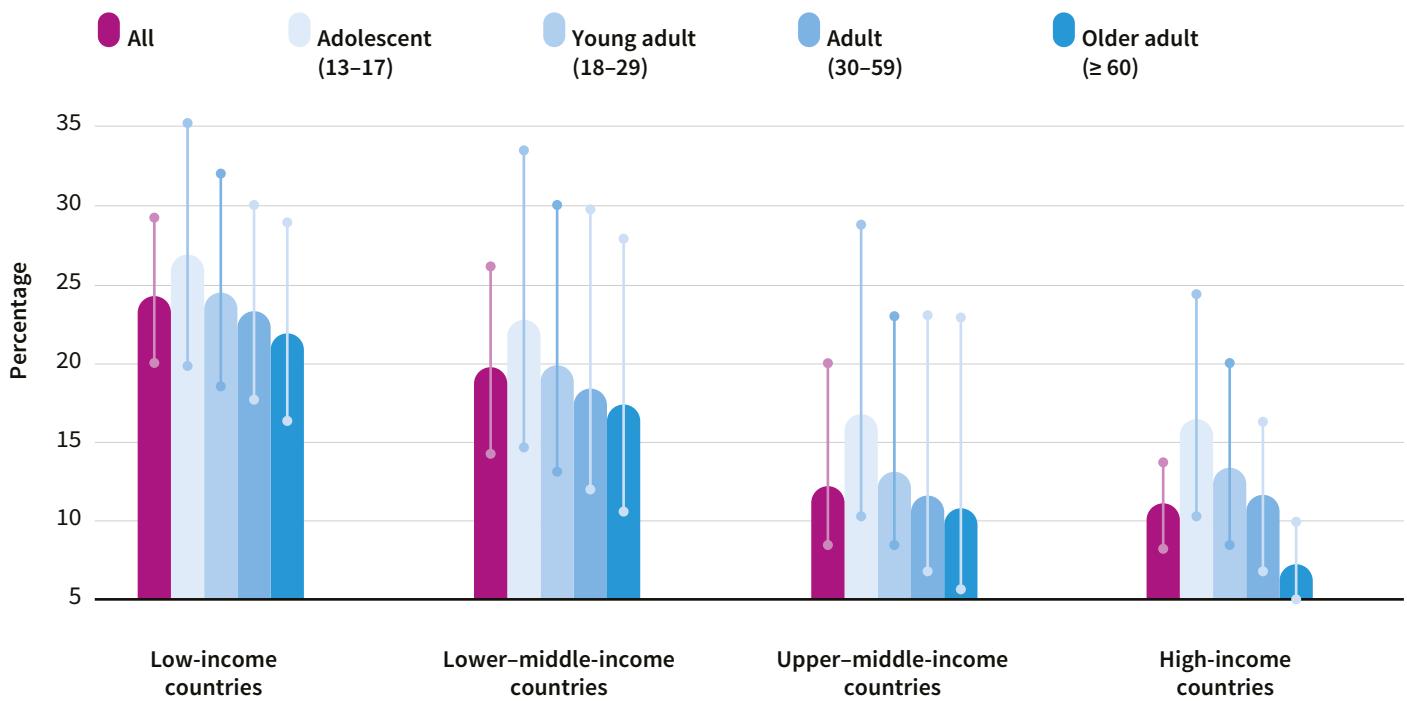
AFR: African Region; AMR: Region of the Americas; SEAR: South-East Asia Region; EUR: European Region; EMR: Eastern Mediterranean Region; WPR: Western Pacific region

Differences by World Bank income group: the estimates indicate that the prevalence of loneliness has a clear income gradient: the lower the income group of a country, the higher the prevalence of loneliness (Fig. 5). For all age groups, the prevalence of loneliness was 24.3% (UI 95%: 20.0–29.4%) in low-income countries, 19.3% (UI 95%: 14.2–26.6%) in lower–middle-income countries, 12.1% (UI 95%: 8.1–20.3%) in upper–middle-income countries and 10.6% (UI 95%: 8.3–14.0%) in high-income countries. In most groups, the trend is consistent by sex and age, with a few exceptions.

A qualitative systematic review of experiences of loneliness in lower- and middle-income countries suggests that poverty may account for the trend, as poverty was identified as the most common barrier to fulfilling expectations of social relationship *(35)*. When jobs are limited and communities are poor, a lesser ability to contribute socioeconomically may place individuals at greater risk of social exclusion or may encourage migration and further loss of connections from social networks *(35)* (Chapter 3).

Fig. 5.

Global prevalence (%) of loneliness by World Bank country income group, 2014–2023 (with 95% uncertainty intervals)

Culture as an explanation of the differences

Culture may partly explain the differences observed among WHO regions. The meaning of many terms often differs by language, country and population, affecting how concepts are translated and understood (Chapter 1). As a result, even when the same concept and measurement tool are used, the findings may not be directly comparable.

Furthermore, the differences in the prevalence of loneliness among WHO regions correspond to patterns of collectivism and individualism. Collectivist cultures – common in Africa, Arab countries, Asia and Latin America – emphasize interdependence and strong ties within family or in-groups. In contrast, individualistic cultures, which predominate in Australia, Europe, New Zealand and North America *(36, 37)*, value self-reliance and freely chosen relationships within more loosely connected social networks *(38)*.

Loneliness is more stigmatized in collectivist cultures, possibly because it runs counter to prevailing social norms *(39)*. The stigma can intensify shame in those who feel lonely, leading them to hide their experience and potentially worsening both the experience and its negative consequences *(39)* (Chapter 4).

The differences in the prevalence of loneliness among WHO regions is thus largely consistent with lower rates of loneliness reported in countries with individualistic cultures and higher rates reported in countries with collectivist cultures. The pattern is, however, less distinct in the Americas and the Western Pacific regions, where subregions differ. Thus, countries in east Asia and Latin America are often collectivist, whereas those in Australia, New Zealand and north America tend to be individualist.

Comparisons with previous estimates

The estimates in this report differ somewhat from earlier estimates, probably due to differences in methods. One main difference is in regional prevalence. A comprehensive systematic review of studies on global loneliness (2005–2019) found that the Eastern Mediterranean Region had the highest prevalence (14.4%), followed by the African Region (12.7%), the European Region (11.9%), the Region of the Americas (11.8%) and Western Pacific Region (10.0%); the South-East Asia Region had the lowest rate (9.2%) *(26)*.

That review, however, covered only 113 countries and territories and only data up to 2019. Both current and previous estimates concur that northern European countries have the lowest prevalence of loneliness overall. Furthermore, the current estimates are notably higher in several regions: 24.3% versus 12.7% for the African Region, 18.3% versus 9.2% for the South-East Asia Region and 21.0% versus 14.4% for the Eastern Mediterranean Region.

While an increase in the prevalence of loneliness during the COVID-19 pandemic might be a factor, the impact of the pandemic appears too small to explain the large discrepancies *(40)*. Methodological differences may have also played a role. The earlier estimates were based on data for 2000–2019, whereas the current estimates are based on data for 2014–2024. Changes in cultural and social contexts – such as evolving norms and stigma associated with loneliness – may have also affected how loneliness is reported. Furthermore, much of the data used in the current estimates are from the Global State of Social Connections survey *(7)*, which may have further contributed to the observed differences (See Annex 1).

Social isolation

Fewer data are available on the prevalence of social isolation than on loneliness; no global surveys or large multi-country studies have been reported. Global estimates from two recent meta-analyses are limited to older people and based on data from 27 countries, only six of which are low- and middle-income countries. The estimates of social isolation ranged from 25.0% to 33.6% *(41, 42)*.

The first meta-analysis, which included studies up to November 2021, is based on 41 studies in 17 countries on the prevalence of social isolation among older adults *(42)*. Globally, one in four (25%) older adults were found to be socially isolated, with the highest rate in the Eastern Mediterranean Region (46.1%, although this was based on only two reports on the same survey in Lebanon), followed by the Region of the Americas (30%; 13 studies), the European Region (22%; eight studies) and the

South-East Asian and Western Pacific regions, which were combined (22%; 18 studies). No studies were found for the African Region. Of the 17 countries included, only five were low- and middle-income countries (Brazil, India, Lebanon, Malaysia and Mexico) *(42)*.

The second review, which included studies up to January 2023 on the "oldest old" (people aged ≥ 80 years), was of 22 studies in 15 countries, three of which were low- and middle-income countries. The overall prevalence of social isolation was 33.6%, with no differences in prevalence found among continents *(41)*.

An additional meta-analysis of 30 studies addressed the rates of both social isolation and loneliness in older people during the COVID-19 pandemic *(43)*. Overall, the rates of social isolation and loneliness during the pandemic were estimated to be 31.2% and 28.6%, respectively, which were higher than those before the pandemic. The result was attributed to fewer social interactions due to measures such as enforced isolation and physical distancing.

Although most studies of the prevalence of social isolation have been conducted among older adults, a recent study addressed social isolation among adolescents (11–19 years) in 79 countries between 2003 and 2018 *(44)*. Overall, approximately 27% of adolescents reported social isolation; the highest rate reported was in Zambia (58.6%) and the lowest in Indonesia (13.8%) *(44)*.
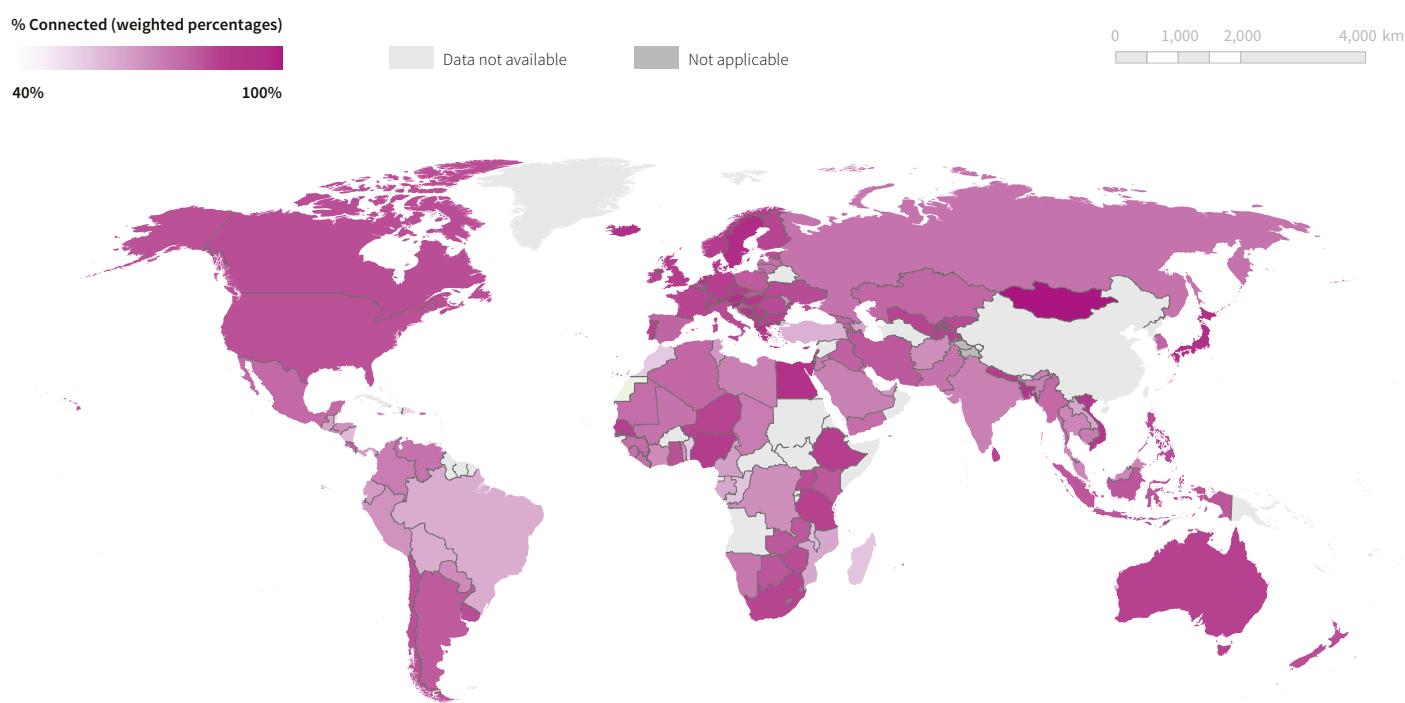
Social connection and disconnection

No estimates of the prevalence of the three dimensions (structure, function and quality) of social connection using validated instruments were available. Currently, the only global estimates of social connection are those in the 2023 Meta-Gallup Global State of Social Connections survey *(7)*, which covered 142 countries. A single question was used to measure social connection within an undefined recall period: "In general, how connected do you feel to people?". There is limited evidence of the reliability and validity of this question as a measure of social connection *(8)*, and it was not designed to capture the three dimensions of social connection defined in Chapter 1.

The findings of the Global State of Social Connections survey *(7)* are shown in Fig. 6. More than 70% of the global population reported feeling "very connected" or "fairly connected" to other people. Globally, there were only minimal differences in the rate of feelings of being socially connected between men (73%) and women (72%) and among age groups: 75% of people aged ≥ 65 years, 73% of 45–64-year olds, 71% of 30–44-year olds, 71% of 19–29-year olds and 73% of 15–18-year olds said that they felt very or fairly connected. In some countries in Latin America, the African Region, the Eastern Mediterranean Region and the South-East Asian Region, smaller percentages of the populations reported that they felt very or fairly connected *(7)*. In view of the methodological limitations of the survey, however, the findings should be interpreted with caution.

Fig. 6.

Results of "The Global State of Social Connections" survey of the prevalence of social connection

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or areas or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted or dashed lines on maps represent approximate border lines for which there may not yet be full agreement. *Source*: Meta-Gallup *(45)*

In the survey, measurements of social interaction were also made according to how often an individual had interacted with groups of people in the past 7 days *(7)*. One in two people reported that they had interacted with friends or family who lived in the same household or nearby (58%) or with neighbours and people who lived near them (46%). One in three people had interacted with people at work or school (35%) and friends or family who lived far away (30%). One in four had interacted with others in groups with shared interests or beliefs (25%), while only one in six had interacted with strangers or people they did not know (16%) *(7)*.

Groups that experience higher rates of social disconnection than others

People experiencing marginalization have higher rates of social disconnection. Such populations include people with disabilities, LGBTIQ+ communities, migrants, refugees, ethnic minorities and indigenous groups. Their increased prevalence of social disconnection is often due to structural stigma, which excludes individuals from participating in society or limits the opportunities available to them *(46, 47)*. Caregivers are also disproportionately affected by social disconnection (Chapter 3).

People with disabilities: in general, people with disabilities report higher levels of social isolation and loneliness than people without *(48, 49–55)*. Some people with disabilities may be unable to access social facilities and take up opportunities due to physical barriers in buildings, limited access to transport and lack of accessible information and communication, while others face structural stigma that limit their employment opportunities *(56)* or other sociocultural barriers that lead to lower education, less stable partnerships and poorer housing conditions *(57)*. People with disabilities therefore report lower rates of social support and higher rates of social isolation and loneliness *(57)*.

A study in seven low- and middle-income countries (Cambodia, Ecuador, Guatemala, Honduras, Paraguay, Senegal, Zambia) found that people with disabilities reported higher rates of loneliness than people without *(52)*. For instance, more participants with visual (24.9%) or hearing (29.9%) impairments reported often feeling lonely than people who did not report visual (16.6%) or hearing (17.3%) impairment *(52)*. People who reported any kind of disability were more likely to be lonely than people who did not (25.4% versus 14.3%).

LGBTIQ+: the data, all from high-income western countries, clearly show that people who identify as LGBTIQ+ are more likely to experience both social isolation and loneliness. In the past, they have faced more structural stigma and discrimination based on their sexual orientation or identity (e.g. homophobia, transphobia) and reported less frequent, poorer quality social contact with their social networks *(58–60)*.

In one meta-analysis, sexual minorities had a higher rate of loneliness than heterosexual individuals *(61)*. Similarly, in a study in Australia, all sexual minority groups reported higher rates of loneliness than their non-LGBTIQ+ counterparts *(62)*. A study of older adults in the United Kingdom found higher rates of loneliness among individuals who identified as gay or lesbian (29.1%) or bisexual (35.2%) than among heterosexual respondents (21.3%) *(63)*. A cross-sectional study in Germany found a high prevalence of both loneliness (83.3%) and social isolation (34.4%) among transgender and gender diverse individuals *(64)*.

Migrants and refugees: more immigrants report loneliness and social isolation than their counterparts in their host countries, and even more refugees report these conditions *(65)*. Immigrants and refugees often contend with communication barriers and different cultural norms that can result in social isolation and loneliness *(58, 66, 67)* and have to re-establish social networks in new settings *(65)*. The difficult or traumatic experiences that drove them to leave their home countries (e.g. economic hardship, conflict, natural disasters) may also contribute to social isolation and loneliness in a new country *(35)*.

In a 26-country study, the highest rates of loneliness were found for first-generation immigrants and people who migrated after the age of 18 *(68)*. Older migrants more often reported loneliness than non-migrants in Germany (53.6% versus 42.9%) *(69)*, Australia (49.0% versus 22.0%) *(70)* and Netherlands (Kingdom of the) (moderate loneliness: 37.5% versus 32.8%; severe loneliness 22.1% versus 13.0%) *(71)*.

Higher rates of loneliness, on average, were also found among older Moroccan and Turkish migrants than their Dutch counterparts *(72)*.

Ethnic minority and indigenous groups: the evidence on the prevalence of social isolation and loneliness among ethnic minority and indigenous groups is mixed, possibly because different groups experience social isolation and loneliness differently (Chapter 3) *(60, 73–77)*. For instance, a study in England and Wales of the rates of loneliness among older adults in six ethnic minority groups (Bangladeshi, Black African, Black Caribbean, Chinese, Indian, Pakistani) found a higher prevalence of loneliness among five of the six groups in comparison with the general British population on both single-item and scale measures of loneliness *(76)*. Schumacher and colleagues *(60)* found mixed results in the United States of America (USA). Although higher rates of loneliness were found for Black (19%) and Hispanic (16%) adults than White adults (14%), the rates of loneliness among Asian adults were similar to those of White adults (14%). A study of three ethnic minorities (Asian, Māori, Pasifika) in New Zealand gave mixed results *(78)*. Although fewer Pasifika individuals (17%) reported loneliness than European or Other groups (21%), the prevalence of loneliness was similar or higher among Māori (21%) and Asian (23%) respondents.

Caregivers: social isolation and loneliness were reported at high rates by caregivers in various countries, although few comparisons of rates in caregivers and the general population are available. Young and informal caregivers are also at greater risk of experiencing social isolation and loneliness (Chapter 3).

In a review, the prevalence of social isolation and loneliness among caregivers of people with mental health conditions in Australia, China and the USA ranged from 21.0% to 52.7% *(79)*. The rate in a non-care-giver population in Australia was 7.0% *(80)*.

In a study of caregiver burden in four countries (Ireland, New Zealand, United Kingdom, USA) before and during COVID-19, increased rates of social isolation and loneliness were found with both single-item and scale measures. Before the pandemic, single-item and scale measurements of loneliness among caregivers of people with physical and/or brain health conditions were 6.8%, 5.9% and 7.0%, respectively, which increased to 34.1%, 22.0% and 26.6%, respectively, during the pandemic *(81)*.

Reflections from lived experience: marginalization, social isolation and loneliness

Maggie

Mother with hearing impairment
(South Africa)

"I've been severely hearing impaired my entire life. On its own, my disability causes obvious social isolation and loneliness. But when added to a hearing world, my loneliness takes on many other forms […] When I ask for clarity or declare my disability to someone, an almost automatic distance is created. I suspect it's mostly ignorance and discomfort that causes people to react this way…"

Julio

Gay older man
(Costa Rica)

"At one time, I had a boyfriend, I had a partner, I built a home. He passed away, I became a widower. If I had known years ago that I would reach this age and it would lead to me withdrawing from civil society, maybe I would have prepared myself psychologically for how to embrace old age."

Polina

Younger refugee living with late-diagnosed ADHD in Poland
(Ukraine)

"Two years ago, the war [in Ukraine] began. I survived occupation and relocation, finding myself in a new country with a different language, traditions, and culture. My tenuous social connections were disrupted, and the loneliness was sometimes overwhelming."

Benny

Chinese-Indonesian youth, mental health advocate
(Indonesia)

"My most lonely year was my adolescent years. It was the time that I had the accumulation of racist bullying, [and] also some kind of exclusion due to my religious minority identity as well. And it made me wonder about my existence."

Jennifer

Carer for her 83-year-old mother, both African-American women
(USA)

"Since the height of the [COVID-19] pandemic in March 2020, I have been shut off from fully participating in the world as I care for my mother without help. […] I rarely go out for long periods in fear of leaving my mother at risk of falling…"

2.3 Time trends

Establishment of accurate global, regional and national time trends for the prevalence of social connection, social isolation and loneliness would ideally require accurate estimates for each factor at regular intervals, stretching back in time – even centuries for longer time trends. No such estimates are available, and those available have serious their limitations. Their quality often leaves much to be desired; they often cover limited geographical areas and periods; and some, such as data on correlates of social disconnection, are only indirectly relevant *(82, 83)*. Historical trends might be elucidated in the future by rigorous analysis of historical records, including census data, from various parts of the world, similar to historical studies of the proportion of the population living alone *(84, 85)*, discussed below.

The absence of better evidence about longer-term trends has resulted in considerable speculation, in which two opposing positions are often put forward. The dearth of data has made it difficult to adjudicate between them.

The first, the "lost community hypothesis", holds that social isolation and loneliness arose as a by-product of modernity, a series of interrelated processes that began in the 18th century in Europe that included rapid, disruptive technological advances, secularization, individualism, capitalism, mass society and urbanism. In this view, modernity weakened the traditional bonds that connected people to their

communities and extended kinship groups and to a concomitant rise in social isolation and loneliness *(86, 87)*.

The second, contrasting, position contends that social isolation and loneliness have fluctuated throughout history and that modernity, rather than increasing social isolation and loneliness, has in fact promoted new forms of social connection that may decrease social isolation and loneliness. For instance, modernity has increased freedom and geographical and social mobility and led to the creation of dynamic, dense, new urban social networks that are less rigid, inward looking and tradition-bound and more innovative and tolerant than the rural communities and kinship groups of old *(84, 87, 88)*.

The findings discussed below generally pre-date the COVID-19 pandemic, which started in March 2020 *(89)*. The pandemic led to a small increase in the prevalence of loneliness, according to a meta-analysis of 34 studies that included all age groups *(41)*, and a moderate increase according to a meta-analysis of 20 studies that included only older people *(90)*. It also led to a restriction of social networks *(91–93)*.

Time trends in loneliness

The best – but still limited – data available are on time trends in loneliness in the recent past. They present a mixed picture, with trends varying by geographical location and age group. Luhmann et al. *(83)* reviewed meta-analyses of historical changes in loneliness measures and concluded that the findings are inconsistent and that more methodologically robust research is necessary on past changes in loneliness in diverse populations. The main findings from reviews and studies on time trends are presented below, by age group.

Adolescents and young adults: a meta-analysis of studies on trends in loneliness in emerging adults (18–29 years old) between the late 1970s and 2019 included 345 studies from across the world in which the UCLA Loneliness Scale was used. Loneliness increased linearly in this population over the 43-year period but only in emerging adults in North America; no such increases were found in Asia or Europe *(94)*.

An analysis of the Global School-based Health Survey *(95)* for 2003–2017 included 12–15-year-olds in 28 countries in Africa, the Americas and Asia, who were asked a single question to measure trends in loneliness. Increasing trends were found in six countries (Anguilla, Egypt, Maldives, Myanmar, Namibia and Philippines), decreasing trends in six countries (Benin, Indonesia, Samoa, Seychelles, Tonga and United Arab Emirates) and stable trends in 16 countries (Argentina, Cook Islands, Fiji, Guatemala, Guyana, Jamaica, Jordan, Kuwait, Lebanon, Morocco, Sri Lanka, Suriname, Thailand, Trinidad and Tobago, Uruguay and Vanuatu).

In a meta-analysis of 48 groups of college students in the USA in which the UCLA Loneliness Scale was used, Clark et al. *(96)* found that the prevalence of loneliness had decreased between 1978 and 2009. They also found that the prevalence of

loneliness had decreased in a large sample of high-school students between 1991 and 2012. In a meta-analysis of 56 studies of loneliness measured with the UCLA Loneliness Scale among Chinese college students, however, the prevalence of loneliness increased moderately between 2002 and 2022 *(97)*.

Middle-aged adults: to examine time trends in the prevalence of loneliness among adults aged 45–65 years, the authors of a study in 2024 harmonized and compared data from longitudinal studies for 2002–2020 in 14 countries – Austria, Belgium, Denmark, England, France, Germany, Greece, Israel, Italy, Netherlands (Kingdom of the), Spain, Sweden, Switzerland and the USA *(98)*. The findings were mixed: middle-aged adults in England, Mediterranean Europe and the USA reported loneliness more frequently than cohorts born earlier, while their counterparts in the rest of continental Europe and the Nordic countries reported no such increases – and sometimes less frequently. They also found that the overall prevalence of loneliness in the USA was consistently higher than in European countries *(98)*.

Older adults: a meta-analysis of 25 studies of changes in the prevalence of loneliness in older adults in China between 1995 and 2011 measured on the UCLA Loneliness Scale showed a large increase. Analyses showed that the rise was associated with increased urbanization, personal medical expenditure, divorce rate, the Gini coefficient (a measure of income and wealth inequality) and unemployment *(99)*.

No other reviews were found of studies on time trends in loneliness among older adults. The findings of primary studies, however, all in high-income countries and mostly in northern Europe, point to stable or decreasing trends. The trends were stable in England *(77)*, Finland *(100)* and Sweden *(101, 102)* and decreasing in Germany *(103)* and Netherlands (Kingdom of the) *(104)*. In the USA, a study in 2019 identified stable trends in loneliness *(105)*, while two other studies found a decreasing prevalence *(34, 106)*. An online survey in 2020 with the UCLA Loneliness Scale of people aged ≥ 18 years showed that the rate of loneliness among older people had increased by 0.8% between 2018 and 2019, which was a smaller increase than in other age groups *(107)*.

Overall patterns are difficult to discern from these findings. The trends appear to differ by country and age group.

Time trends in social isolation

Few data are available on global or multi-country time trends in social isolation, and there are even fewer data for social connection. Some national data are, however, available on social isolation. For instance, a study on time trends in social isolation among middle-aged and older adults in China between 2011 and 2019 showed a U-shaped trend, with a prevalence of 38.1% in 2011, 33.7% in 2013, 39.1% in 2015 and 40.0% in 2018 *(108)*. A meta-analysis of 100 studies of Chinese college students showed a moderate decrease between 1999 and 2011 in social support, an indicator of the functional dimension of social connection *(97)*.

In the USA, an analysis of American Time Use Surveys between 2003 and 2020 suggested that social isolation had increased; social engagement with family, friends and others (e.g. roommates, neighbours, acquaintances, coworkers and clients) had decreased; and companionship (shared leisure and recreation) had decreased *(109)*. For instance, between 2003 and 2020, social isolation, measured as the average time spent alone, rose by 16.5%, from 142.5 to 166.5 hours a month, and the amount of time people engaged with friends socially decreased from 30 to 10 hours a month. It is unclear, however, whether the items used to measure social isolation in the Time Use Surveys have been validated.

In another study in the USA, national samples of adults aged 50–80 years in 2018–2023 were studied as part of a national poll on healthy ageing *(110)*. Despite a sharp increase in social isolation, from 27% to 56%, between 2018 and 2020, related to the COVID-19 pandemic, a subsequent decrease in social isolation was observed, from 46% in 2021 to 44% in 2022 and 34% in 2023 *(110)*.

In the United Kingdom, a longitudinal analysis of 73 847 individuals in five generational cohorts (born 1946–2001) found no clear trend of either increasing or decreasing social isolation with time *(111)*. The result might be attributed to maintenance of regular contact with family and friends outside the household among older generations, even when they lived alone in late adulthood.

Similarly, in Australia, social isolation in all age groups was found to be relatively stable between 2001 (13%) and 2022 (15%) *(112)*. Although a slight increase was observed during the COVID-19 pandemic, rates have since been decreasing in nearly all age groups *(112)*.

Thus, in countries for which data are available, the overall trend in social isolation appears to be increasing in China, stable in Australia and the United Kingdom and unclear in the USA.

Time trends in correlates of social disconnection

As robust long-term data on the prevalence of loneliness and social isolation are lacking, trends in related factors could be used to understand how they might change over time. The precise strength of any correlation between such proxies and social isolation and loneliness is, however, not always known, and they are therefore only rough indicators of time trends in loneliness and social isolation.
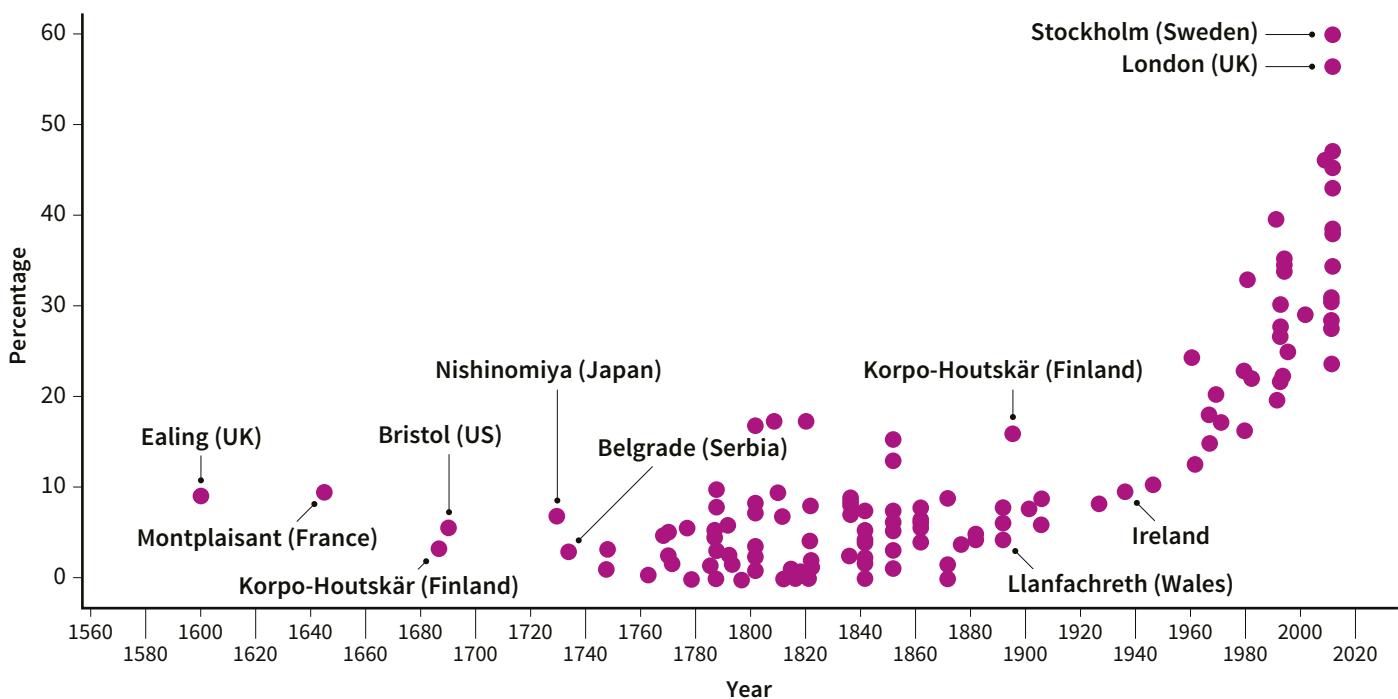
Time trends in the proportion of the population living alone is one indicator of the structural dimension of social connection and of social isolation (Chapter 1), which is one of the better-established risk factors for loneliness (Chapter 3).

One body of evidence addresses long-term trends in living alone – between the 1600s and 2011 – in Europe, Japan and the USA, based on historical records and census data *(85, 113)* (Fig. 7). The studies show that there has been a dramatic rise across many countries in single-person households during the 20th century, notably since

the 1960s. Many pre-industrial settlements had no single-person households and the average was around 5% of households. The current western proportions of such households (e.g. 31% in the United Kingdom) are wholly unprecedented historically, even reaching to 60% or more of households in some modern European and North American cities *(85)*.

Fig. 7.

Percentages of single-person occupancy households between 1560 and 2020

UK: United Kingdom; US: United States of America.
Source: Snell *(85)*.

Another body of evidence is on current global patterns and recent time trends in living alone *(114–116)*. Currently, overall, "[o]n a global scale, living alone is relatively infrequent for most people" *(115)*. In 113 countries, representing 95% of the world's population, < 5% of young men and women lived alone in 56% of the countries, and < 5% of mature adults (50–54 years) lived alone in 44%. The low percentages of living alone increased only in later life.
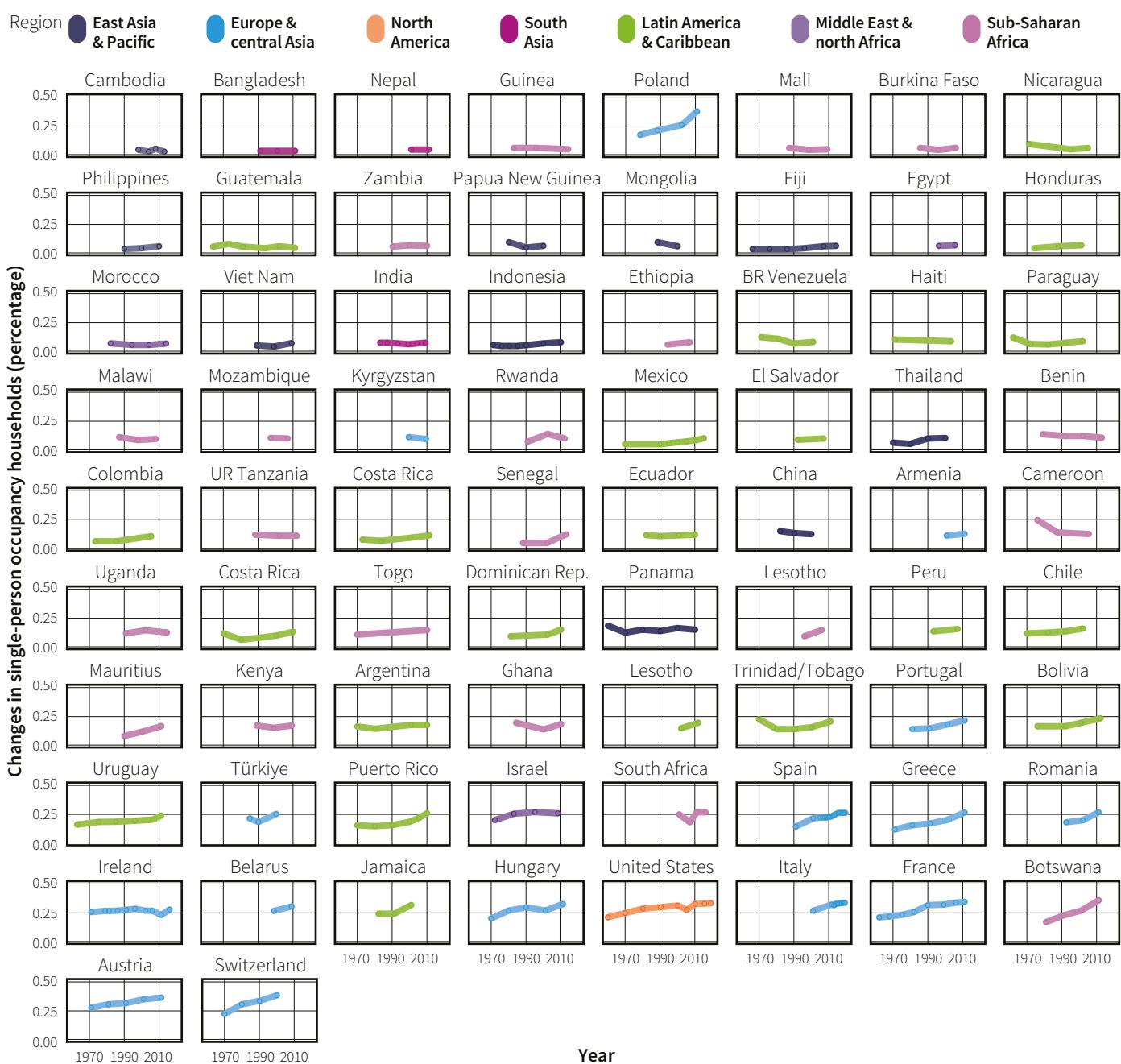
Analysis of time trends in living alone for the period 1990–2021 in these countries showed differences by region and sex. For middle-aged women, living alone is increasing only in Europe and North America (with intraregional differences), with little change elsewhere. For older women, the rate of living alone has increased to a greater extent in Latin America and more uniformly within the region, while, in Europe, the rates of increase have decreased to near zero and are negative beyond the age of 75 years. Among men, the rates have increased during most of the life cycle, except in Asia, where there is no sign of change. The increases are greater before the age of 60 years and much lower during later life. Overall, the rates of

increase are greater among males, with the exception of older people in Latin America, where the increase among females is much higher *(115)*.

Using these data *(115, 116)*, Cohen *(114)* created the image reproduced in Fig. 8 of trends in 75 countries, covering 73% of the world's population, between 1960 and 2019. The percentage of one-person households ranged from 2.6% in Cambodia to 38% in Switzerland. Overall, in 53 of the 75 countries, the percentage of one-person households was increasing. The countries in which decreases were seen were mainly in Africa and Asia, and the decreases were generally smaller than the increases *(114)*.

Fig. 8.

Changes in single-person occupancy households between 1960 and 2019
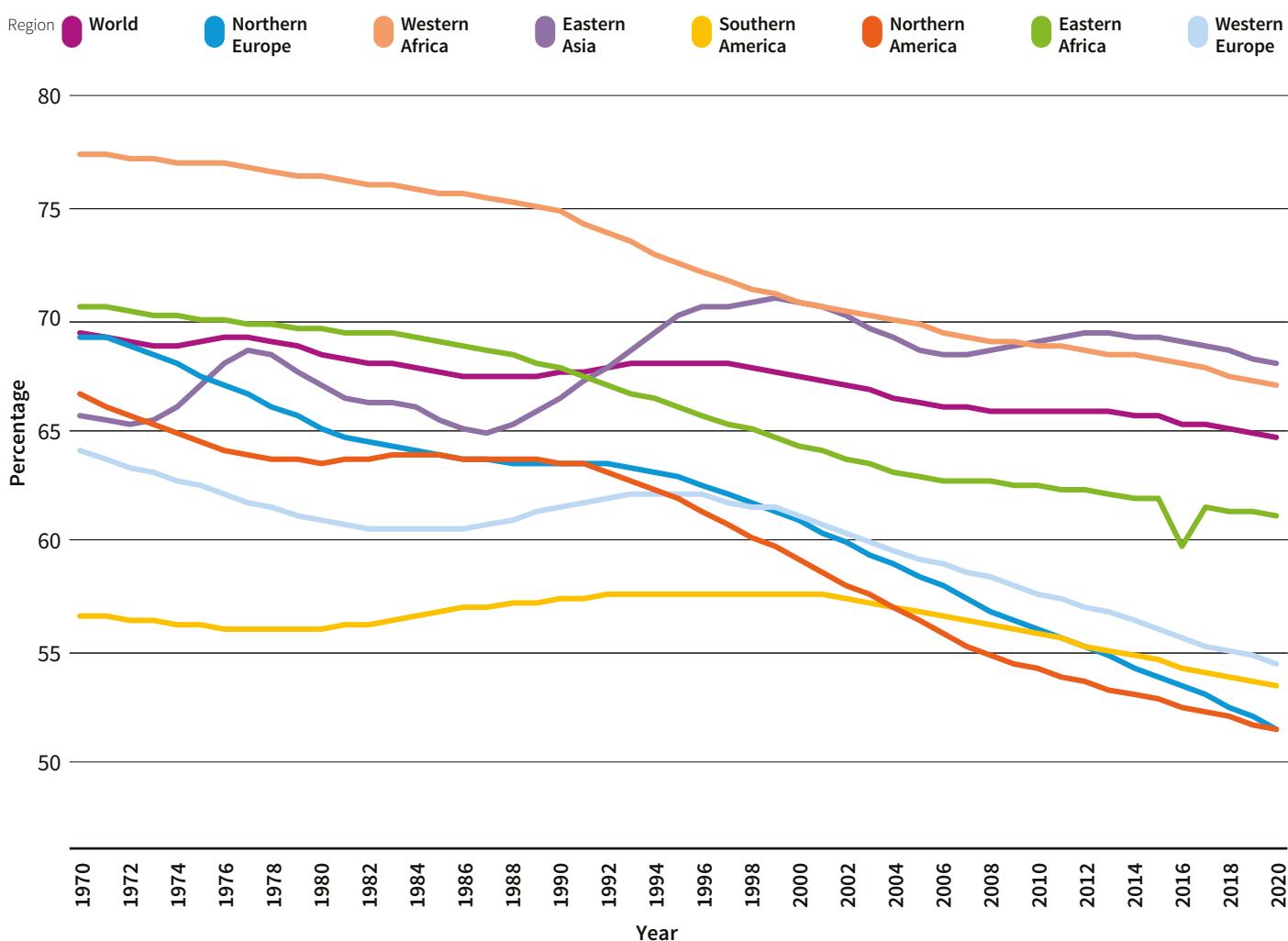
BR Venezuela: Bolivarian Republic of Venezuela; UR Tanzania: United Republic of Tanzania.
Source: Cohen *(114).*

Being married or in a union is, like living alone, another indicator of social connection and social isolation (Chapter 1) and can be a protective factor against loneliness (Chapter 3). Global data on the percentage of the population who are either married or living with a partner are available, however, only for women of reproductive age (15–49 years) *(117)*. They show that, globally, the percentage of women in either marriage or cohabitation is decreasing but only slightly – from 69% in 1970 to 65% for 2020 (Fig. 9). They also show regional differences. For instance, in east Asia, the proportion of women who are married or in a cohabiting union has increased on the whole; in South America, the percentage has remained broadly the same; and in north America and northern Europe, it has decreased *(117)*.

Fig. 9.

Percentage of women 15 to 49 years old who were married or in a union between 1970 and 2020
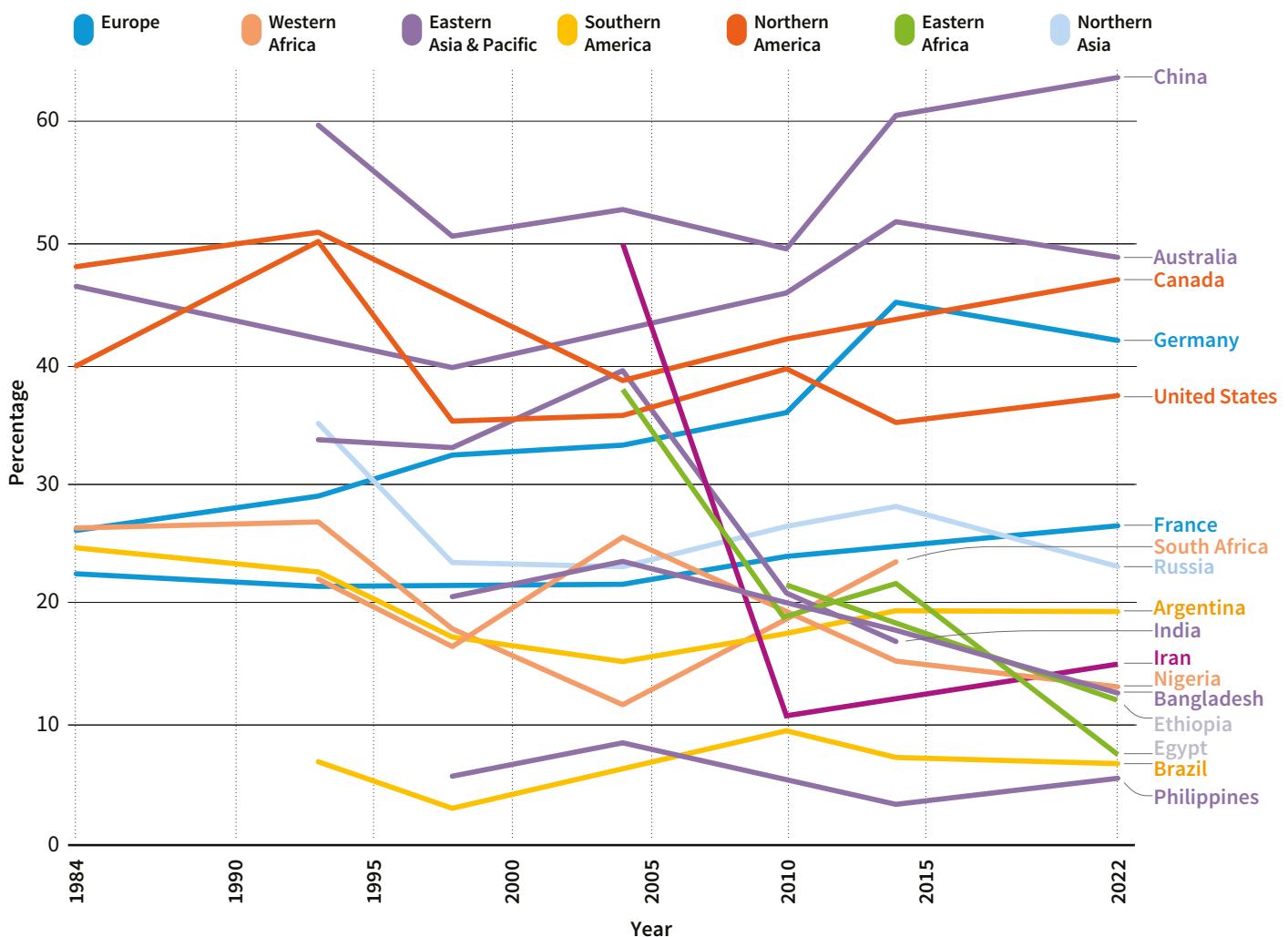
Source: United Nations *(117)*.

Fig. 10 shows time trends in the percentage of people who agreed with the statement "most people can be trusted", an indicator of social trust and a correlate of social connection. The data cover the period 1984–2022 and some of the most populated countries in various regions of the world *(118)*. Time trends have not, unfortunately, been calculated for the global population. The picture in the countries included is mixed. For instance, between 2004 and 2022, the percentage increased in China (52.5% to 63.5%), the USA (35.5% to 37%) and Germany (33.1% to 41.6%), remained broadly stable in Australia, Brazil, France and the Philippines, but decreased, for instance, in Bangladesh (20.5% to 12.9% between 1998 and 2022), Egypt (37.5% to 12.3% between 2004 and 2022) and India (35.5% to 16.7% between 1993 and 2014).

Fig. 10.

Percentages of people who agreed that "most people can be trusted" between 1984 and 2022

Source: Integrated Values Surveys *(118)*.

Even if data on time trends in facets of social disconnection are unclear and it is uncertain whether rates are going up, down or remaining much the same in different parts of the world, it is clear that the prevalence of loneliness and social isolation is high, with almost one person in six on this planet experiencing loneliness.

Future research directions

- Regular monitoring of the prevalence of social connection, social isolation and loneliness at global, regional and national levels should be a high priority. This will allow progress to be tracked and the impact of strategies to address the issue to be measured. Furthermore, monitoring is a precondition for a coordinated international and national response to the problem.

- The first requirement will be the development and adoption, internationally, of reliable, valid, cross-culturally valid measurement instruments for social connection, social isolation and loneliness.

- This in turn will necessitate the development, as a priority, of an instrument to measure social connection as conceptualized in this report: in the three dimensions of structure, function and quality.

- More evidence should be generated on the quality of instruments for measuring social isolation.

- Better data are required on global, regional and national time trends by age group for better understanding of trends and their drivers in order to address the problem.

Conclusion

The global and regional estimates of loneliness presented in this chapter show that loneliness is widespread. Globally, nearly one person in six on this planet is lonely. Although the rates of loneliness among younger people and those in lower-income countries tend to be higher, loneliness affects people of all ages in all regions. Given the wide-ranging, serious impacts of loneliness, reviewed in Chapter 4, the global burden of loneliness is sizeable and has, until recently, been under-recognized. We are not, however, powerless in the face of this issue. There are, as described in Chapters 5–8, a wide range of promising solutions for fostering social connection and reducing social isolation and loneliness.

Better measurement instruments and data, including on time trends, should be generated on the scale and distribution of social connection, social isolation and loneliness. The Global Index on Social Connection proposed in Chapter 9: The way forward, will, we hope, go some way to addressing this gap.

References

1. Schmets G, Rajan D, Kadandale S, editors. Strategizing national health in the 21st century: a handbook. Geneva: World Health Organization; 2016 (https://iris.who.int/handle/10665/250221).

2. COSMIN. Checklists for assessing study qualities [website]. Amsterdam: COnsensus-based Standards for the selection of health Measurement INstruments. Amsterdam: COSMIN; 2024 (https://www.cosmin.nl/tools/checklists-assessing-methodological-study-qualities/).

3. Cruchinho P, Lopez-Franco MD, Capelas ML, Almeida S, Bennett PM, Miranda da Silva M et al. Translation, cross-cultural adaptation, and validation of measurement instruments: a practical guideline for novice researchers. J Multidiscip Healthc. 2024;17:2701–28 (https://doi.org/10.2147/JMDH.S419714).

4. International Test Commission. The ITC guidelines for translating and adapting tests, second edition. London: International Test Commission; 2017 (www.InTestCom.org).

5. Cole A, Bond C, Qualter P, Maes M. A systematic review of the development and psychometric properties of loneliness measures for children and adolescents. Int J Environ Res Public Health. 2021;18 (https://doi.org/10.3390/ijerph18063285).

6. Panayiotou M, Badcock JC, Lim MH, Banissy MJ, Qualter P. Measuring loneliness in different age groups: the measurement invariance of the UCLA loneliness scale. Assessment. 2023;30:1688–715 (https://doi.org/10.1177/10731911221119533).

7. Meta-Gallup. The global state of social connections. Washington DC: Gallup; 2023 (https://www.gallup.com/file/analytics/513347/Gallup-Meta-Global%20State%20of%20Social%20Connections%20Report-2023.pdf).

8. Meta-Gallup. The state of social connections methodology report. Washington, DC: Gallup; 2022 (https://socialmediaarchive.org/record/47/files/methodology.pdf).

9. Delhey J, Dragolov G, Boehnke K. Social cohesion in international comparison: a review of key measures and findings. Köln Z Soziol Sozialpsychol. 2023;75:95–120 (https://doi.org/10.1007/s11577-023-00891-6).

10. Agampodi TC, Agampodi SB, Glozier N, Siribaddana S. Measurement of social capital in relation to health in low and middle income countries (LMIC): a systematic review. Soc Sci Med. 2015;128:95–104 (https://doi.org/10.1016/j.socscimed.2015.01.005).

11. Siette J, Pomare C, Dodds L, Jorgensen M, Harrigan N, Georgiou A. A comprehensive overview of social network measures for older adults: a systematic review. Arch Gerontol Geriatr. 2021;97:104525 (https://doi.org/10.1016/j.archger.2021.104525).

12. Berkman LF, Syme SL. Social networks, host resistance, and mortality: a nine-year follow-up study of Alameda County residents. Am J Epidemiol. 1979;109:186–204 (https://doi.org/10.1093/oxfordjournals.aje.a112674).

13. Cohen S, Doyle WJ, Skoner DP, Rabin BS, Gwaltney JM, Jr. Social ties and susceptibility to the common cold. JAMA. 1997;277:1940–4 (https://doi.org/10.1001/jama.1997.03540480040036).

14. Wardian J, Robbins D, Wolfersteig W, Johnson T, Dustman P. Validation of the DSSI-10 to measure social support in a general population. Res Soc Work Pract. 2012;23:100–6 (https://doi.org/10.1177/1049731512464582).

15. Lubben J, Blozik E, Gillmann G, Iliffe S, von Renteln Kruse W, Beck JC, et al. Performance of an abbreviated version of the Lubben Social Network Scale among three European community-dwelling older adult populations. Gerontologist. 2006;46:503–13 (https://doi.org/10.1093/geront/46.4.503).

16. Steptoe A, Shankar A, Demakakos P, Wardle J. Social isolation, loneliness, and all-cause mortality in older men and women. Proc Natl Acad Sci USA. 2013;110:5797–801 (https://doi.org/10.1073/pnas.1219686110).

17. Radloff LS. The CES-D scale. Appl Psychol Meas. 1977;1:385–401 (https://doi.org/10.1177/014662167700100306).

18. Yesavage JA, Brink TL, Rose TL, Lum O, Huang V, Adey M, Leirer VO. Development and validation of a geriatric depression screening scale: a preliminary report. J Psychiatr Res. 1982;17:37–49 (https://doi.org/10.1016/0022-3956(82)90033-4).

19. Vogel DL, Wester SR, Hammer JH, Downing-Matibag TM. Referring men to seek help: the influence of gender role conflict and stigma. Psychol Men Masculinities. 2014;15:60–7 (https://doi.org/10.1037/a0031761).

20. Russell D, Peplau LA, Cutrona CE. The revised UCLA Loneliness Scale: concurrent and discriminant validity evidence. J Pers Soc Psychol. 1980;39:472–80 (https://doi.org/10.1037//0022-3514.39.3.472).

21. Gierveld JD, Van Tilburg T. A 6-item scale for overall, emotional, and social loneliness - confirmatory tests on survey data. Res Aging. 2006;28:582–98 (https://doi.org/10.1177/0164027506289723).

22. Hughes ME, Waite LJ, Hawkley LC, Cacioppo JT. A short scale for measuring loneliness in large surveys: results from two population–based studies. Res Aging. 2004;26:655–72 (https://doi.org/10.1177/0164027504268574).

23. De Jong Gierveld J, Van Tilburg T. The De Jong Gierveld short scales for emotional and social loneliness: tested on data from 7 countries in the UN Generations and Gender Surveys. Eur J Ageing. 2010;7:121–30 (https://doi.org/10.1007/s10433-010-0144-6).

24. Alsubheen S, Oliveira A, Habash R, Goldstein R, Brooks D. Measurement properties and cross-cultural adaptation of the de Jong Gierveld Loneliness Scale in adults: a systematic review. Eur J Psychol Assess. 2023;41 (https://doi.org/10.1027/1015-5759/a000784).

25. Alsubheen SA, Oliveira A, Habash R, Goldstein R, Brooks D. Systematic review of psychometric properties and cross-cultural adaptation of the University of California and Los Angeles Loneliness Scale in adults. Curr Psychol. 2021;12:1–15 (https://doi.org/10.1007/s12144-021-02494-w).
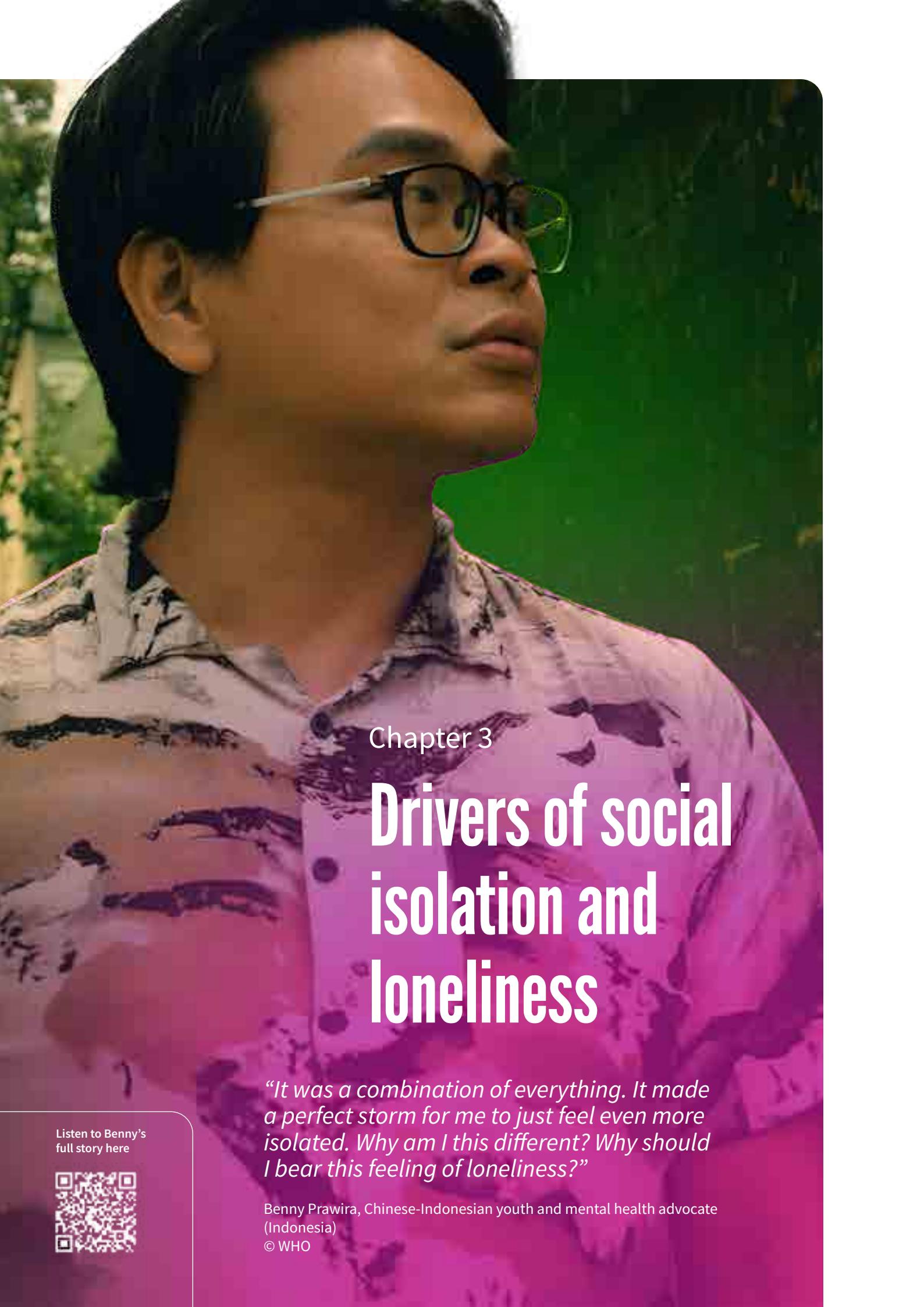
26. Surkalim DL, Luo M, Eres R, Gebel K, van Buskirk J, Bauman A, Ding D. The prevalence of loneliness across 113 countries: systematic review and meta-analysis. BMJ. 2022;376:e067068 (https://doi.org/10.1136/bmj-2021-067068).

27. Mund M, Maes M, Drewke PM, Gutzeit A, Jaki I, Qualter P. Would the real loneliness please stand up? The validity of loneliness scores and the reliability of single-item scores. Assessment. 2023;30:1226–48 (https://doi.org/10.1177/10731911221077227).

28. Kemper CJ, Trapp S, Kathmann N, Samuel DB, Ziegler M. Short versus long scales in clinical assessment: exploring the trade–off between resources saved and psychometric quality lost using two measures of obsessive–compulsive symptoms. Assessment. 2019;26:767–82 (https://doi.org/10.1177/1073191118810057).

29. Nicolaisen M, Thorsen K. Who are lonely? Loneliness in different age groups (18–81 years old), using two measures of loneliness. Int J Aging Hum Dev. 2014;78:229–57 (https://doi.org/10.2190/AG.78.3.b).

30. Peplau LA, Perlman D, Russell D. The measurement of loneliness. Chapter 9. In: Peplau LA, Perlman D, editors. Loneliness: A sourcebook of current theory, research and therapy. New York: John Wiley & Sons; 1982:135–51.

31. Holt-Lunstad J. Social connection as a critical factor for mental and physical health: evidence, trends, challenges, and future implications. World Psychiatry. 2024;23:312–32 (https://doi.org/10.1002/wps.21224).

32. Nicolaisen M, Thorsen K. What are friends for? Friendships and loneliness over the lifespan–from 18 to 79 years. Int J Aging Hum Dev. 2017;84:126–58 (https://doi.org/10.1177/0091415016655166).

33. Verity L, Yang K, Nowland R, Shankar A, Turnbull M, Qualter P. Loneliness from the adolescent perspective: a qualitative analysis of conversations about loneliness between adolescents and childline counselors. J Adolesc R. 2022;39:1413–43 (https://doi.org/10.1177/07435584221111121).

34. Hawkley LC, Buecker S, Kaiser T, Luhmann M. Loneliness from young adulthood to old age: explaining age differences in loneliness. Int J Behav Dev. 2022;46:39–49 (https://doi.org/10.1177/0165025420971048).

35. Akhter-Khan SC, van Es W, Prina M, Lawrence V, Piri I, Rokach A et al. Experiences of loneliness in lower- and middle-income countries: a systematic review of qualitative studies. Soc Sci Med. 2024;340:116438 (https://doi.org/10.1016/j.socscimed.2023.116438).

36. Triandis HC. Collectivism and individualism: cultural and psychological concerns. In: Wright JD, editor. International Encyclopedia of the Social & Behavioral Sciences. Amsterdam: Elsevier; 2015: 4:206–10 (https://www.sciencedirect.com/referencework/9780080970875/international-encyclopedia-of-the-social-and-behavioral-sciences).

37. Hofstede G. Dimensionalizing cultures: The Hofstede model in context. Chapter 8. In: Online Readings in Psychology and Culture Vol 2. Melbourne (FL): International Association for Cross-cultural Psychology; 2011.

38. Hofstede G, Hofstede GJ, Minkov M. Cultures and organizations: Software of the mind: intercultural cooperation and its importance for survival. 2nd edition. 2 ed. London: McGraw-Hill; 2010 (https://e-edu.nbu.bg/pluginfile.php/900222/mod_resource/content/1/G.Hofstede_G.J.Hofstede_M.Minkov%20-%20Cultures%20and%20Organizations%20-%20Software%20of%20the%20Mind%203rd_edition%202010.pdf).

39. Barreto M, van Breen J, Victor C, Hammond C, Eccles A, Richins MT, Qualter P. Exploring the nature and variation of the stigma associated with loneliness. J Soc Pers Relat. 2022;39:2658–79 (https://doi.org/10.1177/02654075221087190).

40. Ernst M, Niederer D, Werner AM, Czaja SJ, Mikton C, Ong AD et al. Loneliness before and during the COVID–19 pandemic: a systematic review with meta–analysis. Am Psychol. 2022;77:660–77 (https://doi.org/10.1037/amp0001005).

41. Hajek A, Volkmar A, Konig HH. Prevalence and correlates of loneliness and social isolation in the oldest old: a systematic review, meta-analysis and meta-regression. Soc Psychiatry Psychiatr Epidemiol. 2023:1–23 (https://doi.org/10.1007/s00127-023-02602-0).

42. Teo RH, Cheng WH, Cheng LJ, Lau Y, Lau ST. Global prevalence of social isolation among community-dwelling older adults: a systematic review and meta-analysis. Arch Gerontol Geriatr. 2023;107:104904 (https://doi.org/10.1016/j.archger.2022.104904).

43. Su Y, Rao W, Li M, Caron G, D'Arcy C, Meng X. Prevalence of loneliness and social isolation among older adults during the COVID-19 pandemic: a systematic review and meta-analysis. Int Psychogeriatr. 2023;35:229–41 (https://doi.org/10.1017/S1041610222000199).

44. Werneck AO, Araujo RHO, Oyeyemi AL, Silva DR. Social isolation is associated with higher leisure-time sedentary behavior and lower physical activity practice: a multi-country analysis of data from 79 countries from the Global School-Based Student Health Survey. Prev Med. 2023;175:107677 (https://doi.org/10.1016/j.ypmed.2023.107677).

45. Meta-Gallup. The global state of social connections [website]. Washington, DC: Gallup; 2023 (https://www.gallup.com/analytics/509675/state-of-social-connections.aspx) .

46. Lattanner MR, Hatzenbuehler M. Thwarted belonging needs: a mechanism prospectively linking multiple levels of stigma and interpersonal outcomes among sexual minorities. J Soc Issues. 2023;79:410–45 (https://doi.org/10.1111/josi.12564).

47. Visser MA, El Fakiri F. The prevalence and impact of risk factors for ethnic differences in loneliness. Eur J Public Health. 2016;26:977–83 (https://doi.org/10.1093/eurpub/ckw115).

48. Rahman MS, Rahman MA, Rahman MS. Prevalence and determinants of loneliness among older adults in Bangladesh. Int J Emerg Trends Soc Sci. 2019;5:57–64 (https://doi.org/10.20448/2001.52.57.64).

49. Ailey SH, Miller AM, Heller T, Smith EV. Evaluating an interpersonal model of depression among adults with Down syndrome. Res Theory Nurs Pract. 2006;20:229–46 (https://doi.org/10.1891/rtnp.20.3.229).

50. Australian Government Department of Social Services, Melbourne Institute of Applied Economic and Social Research. The Household, Income and Labour Dynamics in Australia (HILDA) Survey, General Release 21. Melbourne: Melbourne Institute of Applied Economic and Social Research; 2022 (https://dataverse.ada.edu.au/dataset.xhtml?persistentId=https://doi.org/10.26193/KXNEBO).

51. Brunes A, Hansen MB, Heir T. Loneliness among adults with visual impairment: prevalence, associated factors, and relationship to life satisfaction. Health Qual Life Outcomes. 2019;17:24 (https://doi.org/10.1186/s12955-019-1096-y).

52. Denche-Zamorano A, Garcia-Gil MA, Mendoza-Munoz M, Barrios-Fernandez S. Sadness and loneliness in adolescents with physical, sensory or health problems in low/middle-income countries. Children. 2023;10:996 (https://doi.org/10.3390/children10060996).

53. Emerson E, Fortune N, Llewellyn G, Stancliffe R. Loneliness, social support, social isolation and wellbeing among working age adults with and without disability: cross-sectional study. Disabil Health J. 2021;14:100965 (https://doi.org/10.1016/j.dhjo.2020.100965).

54. Emerson E, Stancliffe R, Fortune N, Llewellyn G. Disability, loneliness and health in the UK: cross-sectional survey. Eur J Public Health. 2021;31:533–8 (https://doi.org/10.1093/eurpub/ckab018).

55. Bishop GM, Llewellyn G, Kavanagh AM, Badland H, Bailie J, Stancliffe R et al. Disability-related inequalities in the prevalence of loneliness across the lifespan: trends from Australia, 2003 to 2020. BMC Public Health. 2024;24:621 (https://doi.org/10.1186/s12889-024-17936-w).

56. Gomez-Zuniga B, Pousada M, Armayones M. Loneliness and disability: a systematic review of loneliness conceptualization and intervention strategies. Front Psychol. 2022;13:1040651 (https://doi.org/10.3389/fpsyg.2022.1040651).

57. Emerson E, Stancliffe RJ, Aitken Z, Bailie J, Bishop GM, Badland H et al. Disability and loneliness in the United Kingdom: cross-sectional and longitudinal analyses of trends and transitions. BMC Public Health. 2023;23:2537 (https://doi.org/10.1186/s12889-023-17481-y).

58. National Academies of Sciences, Engineering, and Medicine. Social isolation and loneliness in older adults: opportunities for the health care system. Washington, DC: The National Academies Press; 2020 (https://nap.nationalacademies.org/catalog/25663/social-isolation-and-loneliness-in-older-adults-opportunities-for-the).

59. Garcia J, Vargas N, Clark Jl, Magaña Álvarez M, Nelons DA, Parker RG. Social isolation and connectedness as determinants of well-being: global evidence mapping focused on LGBTQ youth. Glob Public Health. 2020;15:497–519 (https://doi.org/10.1080/17441692.2019.1682028).

60. Schumacher S, Panchal N, Hamel L, Artiga S, Presiado M. Loneliness and social support networks: findings from the KFF survey of racism, discrimination and health [website]. San Francisco (CA): KFF; 2024 (https://www.kff.org/mental-health/poll-finding/loneliness-and-social-support-networks-findings-from-the-kff-survey-of-racism-discrimination-and-health/#:~:text=The%20Prevalence%20of%20Loneliness&text=older%20age%20groups.-,While%20at%20least%20one%20in%20five%20young%20adults%20say%20they,or%20Asian%20adults%20(22%25).

61. Gorczynski P, Fasoli F. Loneliness in sexual minority and heterosexual individuals: a comparative meta-analysis. J Gay Lesbian Ment Health. 2022;26:112–29 (https://doi.org/10.1080/19359705.2021.1957742).

62. Eres R, Postolovski N, Thielking M, Lim MH. Loneliness, mental health, and social health indicators in LGBTQIA+ Australians. Am J Orthopsychiatry. 2021;91:358–66 (https://doi.org/10.1037/ort0000531).

63. Victor C, Rippon I. Loneliness among under-represented older adults in the UK: a study of minority ethnic and LGBTQ plus populations. Innov Aging. 2023;7:1075 (https://doi.org/10.1093/geroni/igad104.3453).

64. Hajek A, Konig HH, Blessmann M, Grupp K. Loneliness and social isolation among transgender and gender diverse people. Healthcare. 2023;11:1517 (https://doi.org/10.3390/healthcare11101517).

65. Löbel LM, Kröger H, Tibubos AN. How migration status shapes susceptibility of individuals' loneliness to social isolation. Int J Public Health. 2022;67:1604576 (https://doi.org/10.3389/ijph.2022.1604576).

66. Fokkema T. Loneliness among older migrants. In: Hunter A, editor. Handbook on migration and ageing. Cheltenham: Edward Elgar Publishing; 2023:290–300 (https://www.elgaronline.com/view/book/9781839106774/book-part-9781839106774-36.xml).

67. Johnson S, Bacsu J, McIntosh T, Jeffery B, Novik N. Social isolation and loneliness among immigrant and refugee seniors in Canada: a scoping review. Int J Migr Health Soc Care. 2019;15:177–90 (https://doi.org/10.1108/ijmhsc-10-2018-0067).

68. Delaruelle K. Migration-related inequalities in loneliness across age groups: a cross-national comparative study in Europe. Eur J Ageing. 2023;20:35 (https://doi.org/10.1007/s10433-023-00782-x).

69. Fokkema T, Naderi R. Differences in late-life loneliness: a comparison between Turkish and native-born older adults in Germany. Eur J Ageing. 2013;10:289–300 (https://doi.org/10.1007/s10433-013-0267-7).

70. Lin X, Bryant C, Boldero J, Dow B. Psychological well-being of older Chinese immigrants living in Australia: a comparison with older Caucasians. Int Psychogeriatr. 2016;28:1671–9 (https://doi.org/10.1017/S1041610216001010).

71. ten Kate RLF, Bilecen B, Steverink N. A closer look at loneliness: why do first-generation migrants feel more lonely than their native Dutch counterparts? Gerontologist. 2020;60:291–301 (https://doi.org/10.1093/geront/gnz192).

72. van Tilburg TG, Fokkema T. Stronger feelings of loneliness among Moroccan and Turkish older adults in the Netherlands: in search for an explanation. Eur J Ageing. 2021;18:311–22 (https://doi.org/10.1007/s10433-020-00562-x).

73. Beere P, Keeling S, Jamieson H. Ageing, loneliness, and the geographic distribution of New Zealand's interRAI-HC cohort. Soc Sci Med. 2019;227:84–92 (https://doi.org/10.1016/j.socscimed.2018.08.002).

74. Lam J. Neighborhood characteristics, neighborhood satisfaction, and loneliness differences across ethnic-migrant groups in Australia. J Gerontol B Psychol Sci Soc Sci. 2022;77:2113–25 (https://doi.org/10.1093/geronb/gbab219).

75. Lay-Yee R, Milne BJ, Wright-St Clair VA, Broad J, Wilkinson T, Connolly M et al. Prevalence of loneliness and its association with general and health-related measures of subjective well-being in a longitudinal bicultural cohort of older adults in advanced age living in New Zealand: LiLACS NZ. J Gerontol B Psychol Sci Soc Sci. 2022;77:1904–15 (https://doi.org/10.1093/geronb/gbac087).

76. Victor CR, Dobbs C, Gilhooly K, Burholt V. Loneliness in mid-life and older adults from ethnic minority communities in England and Wales: measure validation and prevalence estimates. Eur J Ageing. 2021;18:5–16 (https://doi.org/10.1007/s10433-020-00564-9).

77. Victor CR, Rippon I, Barreto M, Hammond C, Qualter P. Older adults' experiences of loneliness over the lifecourse: an exploratory study using the BBC loneliness experiment. Arch Gerontol Geriatr. 2022;102:104740 (https://doi.org/10.1016/j.archger.2022.104740).

78. Jamieson HA, Gibson HM, Abey-Nesbit R, Ahuriri-Driscoll A, Keeling S, Schluter PJ. Profile of ethnicity, living arrangements and loneliness amongst older adults in Aotearoa New Zealand: a national cross-sectional study. Australas J Ageing. 2018;37:68–73 (https://doi.org/10.1111/ajag.12496).

79. Guan Z, Poon AWC, Zwi A. Social isolation and loneliness in family caregivers of people with severe mental illness: a scoping review. Am J Community Psychol. 2023;72:443–63 (https://doi.org/10.1002/ajcp.12698).

80. Poon AWC, Curtis J, Howard A, Ward PB, Lappin JM. Health of carers of young people with early psychosis: a biopsychosocial approach. Aust Soc Work. 2019;72:260–73 (https://doi.org/10.1080/0312407x.2018.1530269).

81. Grycuk E, Chen Y, Almirall-Sanchez A, Higgins D, Galvin M, Kane J et al. Care burden, loneliness, and social isolation in caregivers of people with physical and brain health conditions in English-speaking regions: before and during the COVID-19 pandemic. Int J Geriatr Psychiatry. 2022;37 (https://doi.org/10.1002/gps.5734).

82. Hamamura T. Cross-temporal changes in people's ways of thinking, feeling, and behaving. Curr Opin Psychol. 2020;32:17–21 (https://doi.org/10.1016/j.copsyc.2019.06.019).

83. Luhmann M, Buecker S, Rusberg M. Loneliness across time and space. Nat Rev Psychol. 2023;2:9–23 (https://doi.org/10.1038/s44159-022-00124-1).

84. Snell KDM. Agendas for the historical study of loneliness and lone living. Open Psychol J. 2015;8:61–70 (https://doi.org/10.2174/1874350101508010061).

85. Snell KDM. The rise of living alone and loneliness in history. Soc Hist. 2017;42:2–28 (https://doi.org/10.1080/03071022.2017.1256093).

86. Bound Alberti F. This "modern epidemic": loneliness as an emotion cluster and a neglected subject in the history of emotions. Emot Rev. 2018;10:242–54 (https://doi.org/10.1177/1754073918768876).

87. Parigi P, Henson W. Social isolation in America. Annu Rev Sociol. 2014;40:153–71 (https://doi.org/10.1146/annurev-soc-071312-145646).

88. Burnett C. The historical roots of loneliness. Vulcan Historical Review. 2023;27:66–74 (https://digitalcommons.library.uab.edu/vulcan/vol27/iss2023/14).

89. WHO. Coronavirus disease (COVID-19) pandemic [website]. Copenhagen: World Health Organization Regional Office for Europe; 2024 (https://www.who.int/europe/emergencies/situations/covid-19).

90. Valdebenito S, Mikton C, Speyer L, Djurdjevic F, Farzana A. Understanding the indirect impact of COVID-19 on older adults' mental health and wellbeing. A multi-level meta-analysis. Lancet Glob Health; [in press].

91. Kovacs B, Caplan N, Grob S, King M. Social networks and loneliness during the COVID-19 pandemic. Socius. 2021;7:2378023120985254 (https://doi.org/10.1177/2378023120985254).

92. Patulny R, Bower M. Beware the "loneliness gap"? Examining emerging inequalities and long-term risks of loneliness and isolation emerging from COVID-19. Aust J Soc Issues. 2022;57:562–83 (https://doi.org/10.1002/ajs4.223).

93. Skałacka K, Pajestka G. Digital or in-person: the relationship between mode of interpersonal communication during the COVID-19 pandemic and mental health in older adults from 27 countries. J Fam Nurs. 2021;27:275–84 (https://doi.org/10.1177/10748407211031980).

94. Buecker S, Mund M, Chwastek S, Sostmann M, Luhmann M. Is loneliness in emerging adults increasing over time? A preregistered cross-temporal meta-analysis and systematic review. Psychol Bull. 2021;147:787–805 (https://doi.org/10.1037/bul0000332).

95. Smith L, Sánchez GFL, Pizzol D, Yon DK, Oh H, Kostev K et al. Global time trends of perceived loneliness among adolescents from 28 countries in Africa, Asia, and the Americas. J Affect Disord. 2024;346:192–9 (https://doi.org/10.1016/j.jad.2023.11.032).

96. Clark DM, Loxton NJ, Tobin SJ. Declining loneliness over time: evidence from American colleges and high schools. Pers Soc Psychol Bull. 2015;41:78–89 (https://doi.org/10.1177/0146167214557007).

97. Xin SF, Xin ZQ. Birth cohort changes in Chinese college students' loneliness and social support: one up, as another down. Int J Behav Dev. 2016;40:398–407 (https://doi.org/10.1177/0165025415597547).

98. Infurna FJ, Dey NEY, Gonzalez Aviles T, Grimm KJ, Lachman ME, Gerstorf D. Loneliness in midlife: historical increases and elevated levels in the United States compared with Europe. Am Psychol. 2024;18 (https://doi.org/10.1037/amp0001322).

99. Yan Z, Yang X, Wang L, Zhao Y, Yu L. Social change and birth cohort increase in loneliness among Chinese older adults: a cross-temporal meta-analysis, 1995–2011. Int Psychogeriatr. 2014;26:1773–81 (https://doi.org/10.1017/S1041610214000921).

100. Eloranta S, Arve S, Isoaho H, Lehtonen A, Viitanen M. Loneliness of older people aged 70: a comparison of two Finnish cohorts born 20 years apart. Arch Gerontol Geriatr. 2015;61:254–60 (https://doi.org/10.1016/j.archger.2015.06.004).

101. Dahlberg L, Agahi N, Lennartsson C. Lonelier than ever? Loneliness of older people over two decades. Arch Gerontol Geriatr. 2018;75:96–103 (https://doi.org/10.1016/j.archger.2017.11.004).

102. Nyqvist F, Cattan M, Conradsson M, Nasman M, Gustafsson Y. Prevalence of loneliness over ten years among the oldest old. Scand J Public Health. 2017;45:411–8 (https://doi.org/10.1177/1403494817697511).

103. Hulur G, Drewelies J, Eibich P, Duzel S, Demuth I, Ghisletta P et al. Cohort differences in psychosocial function over 20 years: current older adults feel less lonely and less dependent on external circumstances. Gerontology. 2016;62:354–61 (https://doi.org/10.1159/000438991).

104. Suanet B, van Tilburg TG. Loneliness declines across birth cohorts: the impact of mastery and self-efficacy. Psychol Aging. 2019;34:1134–43 (https://doi.org/10.1037/pag0000357).

105. Hawkley LC, Wroblewski K, Kaiser T, Luhmann M, Schumm LP. Are US older adults getting lonelier? Age, period, and cohort differences. Psychol Aging. 2019;34:1144–57 (https://doi.org/10.1037/pag0000365).

106. Surkalim DL, Clare PJ, Eres R, Gebel K, Bauman A, Ding D. Have middle-aged and older Americans become lonelier? 20-year trends from the health and retirement study. J Gerontol B Psychol Sci Soc Sci. 2023;78:1215–23 (https://doi.org/10.1093/geronb/gbad062).

107. Loneliness and the workplace: 2020 US report. Bloomfield (CT): The Cigna Group; 2020 (https://legacy.cigna.com/static/www-cigna-com/docs/about-us/newsroom/studies-and-reports/combatting-loneliness/cigna-2020-loneliness-report.pdf).

108. Lin Y, Zhu T, Zhang X, Zeng Z. Trends in the prevalence of social isolation among middle and older adults in China from 2011 to 2018: the China Health and Retirement Longitudinal Study. BMC Public Health. 2024;24:339 (https://doi.org/10.1186/s12889-024-17734-4).

109. Kannan VD, Veazie PJ. US trends in social isolation, social engagement, and companionship - nationally and by age, sex, race/ethnicity, family income, and work hours, 2003-2020. SSM Popul Health. 2023;21:101331 (https://doi.org/10.1016/j.ssmph.2022.101331).

110. Trends in loneliness among older adults from 2018–2023. Ann Arbor (MI): University of Michigan, Institute for Healthcare Policy and Innovation; 2023 (https://deepblue.lib.umich.edu/bitstream/handle/2027.42/175971/0300_NPHA-Loneliness-report-FINAL-doifinal.pdf?sequence=4&isAllowed=y).

111. Trends in social isolation. London: What Works Centre for Wellbeing; 2023 (https://whatworkswellbeing.org/resources/trends-in-social-isolation/).

112. Social isolation and loneliness [website]. Canberra: Australian Institute of Health and Welfare, 2024 (https://www.aihw.gov.au/mental-health/topic-areas/social-isolation-and-loneliness).

113. Snell KDM. Agendas for the historical study of loneliness and lone living. The Open Psychology Journey. 2015;8 (http://dx.doi.org/10.2174/1874350101508010061).

114. Cohen PN. The rise of one-person households. Socius. 2021;7:23780231211062315 (https://doi.org/10.1177/237 80231211062315).

115. Esteve A, Reher DS, Treviño R, Zueras P, Turu A. Living alone over the life course: cross-national variations on an emerging issue. Popul Dev Rev. 2020;46:169–89 (https://doi.org/10.1111/padr.12311).

116. Ortiz–Ospina E. Loneliness and social connections. London: Our World in Data; 2020 (https://ourworldindata. org/social-connections-and-loneliness).

117. United Nations Department of Economic and Social Affairs, United Nations Population Division. Women of reproductive age who are married or in a union 2024, dataset [online database]. New York: United Nations; 2024 (https://www.un.org/development/desa/pd/content/fertility-and-marriage-0).

118. Share of people agreeing with the statement "most people can be trusted". London: Our World in Data; 2022 (https://ourworldindata.org/grapher/self-reported-trust-attitudes?tab=chart).

Chapter 3

Drivers of social isolation and loneliness

"It was a combination of everything. It made a perfect storm for me to just feel even more isolated. Why am I this different? Why should I bear this feeling of loneliness?"

Benny Prawira, Chinese-Indonesian youth and mental health advocate
(Indonesia)
© WHO

Key messages

- **Many factors – such as modernity, industrialization, technological advances and secularization – have been proposed to account for a perceived historical increase in social disconnection. Pending further research, however, any role remains speculative.**

- **Factors that increase the likelihood of an individual experiencing loneliness and social disconnection for which there is good evidence include physical and mental health conditions (particularly depression), certain personality traits (e.g. neuroticism), not having a partner, living alone and aspects of the built environment, including lack of access to public transport. Digital technologies and their impact on social connection are a rapidly growing, emerging field that requires further research to fully understand their benefits and harms.**

- **Less is perhaps understood of the drivers than of other aspects (e.g. scale, impacts) of social connection, social isolation and loneliness.**

Section 3.1 surveys broad factors that may account for perceived historical trends in social disconnection. Section 3.2 reviews general risk and protective factors for individuals experiencing social isolation and loneliness. Section 3.3 reviews risk and protective factors specific to particular populations.

Accurate identification of the drivers of social connection, social isolation and loneliness is critical for developing effective strategies (Chapters 5–8). These will be effective, however, only if they address the causal drivers of the problem *(1–3)*. Understanding the drivers is challenging, as social connection, social isolation and loneliness are influenced by a complex interplay of individual, interpersonal, community and societal factors (Section 3.2) *(1, 4)*.

While there is extensive evidence linking social connection to mortality, mental and physical health and various social and economic outcomes (Chapter 4), less is known about what drives social connection. This gap may stem from challenges in defining and conceptualizing social connection consistently. More research has been conducted on the drivers of loneliness and, to a lesser extent, social isolation. Studies of social connection often highlight the same factors that drive social isolation and loneliness *(5)*. This chapter therefore primarily addresses the drivers of social isolation and loneliness, as further investigation is necessary to determine how these factors are related to other forms of social disconnection.
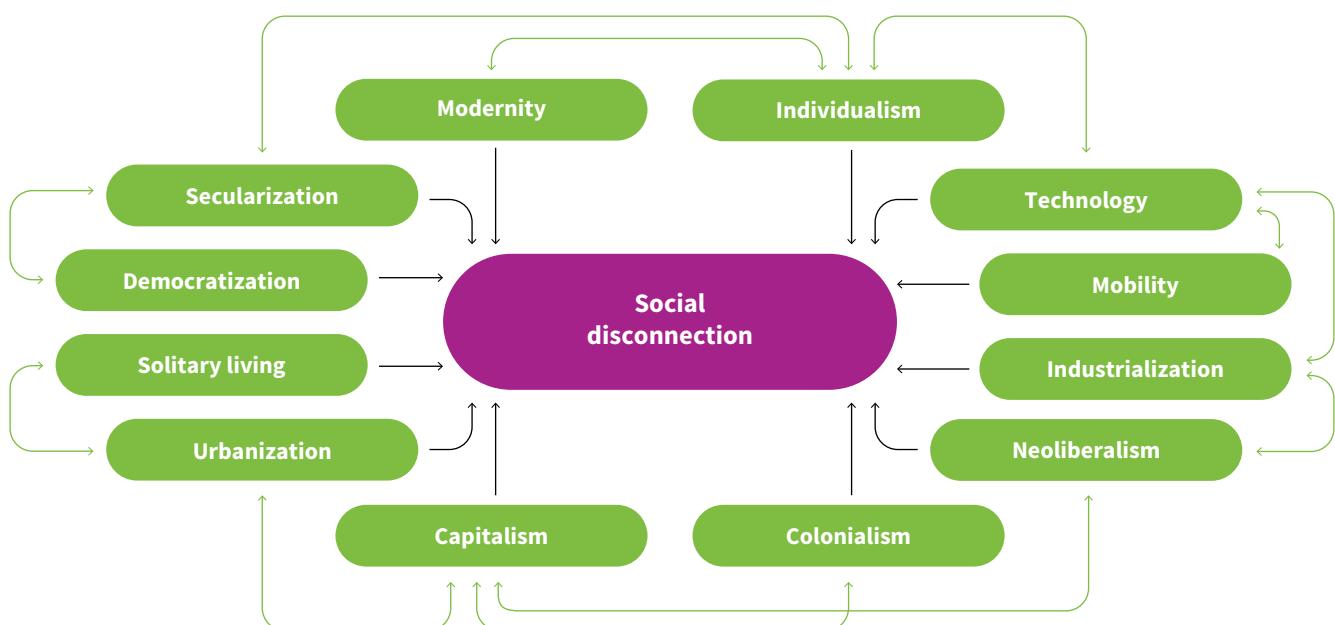
3.1   Factors that may account for the hypothesized historical increase in social disconnect

Globally, there is no conclusive information on longer-term historical trends and no recent time trends for the prevalence of social isolation and loneliness. This is due, as shown in Chapter 2, to lack of data. There are indications, however, that, in some countries, such as China and the USA, the prevalence of social isolation and loneliness has been increasing in recent decades. Data also show that, in most but not all countries, increasing proportions of people live alone.

Despite the lack of conclusive evidence on longer-term time trends, the perception that social disconnection has been increasing over past decades and centuries is widespread. For example, the "lost community hypothesis" (Chapter 2) *(6)*, holds that the rise of social isolation and loneliness is a by-product of modernity characterized by rapid, disruptive technological advances, secularization, individualism, democratization, capitalism, mass society, urbanism and other factors. Some potential drivers that have been proposed to explain the hypothesized rise in social disconnection are shown in Fig. 11 and discussed below.

Fig. 11.

Factors that may account for historical trends in social disconnection

Industrialization, urbanization and mass solitary living: the industrial revolution led to the rise of mass solitary living in urban centres *(7, 8)*. Living alone is an indicator of the structural dimension of social connection and, as described below, a risk factor for social isolation and loneliness *(5)*. As discussed in Chapter 2, in parts of Europe, Japan and North America, there was a dramatic rise in the number of single-person households during the 20th century, particularly since

the 1960s *(8)*. Many factors have been invoked to account for this increase, such as demographic changes (e.g. increasing life expectancy, changing marriage patterns, decreased birth rates, childlessness, more divorces), rising prosperity, women's rights (reducing constraints on younger women living alone), changing communication technologies, urbanization, education and individualistic ideologies. Industrialization occurred at different times in different places. For instance, China more recently underwent rapid industrialization and mass migration to cities, separating people from their social networks. By 2014, rural-to-urban migrant workers made up nearly one fifth of the entire Chinese population (274 million) *(9)*. A review of 25 studies in China found large increases in the prevalence of loneliness among older adults in China between 1995 and 2011 *(10)*.

Technology: the impact of technology before the advent of digital technology on social connection and disconnection is unclear. Technology has long been seen as both a cause of and cure for social isolation and loneliness *(6, 11, 12)*. For instance, Slade *(13)* maintained that, in the USA, the trend to eliminate human interactions through technologies such as vending machines, transistor radios, jukeboxes and supermarkets for reasons of speed, efficiency and cost began during the wave of urbanization following the civil war (1861–1865). Others suggest that the picture is more nuanced – that the effects of trains, planes and automobiles on social connection have been mixed, allowing people to both widen their social networks and maintain connections after moving away, but may have weakened people's general sense of belonging *(7)*. The advent of newer communication technologies (such as smartphones and social media) has altered the way in which individuals communicate and interact with others. The evidence on the impact of increased digital communication technology accessibility and use is mixed, as further discussed in Box 2.

Box 2.
Digital technologies as drivers of social connection, social isolation and loneliness

During the past few decades, the emergence, spread and integration of digital technologies into people's lives has increased rapidly. Thus, use of the Internet, smart-phones and social media has become widespread, and emerging technologies such as AI assistants and virtual reality may play larger roles in the coming years. In 2024, an estimated 68% of the world's population were using the Internet, and 80% (aged ≥ 10 years) owned a mobile phone *(14)*. Although there are regional variations in Internet use (from 38% in Africa to 91% in Europe) and ownership of a mobile phone (from 66% in Africa to 95% in Europe), increasing trends are apparent in most areas *(14, 15)*.

The rising use of digital technologies is markedly transforming how we interact with others and our environment. This can impact social connections, social isolation and loneliness in ways that are complex and not fully understood. Our understanding is limited by a rapidly changing digital world, resistance by companies to share the data necessary to conduct rigorous research, conflicting research findings, the domination of cross-sectional and short-term research and differences in the way in which digital technology use and social connection are measured for studies.

Some research suggests that social media use and excessive engagement with online platforms have negative impacts on social connection *(16–18)* by reducing the quality and quantity of interactions when the time spent using digital technology replaces in-person interactions *(19)*. Use of social media may increase social isolation and loneliness by inciting unhealthy comparisons with others, the spread of misinformation, modelling of unhealthy behaviours, facilitation of cyberbullying or harassment *(20–23)* and use of social media to replace in-person interactions because of poor social skills or social anxiety *(4, 24–26)*. Further, social media environments may not provide features for community building or interaction, reducing the chances of engaging with others. Use of technology can also interfere with the quality of relationships, such as "phubbing" or "technoference" – ignoring an in-person conversation by using a mobile phone *(27–31)*.

Associations between digital technology use and social connection can be bidirectional *(16, 32, 33)* and influenced by the type of technology being used, how and why it is used and who uses it (Table 2). For instance, if social media are used to enhance existing relationships, facilitate new communities or learn, they may have a protective effect on social disconnection *(24, 26, 34)*. Furthermore, opportunities afforded by technologies such as more efficient communication with others, connection with large numbers of people and the removal of geographical barriers to communication can improve aspects of social connection, including social networks, social capital and social support *(28, 35–41)*.

Table 2.
Factors that may influence relations between digital technology and social connection

Type of technology	For instance, whether technology has a low (e.g. e-mail, social media, online games) or high social presence (e.g. voice and video calls) *(42)*
How it is used	For instance, whether social media are used actively (e.g. with direct exchanges) or passively (e.g. consuming content without engaging) *(43)*
Why it is used	For instance, whether technology is used to enhance relationships and make new friends or to compensate for poor social skills *(16, 44)*
Who uses it	For instance, associations may differ by age group, culture or personality type, which may determine how and why technology is used *(16, 37, 41)*.

Social media and networking platforms can be essential sources of social connection and support for population groups who face barriers to participation in offline communities (due, e.g. to reduced mobility, stigma or language) or those who have difficulty in identifying similar others to establish mutual support systems. These include migrants and refugees *(45)*, LGBTIQ+ populations *(46)*, older individuals *(47)* and people with disabilities or chronic health conditions *(48, 49)*. For these populations, use of digital technology can support mental health and well-being *(45–47, 49, 50)* and may reduce loneliness and social isolation *(16, 50–53)*. These groups are, however, often those who face marginalization and are often subject to online bullying and attacks.

Gaming, particularly for young males, can be an important way of connecting digitally. A systematic review of the link between video game participation and loneliness had mixed results. Although video games can provide an opportunity to interact with others, strong involvement in gaming can replace real-life interactions *(54)*.

Digital communication among older populations includes the delivery of interventions that were previously provided face to face (e.g. social support, psychological interventions) and online platforms to improve meaningful connections with others (e.g. multiplayer online games or virtual reality).

New technologies, such as AI companionship, offer easy, unlimited access to social support *(55–57)*. Research on their effects is, however, limited, and caution is thus required in their use. Digital technologies can be used for widespread dissemination of health-promoting information in campaigns (Chapter 5) and access to health services to help promote social connection *(24)*.

While use of digital technology is promising, further research is required to determine its effectiveness in reducing social isolation and possible harm. Furthermore, barriers to the use of technology that may limit engagement and exacerbate social isolation (e.g. lack of Internet access or skill in using technology *(58)*) should be addressed, and potential harmful effects (e.g. excessive time spent on social media and over-reliance on AI companions that replace human interaction *(59)*) should be carefully considered and mitigated. The greatest concern associated with digital technology is its use by children and adolescents and potential adverse effects on their mental health and well-being. The effects include those that may arise from increased exposure to social media, harmful content or excessive use of technology, exacerbated by the design of platforms and use of algorithms that influence the nature of content and maintain users' engagement (e.g. use of "likes" and other rewards) *(20, 24)*. Potential harms and ways in which mental health could be affected include increased risks of disruption to brain structure and increased likelihood of depression, anxiety, poor self-esteem, poor body image and reduced quality of sleep *(20, 24, 60–70)*, feelings of technology overload, fear of missing out when not connected, fewer face-to-face interactions, negative online interactions and enhanced social comparisons *(60, 71–73)*.

More evidence should be generated on the benefits and harms of digital technology use. While some authors describe severe risks of harm to children and adolescents due to its use *(74)*, others take a more cautious perspective, highlighting the small-to-moderate increases in risk found in systematic reviews and largely correlative data, with which it is difficult to identify causality *(68, 75, 76)*.

Despite the differing perspectives, the consensus remains that it is essential to be cautious about the role of digital technology in young people's lives and to take action to safeguard mental health and well-being (e.g. by setting policies to strengthen protection for children online) *(20)*. Better understanding is required of how best digital technology can be harnessed to maximize its social benefits and safeguard all population groups from harm.

Secularization: secularization and the decline of religion, starting in Europe in the 19th century, may have contributed to the increase in social disconnection *(8, 11, 77, 78)*. Practising a religion can be hypothesized to protect against social isolation and loneliness in several ways. First, religious gatherings and institutions provide a sense of social connectedness, belonging and community. Secondly, the relationship with a supernatural entity, often supported by prayer, ritual and other practices, provides a sense of companionship and union, ensuring that no one ever feels truly alone. Thirdly, religious beliefs, practices and principles provide a sense of meaning, purpose and security and, often, a sense of goodwill and charity towards others. Lastly, some religions tend to value traditional family structures and ties, which may protect against loneliness *(7, 11, 79, 80)*.

Colonialism and indigenous peoples: European colonial empires covered 84% of the earth's surface at their peak in the early 20th century *(81)*. The long-term and multigenerational effects of colonialism may account for social disconnection in many parts of the world. The intergenerationally transmitted effects of trauma include, for instance, forced relocation (often associated with loss of home, land and other possessions), suppression of indigenous languages and erosion of traditions, systematic discrimination and marginalization, socioeconomic disadvantage *(82)* and the ongoing clash between traditional, collectivist and more modern individualistic values *(83, 84)*.

For example, among older Māori adults, members of the indigenous population of New Zealand, social isolation and loneliness were associated with the loss of traditional ways of life, partly due to colonialism *(85).* In the 1950s and 1960s, large-scale migration took place to urban centres, with many Māori leaving their rural tribal communities for employment in larger cities. This resulted in increased social isolation and less regular contact with ancestral and rural homes. Cultural rituals at which traditional knowledge was shared and passed on to new generations became less frequent *(85).*

Indigenous communities in Chile, which make up some 9.5% of the population, face greater economic, social and health challenges than other Chileans. These inequalities contribute to higher rates of social isolation and loneliness. Challenges that affect older indigenous people in particular include social exclusion, depopulation of the rural areas in which they live, disruption of cultural continuity as younger generations migrate to cities and changes in family and social organization. For example, among older people in the largest Chilean indigenous group – the Mapuche – only 23% reported experiencing no loneliness, while 66% reported loneliness and 11% extreme loneliness *(86).*

Reflections from lived experience: the many sides of digital technologies

Ruth

From Kyondoni Village (Kenya)

"Social isolation and loneliness […] led to feelings of despair, disconnection, and a lack of purpose. It felt like I was trapped in a bubble, unable to reach out or connect with others. […] We became more reliant on virtual connections, which, while helpful, couldn't fully replace the warmth and support of face-to-face interactions."

Jasmin

Transgender, disabled woman
(USA)

"Even online, a space that should be safer for people to meet, the degradation of safety protections for marginalized people on social media over the last couple of years have made it prohibitively difficult to make connections online."

Asa'

Disabled and neurodivergent younger person (USA)

"Online spaces saved me when I was still trapped at home […] That was my very first hope, that life could be different. Hanging out on that forum meant I knew that I wasn't the only depressed socially awkward teen out there."

Glennis

Older divorcee and mother
(New Zealand)
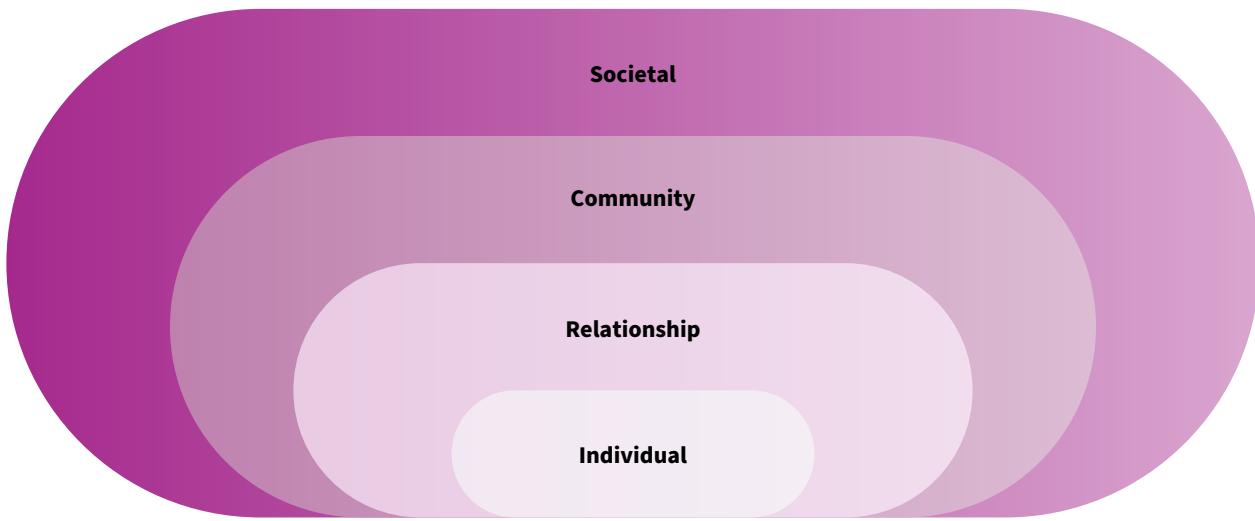
"I think social media has helped as we can now talk / [call] family not in the immediate vicinity and I think more people need to have access and instruction on how to use it."

Risk and protective factors

Risk factors are variables that precede and are associated with a higher likelihood of a negative outcome – in this case, social disconnection – or that serve as a buffer against risk factors *(87, 88)*. In the socioecological model, the many interactive risk and protective factors for social disconnection are grouped into individual-level factors (e.g. psychological, sociodemographic), interpersonal-level factors (e.g. close social relationships such as those with peers, intimate partners and family members), community-level factors (e.g. schools, workplaces, neighbourhoods) and societal-level factors (e.g. social and cultural norms) (Fig. 12). This model helps to convey the importance of multi-level actions to address social connection and disconnection *(89)*.

Fig. 12.

Socioecological model for understanding risk and protective factors for social isolation and loneliness

Source: Krug *(2)*.

It is also critical to understand the magnitude of the association between risk factor and outcome, the causal status of risk factors and whether they exert their influence directly or indirectly *(88, 90, 91)*. An intervention that targets a risk factor that is not a cause will have little impact on the problem. Although this section presents evidence on risk and protective factors, there are notable gaps in the evidence, such that causality cannot be inferred with confidence. Data on the magnitude of associations indicate the priority risk factors to be targeted by interventions. Indirect factors do not directly impact social disconnection but exert their influence through structural factors such as income, education and discrimination *(1, 92)*. Further, many factors, such as age, sex/gender and ethnicity/race, cannot be modified and are therefore not discussed in this section, which addresses factors that are amenable to change.

3.2   Risk and protective factors for social disconnection that apply to the general adult population

Table 3 summarizes modifiable risk and protective factors for social isolation and loneliness that apply to the general adult population (see section 3.3 for those that apply to specific subpopulations). The data are from systematic reviews, meta-analyses and large multinational studies that provide a measure of association between risk or protective factor and outcome. Table 3 is, however, incomplete, as it reflects the current state of the evidence; only individual and interpersonal factors are listed, as there is insufficient evidence on measures of association between

community and societal risk factors and loneliness and social isolation; no protective factors were identified for social isolation; and the information on risk factors for social isolation applies only to older people. More research is therefore required in this area, in particular on community and societal risk and protective factors for social isolation and on risk factors for social isolation for adults and younger age groups. Furthermore, most of the studies included in reviews of risk factors for loneliness were conducted in high-income countries and less than 10% in low- or middle-income countries.

Table 3.

Magnitude of associations between risk and protective factors and social isolation and loneliness

	Social isolation	Loneliness	
Factor	**Risk[a]**	**Risk**	**Protective**
Individual			
Lower education level	Very small–small	Very small[a] Small[b,c]	
Higher education level			Very small[a] Small[b,c]
Employed status			Very small[a] Small[c] Moderate[b]
Lower socioeconomic status		Small[a] Moderate[c] Large[b]	
Health status Presence of other disease Activities of daily living Poorer cognitive function	 Small Small Small	 Small	
Anxiety		Small[c] Moderate[b]	
Depression	Moderate	Small[c] Moderate[b] Large[d]	
Personality Shyness Low self-esteem		 Large Moderate	
Perception of (poor) health	Small		
Interpersonal			
Relationship status (unpartnered)	Small		
Living alone	Small	Small–large	
Lower social activity and participation	Small		
Lower social support	Large	Small	

Factor	Social isolation	Loneliness	
	Risk[a]	Risk	Protective
Interpersonal			
Disengaged or inexpressive parenting style	Moderate		
Engaged or expressive parenting style			Very small
Bullying		Small–moderate	

Based on Cohen's r values and thresholds: Chen et al. *(93)*, Due et al. *(94)*, Hutten et al. *(95)*, Mahon et al. *(33)*, Tian et al. *(96)*, Wang et al. *(97)*
Large: r ≥ 0.5; moderate: r ≥ 0.3; small: r ≥ 0.1; very small: r > 0.1
[a] Older adults (> 64); [b] Middle adults (30–64); [c] Early adults (< 30); [d] Children and adolescents

Individual-level factors

Demographic characteristics, such as age and sex, may contribute to experiences of social isolation and loneliness, although the evidence is limited and somewhat mixed. Such characteristics probably operate indirectly through socioeconomic circumstances (e.g. health and income), ability to participate socially and subjective feelings of belonging *(1, 98)*.

Education is a protective factor against social isolation and loneliness, as it increases a person's social networks and financial status *(1, 92, 93, 95, 98–100)*. Individuals with higher education may be better protected from loneliness because of opportunities for more socioeconomic resources, contributing to less chronic stress in everyday life, larger social networks and better overall quality of relationships *(92)*.

A person's **socioeconomic status**, measured, for instance, as household income or household wealth, has often, but not always, been found to be related to social isolation and loneliness, probably by affecting an individual's ability to participate in more social activities *(1, 95, 101–103)*. A systematic review of qualitative studies of experiences of loneliness in low- and middle-income countries *(104)* identified poverty and socioeconomic status as recurring factors that affect experiences of loneliness and, to some extent, social isolation. These factors not only limit a person's ability to participate in social activities but also entail lower social status, which may affect social interactions.

There is some evidence that **employment** can protect against loneliness *(102)*, as being employed usually entails some level of social interaction *(105)*, although this might change with the advent of teleworking. Although the rate of reported loneliness is lower for employed than for unemployed individuals, the current evidence that this relation is causal is mixed, and it may be bidirectional *(1)*.

Both physical and mental **health status** are associated with social isolation and loneliness, and some longitudinal studies suggest that the relation may be causal. Poorer physical functioning may limit abilities and opportunities to interact with others, contributing to increased social isolation *(102, 106)*. Pre-existing or chronic diseases may also lower the quality of interactions, resulting in more experience of loneliness *(102)*. For example, there is considerable evidence that anxiety and depression in particular are linked to social isolation and loneliness, particularly in adolescence and older adulthood *(33, 93, 95, 97)*. Relations between health status, social isolation and loneliness appear to be bidirectional: health problems are a risk factor for social isolation and loneliness and vice versa *(1, 93, 99, 100, 107, 108)*. For example, a systematic review of qualitative studies identified health as a precondition of both functional and financial independence – both of which are drivers of loneliness and social isolation. It also indicated that the presence of disability may result in less attention, care and support from others *(104)*.

Personality traits are risk factors for loneliness, for which there is strong empirical support *(1, 109)*, and neuroticism (tendency to experience negative emotions) is linked to higher and extraversion to lower rates of loneliness. In each case, the association is large and partly genetic *(99, 110–113)*. Another potential driver of loneliness may include individuals' belief about their future, those with a weaker sense of purpose or direction in life potentially being at higher risk of experiencing loneliness *(104)*.

Interpersonal-level factors

Interpersonal-level factors that affect experiences of social isolation and loneliness include a person's **relationship** situation, including changes in marital or partner status, and **living arrangements** *(1, 93, 103, 108)*. Relationship status has been identified as one of the most important direct risk factors for social isolation and loneliness, individuals without partners being more likely to experience social isolation and loneliness. The quality of relationships is, however, important, particularly for loneliness; simply being in a partnership is not sufficient *(1, 92, 98–100, 107, 108)*. For example, feeling trapped in a relationship, such as financially, counteracts the potential protective effects of having a partner *(93)*.

Living alone has been found to be one of the strongest risk factors for social isolation and loneliness. Although living alone is an indicator of social isolation, evidence for a causal relation between living alone and loneliness is currently lacking and may be bidirectional. The presence of a partner in a household, rather than children, may be responsible for the greatest difference in loneliness, particularly for older adults *(1)*.

Intimate partner violence, however, has been identified as a risk factor for social isolation, particularly in cases of coercive control, in which an individual is purposely isolated from their family and friends *(114)*. Social connection, including strong social support networks and stable, positive relationships, is a protective factor against intimate partner violence *(115)*.

Loneliness is strongly and directly related to a person's **social network**, but its quality and function, rather than its size, are important. Frequent contact with friends and family, good relationships with them and receiving and giving support are protective factors against loneliness *(1, 99, 108)*. The relative importance of quantity and quality may, however, vary along the life course *(116)*. Changes in a person's social network may also be potential drivers of social isolation and loneliness, such as those due to the death of loved ones (particularly in older age) and having fewer visitors and invitations to social events *(104)*. Actively reducing social contacts was identified as a way in which some people cope with loneliness, which, however, results in increased social isolation and further loneliness in the long term *(104)*.

Lack of **social activity and participation** are risk factors for social isolation and loneliness but may be bidirectional, as loneliness may also affect (the desire for) social activity and participation *(1, 102, 117, 118)*. Increased **social support** may be a protective factor against social isolation and loneliness, although the associations found between perceived social support and loneliness are often stronger than those with social isolation *(101, 102)*.

Less evidence is available on community and societal risk factors, in particular on the magnitude of the associations with loneliness and social isolation, than for individual and interpersonal risk factors, and they are not included in Table 3.

Digital technologies, such as social media, may also affect social isolation and loneliness. As discussed in Box 2, current evidence indicates that the increasing digitalization of social interactions has mixed effects on social isolation and loneliness, depending on the type of technology, how it is used, why it is used and who uses it. Digital technologies may be more beneficial for people who are experiencing marginalization, due, for instance, to disability or poverty.

Community-level factors

Although there is less evidence, particularly from reviews, meta-analyses and large multinational studies, on community-level risk factors, this section summarizes what evidence is available. Community-level risk and protective factors overlap significantly with social infrastructure (see Chapter 7 for information on strengthening social infrastructure as a strategy for addressing social isolation and loneliness). Social infrastructure consists of the policies, services, resources and public spaces to which people have access that enable them to participate fully in social, civic and economic life, without barriers.

There is some evidence that a poor built environment (e.g. lack of public and natural spaces and poor transport) is associated with social isolation and loneliness *(93, 102, 104, 108, 117, 119, 120)*. Greater availability of and access to facilities in neighbourhoods, such as social services and green spaces, are linked to lower rates of social isolation and loneliness, although the association with green spaces is mixed *(121)*. Evidence for a link between walkability and loneliness is also mixed *(1)* but that for social isolation is stronger *(117)*.

Inadequate social infrastructure may exacerbate inequities that could increase the risk of social isolation and loneliness, whereas a robust social infrastructure may be a protective factor *(122)*. For instance, a study of 26 countries *(123)* found that most societies with low levels of loneliness had good public social infrastructure, and a policy report *(124)* showed that, in local authority areas with more social infrastructure facilities per head of population, the predicted rate of loneliness among residents was lower. Conflicts about social infrastructure, particularly that which meets the needs of some at the expense or exclusion of others *(125, 126)*, may indirectly affect social isolation and loneliness through exclusion and loss of the sense of belonging.

The community factors of satisfaction with neighbourhood, sense of belonging and social cohesion have also been linked to less social isolation and loneliness *(93, 117, 118, 127)*. Factors that contribute to neighbourhood satisfaction include safety and housing conditions *(99, 102, 104, 108)*, although the evidence of an association between neighbourhood safety and social isolation and loneliness is mixed *(117)*.

Residential density, urbanization and rurality appear to be only weakly related to loneliness, and the evidence for social isolation is somewhat mixed *(1, 93, 104, 108)*. For people in care facilities, cultural inappropriateness may also be a potential driver of loneliness *(104)*. For example, in long-term care institutions, inappropriate cross-cultural communication between staff and residents may result in misunderstanding of health conditions and expectations of care and affect resident satisfaction, health and quality of life *(128)*.

A weakness of the evidence on community-level risk factors is that, in addition to being limited, it is also predominantly cross-sectional (i.e. collected at one time), making it difficult to establish causal relations *(1, 129)*.

Societal-level factors

Empirical evidence on societal risk factors is also limited. Two broad types of societal drivers have, however, been proposed to explain international differences in the prevalence of loneliness. The first is national socioeconomic resources: greater national income inequality and weaker welfare systems may account for higher levels of loneliness, although the evidence is mixed *(1)*.

The second type of societal driver is social and cultural norms. Collectivism versus individualism has been studied as a dimension of cultural variation *(130, 131)* (see also section 1.2). Loneliness arises, as seen in Chapter 1, from a discrepancy between actual and desired or expected social connections. Thus, the lower expectations for social connection in individualistic cultures often result in less loneliness than do the higher expectations in collectivistic cultures, which are often more difficult to fulfil *(132–136)*.

Specific cultural practices may also be a protective factor. For example, households that include multiple generations and extended family, which are more common

in non-Western societies, or the tradition of filial piety in Chinese culture *(111)*, are associated with less social isolation *(133, 137)*.

The Indigenous Aboriginal and Torres Strait Islander population of Australia has a collectivist approach to family life and child rearing, known as "one community, many eyes" *(138)*. The approach expresses the complex Aboriginal cultural notions of kinship, which are not captured by non-Indigenous definitions and include sharing the responsibility of raising children among community members. This approach has been reported to increase social connection, cohesion and trust among community members according to the view that "when you live in a community, you are pretty much all family" *(138)*. Some such practices are becoming more common in Western countries, such as intergenerational co-housing communities, which increase opportunities for socialization and may reduce the prevalence of social isolation and loneliness *(108)*.

Certain ideologies and associated policies (Chapter 6) may also contribute to increasing social isolation and loneliness. For example, ideologies and policies that hold that social and economic progress is attributable mainly to individual responsibility, greater entrepreneurial freedom, free trade and minimal government involvement in economic affairs *(139)* may de-emphasize the impact of social inequity and exacerbate competition, eroding social trust. Such policies are often associated with poor access to social security and greater social inequality *(140)*, which decrease social connection and increase the prevalence of loneliness.

Shifting norms and policies about digital technology are another potentially important societal driver of social isolation and loneliness. The rapid spread of digital technologies in society has affected the way people live and interact in multiple domains of their lives (see Box 2). Evidence on the impact of such policies is, however, currently limited.

There is some evidence that societal-level measures, such as anti-discriminatory hiring policies to increase employment and socioeconomic status and promote demographic diversity, may reduce social inequalities and protect people from loneliness *(141)*.

A well-documented societal-level driver of social isolation and loneliness is the COVID-19 pandemic and the measures taken to counter it (e.g. physical distancing, lockdowns), which led to restriction of social networks *(25, 142, 143)* and small increases in the prevalence of loneliness *(144, 145)*. Moreover, populations experiencing marginalization, who were more likely to experience social isolation and loneliness before the pandemic *(146)*, more frequently reported social disconnection during the pandemic, resulting in long-term changes in lifestyle and health *(25, 145)*. In addition, exacerbated by the COVID-19 pandemic, normalization of online interactions in many areas of life (e.g. study, work, social life) resulted in fewer face-to-face interactions *(25)*. This may increase social isolation, partly due to fewer incidental interactions *(147)*, which are important for the development of new relationships *(148)*.

Reflections from lived experience: how people come to experience social isolation and loneliness

Tommy

Gay man and cancer survivor (USA)

"For the first time in February of 2023 I was diagnosed with a rare cancer, Adenoid Cystic Carcinoma. A cancer that took my left eye in a life changing surgery. And the arduous journey of living with a scar that disfigured my face, personally developing issues and tropes of declining mental health, social anxieties, fear of the public eye. Going so far in covering windows, and mirrors with bedsheets, living isolated from others […] The lack of conversation can lead to isolation and loneliness can be tough to deal with."

Puneet

Younger disabled person (India)

"My life is an intersection of being born in a slum of Delhi, having an abusive alcoholic father, having multiple non-apparent disabilities (Dyslexia, Dyspraxia, and Stammering), and being a caregiver to my chronically ill mother. All these factors were worsened by Delhi extreme air pollution, severe heatwave and lack of access to clean drinking water. […] My neighbourhood was not supportive and they believed that I would also grow up as an alcoholic like my father […] I was an extrovert early in my childhood, now I am an introvert."

Patience

Childhood trauma expert (Zambia)

"My parents divorced when I was a year and [few months old] which left me in the care of a relative for some time, thereby depriving me of being cared for by my mother at a tender age. Later on at age 4, I moved in with my guardians without fully knowing what was happening as I was a child. […] I felt so alone, I was seldom in touch with my immediate family […] I felt abandoned a lot of times even though I knew she loved me."

Barbara

Older woman
(United Kingdom)

"In May 2020, I fell in my house and sustained an ankle fracture which required metalwork to fix it. I went from being completely independent as a paediatric nurse to becoming dependent on others. Unfortunately, I suffered elderly and financial abuse for many months while recuperating from ankle surgery. My son and daughter-in-law did not feed me properly. They did not tend to my personal hygiene needs. Notably, they kept me isolated from my friends and usual social network. […] After discharge, my son, daughter-in-law (carers) decided to move out and cut me out of their life. I have been abandoned."

3.3   Risk and protective factors that apply to specific populations

Age-specific risk and protective factors

Certain risk factors are specific to specific life periods *(108, 129).* The periods are often transitional times, which often give rise to stress and anxiety that contribute to difficulties in establishing social bonds and increased experience of social isolation and loneliness *(149).* Such periods include adolescence and older age, which are associated with rapid changes in many life domains (e.g. biology, health, occupation, family and social relations), which may be accompanied by a sense of alienation and strained relationships *(150).*

Children and adolescents in particular are an important age group to be addressed, as early investments in prevention can yield potential benefits for the future – averting or reducing adverse health and social outcomes later in life *(151).* Additionally, adolescents (13–17 years) are estimated to have the highest prevalence rates of loneliness, at 20.9% (Chapter 2), highlighting the importance of addressing loneliness early on.

Childhood and adolescence

Childhood loneliness and social isolation are predictive of future social isolation and loneliness *(152, 153).* **Adverse childhood experiences**, trauma, such as abuse and neglect, subsequent mental health difficulties and social isolation and loneliness influence each other in complex ways. Adverse childhood experiences may contribute to social isolation and loneliness, partly because of lack of social support *(154)*, and also development of mental health difficulties, which may in turn increase the risk of social isolation and loneliness. Approximately half (48.4%) of all mental health disorders in adulthood start by the age of 18 years *(155).* Thus, adverse

childhood experiences may also contribute to social isolation and loneliness later in life, both directly and indirectly through mental health difficulties.

A systematic review of 20 studies found that children who are made to become family carers at a young age often develop stronger social connections with those they care for, at the expense of social connections external to the family *(156)*. Loss of social connection can be a result either of forced relocation to care for a family member or of the stigma surrounding the health condition of that member (e.g. HIV/AIDS), which may also contribute to social isolation.

Bullying victimization, which often occurs during adolescence, is related to social isolation and loneliness, the relationship being cyclical and interactional and occurring in three stages *(154, 157, 158)*. First, children and adolescents who are bullied are more likely to be socially isolated and lonely. Secondly, children and adolescents who are socially isolated and lonely are considered to be more vulnerable and more likely to be chosen as targets for bullying. Thirdly, victims of bullying often withdraw socially to avoid being bullied, ultimately further increasing their vulnerability.

Studies in several countries suggest that people who are bullied are more likely to be socially isolated and lonely, as they receive less peer support *(94, 159)*. Conversely, good friendships, particularly in terms of their quality, can protect against loneliness *(154, 160, 161)*. Identity development is another important factor: while struggles with identity can drive loneliness and social isolation, an established sense of identity can be protective *(162, 163)*.

Parenting plays a critical role in child development, including the development of social, emotional and academic self-regulation and coping skills *(150, 164)*. Various aspects of parenting affect different developmental outcomes in children. These include neglect, disengagement, hostility and coercion *(152)*. Many longitudinal studies have shown that engaged parenting is protective against social isolation and loneliness *(96, 150, 160, 165)*. In particular, parental bonding can prevent the development of chronic loneliness in middle and older adulthood *(165)*. Further, better father–daughter relationships may protect against child and adolescent loneliness, as greater paternal support is theorized to protect girls from feeling lonely when sad and may present an opportunity for girls to practise the social skills integral to building social relationships with others *(166)*. An important dimension of parenting is expression of positive emotions, which has been shown to affect a child's emotional self-regulation, socialization behaviour and adolescent loneliness *(33, 164)*.

The **school environment** may be related to student loneliness *(167)*. A study of students in 79 countries identified an association between the climate in a school and student loneliness *(168)*. School climate includes characteristics such as values and norms regarding behaviour, performance and relationships in the school; the degree of emphasis on learning and teaching; and the general social dynamic and organizational structures of relationships among individuals *(169)*. Within these domains, however, respect for diversity, perceived inclusivity and safety and provision of social support in

school environments (e.g. teachers) can be protective and be associated with better mental health and lower levels of student loneliness *(154, 158, 168)*.

Older adulthood

Among older adults, various measures of health status have consistently and globally been associated with increased social isolation and loneliness. Three global meta-analyses found that impairment in activities of daily living, the presence of an underlying disease (particularly depression) and poorer cognitive function increase the risk of social isolation *(93, 97, 144)*. An individual's perception of health and ageism *(93, 102, 117)* have also been found to be risk factors for social isolation and loneliness *(93, 97, 144)*. These factors may behave indirectly by affecting other drivers of social isolation and loneliness, such as limiting an individual's social participation, which has also been found to increase experiences of social isolation *(93, 102)*. An example is no longer being able to drive as a result of health issues, resulting in less ability to participate in social activities without assistance *(102)*.

Although one's perspective on the future is potentially relevant to other stages of life, it may be a driver of loneliness, particularly in older adulthood. A qualitative systematic review identified **future time perspective** as a potential driver of loneliness in older adults, particularly as it related to death – such as a person being more aware of their death, worries about their funeral and wishing to die instead of migrating to join emigrant children *(104)*. Awareness of death, impairments in activities of daily living, the presence of chronic conditions and perceptions of health may also be frequent in populations with disabilities.

Partners or family members of people with disabilities or chronic conditions may become **informal caregivers**. In a systematic review of 12 studies, however, it was unclear whether becoming an informal caregiver increased or decreased the risk of social isolation and loneliness *(170)*.

Increases in **neighbourhood disadvantage** and in the number of **social security recipients** were also found to increase older adults' experiences of social isolation and loneliness *(117)*.

Populations experiencing marginalization

Stereotypes, prejudice and discrimination, such as homophobia and racism, may lead to marginalization and drive social isolation and loneliness *(102, 103)*. As discussed in Chapter 2, populations experiencing marginalization, such as those with disabilities or chronic health conditions, members of the LGBTIQ+ community, migrants and refugees, experience social isolation and loneliness at higher rates, partly due to structural stigma. Structural stigma, such as community actions that have a (intentionally) different or negative impact on a population experiencing marginalization *(171)*, affect individuals who are already more likely to experience social disconnection. Examples include lack of public policy for protection against discrimination, prejudice and hate crimes *(172)* (Box 3).

Stigma itself has implications for relationships. A qualitative systematic review in 15 countries found that, in some cultures, an association with some aspect of stigma (e.g. mental health problems, LGBTIQ+) can result in an inability to form partnerships or meaningful connections with others because of the shameful implications *(93)*.

Some evidence suggests that introduction of structural changes can protect against the social inequity of populations experiencing marginalization. It has been suggested that protective factors against loneliness among populations experiencing marginalization include the presence of "identity safe" spaces (e.g. LGBTIQ+ venues), legislation to prevent discrimination and inequality and organizational policies to encourage positive diversity in school, work and community facilities *(141)*.

Box 3.
Case study on reviewing policy-related structural stigma for sex and gender minorities in New Zealand

The New Zealand Human Rights Act 1993 is an anti-discrimination law that covers all sectors of life, such as education, employment, housing, goods and services and public facilities. The Human Rights Act protects the population against unlawful treatment and discrimination of parties on the basis of characteristics including sex, religious beliefs, race, disability and sexual orientation. In 2023, a review to the Human Rights Act was requested to explore and extend protection to people who are transgender, non-binary and those who have innate differences in sexual characteristics, as the 1993 Act did not include the terms "gender", "gender identity", "gender expression", "intersex" or related terms *(173)*. The review is expected to be concluded in 2025, when, if amendments are made to the Act, it will provide further protection against marginalization for more members of the LGBTIQ+ community in all sectors of their lives, affording equal access and treatment to opportunities and facilities, which could indirectly reduce experiences of social isolation and loneliness for sex and gender minorities. The review of the Human Rights Act is an example of amending policies to include cobenefits related to social connection.

Future research directions

- Understanding of the drivers of the hypothesized historical trend to increases in social connection, social isolation and loneliness is limited. Much remains to be explored with, when possible, more rigorous methods.

- More evidence is required on the cross-cultural specificity of drivers, particularly in low- and middle-income countries and in regions other than Europe and the USA, especially with long-term data analyses.

- More evidence is also required on context-specific drivers (e.g. in schools, workplaces) and the unique social needs of specific (sub)groups. Such evidence will help to determine which interventions work for whom.

- More evidence is required on community and (especially) societal-level risk and protective factors and on the magnitude and relative strength of risk factors on causal relations, in, for instance, longitudinal studies, as a basis of solutions for populations experiencing marginalization.

- Research should be conducted on how the protective effects of social connection can be harnessed and further developed to prevent social isolation and loneliness before they occur, rather than mitigating harmful effects after they have occurred.

Conclusion

Understanding of the drivers of social connection, social isolation and loneliness has been advancing rapidly. Yet, significant gaps remain in understanding of the drivers of both historical trends and risk and protective factors for individuals experiencing social isolation and loneliness. There is currently more evidence on the drivers of loneliness than on drivers of social isolation and social connection. Although scaling up interventions is often seen as a priority, interventions will be only as good as the understanding of the risk and protective factors they target. To design better interventions, clearer understanding is required of what drives social connection, social isolation and loneliness.

References

1. Barjakova M, Garnero A, d'Hombres B. Risk factors for loneliness: a literature review. Soc Sci Med. 2023;334:116163 (https://doi.org/10.1016/j.socscimed.2023.116163).

2. Krug EG, Mercy J, Dahlberg L, Zwi AB. The world report on violence and health. Lancet. 2002;360:1083–8 (https://doi.org/10.1016/S0140-6736(02)11133-0).

3. Kraemer HC, Stice E, Kazdin A, Offord D, Kupfer D. How do risk factors work together? Mediators, moderators, and independent, overlapping, and proxy risk factors. Am J Psychiatry. 2001;158:848–56 (https://doi.org/10.1176/appi.ajp.158.6.848).

4. Lim MH, Eres R, Vasan S. Understanding loneliness in the twenty-first century: an update on correlates, risk factors, and potential solutions. Soc Psychiatry Psychiatr Epidemiol. 2020;55:793–810 (https://doi.org/10.1007/s00127-020-01889-7).

5. Holt-Lunstad J. Social connection as a public health issue: the evidence and a systemic framework for prioritizing the "social" in social determinants of health. Annu Rev Public Health. 2022;43:193–213 (https://doi.org/10.1146/annurev-publhealth-052020-110732).

6. Parigi P, Henson W. Social isolation in America. Annu Rev Sociol. 2014;40:153–71 (https://doi.org/10.1146/annurev-soc-071312-145646).

7. Snell KDM. Agendas for the historical study of loneliness and lone living. Open Psychol J. 2015;8:61–70 (https://doi.org/10.2174/1874350101508010061).

8. Snell KDM. The rise of living alone and loneliness in history. Soc Hist. 2017;42:2–28 (https://doi.org/10.1080/03071022.2017.1256093).

9. Zhong B, Xu Y, Jin D, Zou X, Liu T. Prevalence and correlates of loneliness among Chinese service industry migrant workers: a cross-sectional survey. Medicine. 2016;95:e3903 (https://doi.org/10.1097/MD.0000000000003903).

10. Yan Z, Yang X, Wang L, Zhao Y, Yu L. Social change and birth cohort increase in loneliness among Chinese older adults: a cross–temporal meta-analysis, 1995-2011. Int Psychogeriatr. 2014;26:1773–81 (https://doi.org/10.1017/S1041610214000921).

11. Burnett C. The historical roots of loneliness. Vulcan Historical Review, Vol 27 article 14. 2023;27:66–74 (https://digitalcommons.library.uab.edu/cgi/viewcontent.cgi?article=1135&context=vulcan).

12. Fernandez L, Matt SJ. Bored, lonely, angry, stupid. Changing feelings about technology, from the Telegraph to Twitter. Cambridge (MA): Harvard University Press; 2020 (https://www.hup.harvard.edu/books/9780674244726).

13. Slade G. The big disconnect: the story of technology and loneliness. Amherst (NY): Prometheus Books; 2012.

14. Mobile phone ownership. Geneva: International Telecommunication Union; 2024 (https://www.itu.int/itu-d/reports/statistics/2024/11/10/ff24-mobile-phone-ownership/).

15. Measuring digital development. Facts and figures 2023. Geneva: International Telecommunication Union; 2023 (https://www.itu.int/hub/publication/d-ind-ict_mdd-2023-1/).

16. Nowland R, Necka EA, Cacioppo JT. Loneliness and social internet use: pathways to reconnection in a digital world? Perspect Psychol Sci. 2018;13:70–87 (https://doi.org/10.1177/1745691617713052).

17. Ge MW, Hu FH, Jia YJ, Tang W, Zhang WQ, Zhao DY et al. The relationship between loneliness and internet or smartphone addiction among adolescents: a systematic review and meta-analysis. Psychol Rep. 2023:332941231180119 (https://doi.org/10.1177/00332941231180119).

18. Cai Z, Mao P, Wang Z, Wang D, He J, Fan X. Associations between problematic internet use and mental health outcomes of students: A meta-analytic review. Adolesc Res Rev. 2023;8:45–62 (https://doi.org/10.1007/s40894-022-00201-9).

19. Tutar ÖF, Turhan FH. Digital leisure: transformation of leisure activities. Shanlax Int J Educ. 2023;11:16–28 (https://doi.org/10.34293/education.v11iS1-Oct.6365).

20. The US Surgeon General's Advisory. Social media and youth mental health. Washington, DC: US Department of Health and Human Services; 2023 (https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf).

21. Henry N, Powell A. Technology-facilitated sexual violence: a literature review of empirical research. Trauma Violence Abuse. 2018;19:195–208 (https://doi.org/10.1177/1524838016650189).

22. Zhu C, Huang S, Evans R, Zhang W. Cyberbullying among adolescents and children: a comprehensive review of the global situation, risk factors, and preventive measures. Front Public Health. 2021;9:634909 (https://doi.org/10.3389/fpubh.2021.634909).

23. Hamm MP, Newton AS, Chisholm A, Shulhan J, Milne A, Sundar P et al. Prevalence and effect of cyberbullying on children and young people: a scoping review of social media studies. JAMA Pediatr. 2015;169:770–7 (https://doi.org/10.1001/jamapediatrics.2015.0944).

24. Social media and adolescent health. In: Wojtowicz A, Buckley GJ, Galea S, editors. Social Media and Adolescent Health. Washington, DC: National Academies of Sciences, Engineering, and Medicine; 2024 (https://doi.org/10.17226/27396).

25. Patulny R, Bower M. Beware the "loneliness gap"? Examining emerging inequalities and long-term risks of loneliness and isolation emerging from COVID-19. Aust J Soc Issues. 2022;57:562–83 (https://doi.org/10.1002/ajs4.223).

26. Gong F, Gong Z, Liu H, Yi P, Jia Y, Zhuang J et al. The impact of problematic internet use on adolescent loneliness-chain mediation effects of social support and family communication. Psychol Res Behav Manag. 2024;17:1903–16 (https://doi.org/10.2147/PRBM.S443349).

27. Dwyer RJ, Kushlev K, Dunn EW. Smartphone use undermines enjoyment of face-to-face social interactions. J Exp Soc Psychol. 2018;78:233–9 (https://doi.org/10.1016/j.jesp.2017.10.007).

28. Taylor SH, Zhao P, Bazarova NN. Social media and close relationships: a puzzle of connection and disconnection. Curr Opin Psychol. 2022;45:101292. https://doi.org/10.1016/j.copsyc.2021.12.004).

29. Sbarra DA, Briskin JL, Slatcher RB. Smartphones and close relationships: the case for an evolutionary mismatch. Perspect Psychol Sci. 2019;14:596–618. https://doi.org/10.1177/1745691619826535).

30. Braune-Krickau K, Schneebeli L, Pehlke-Milde J, Gemperle M, Koch R, von Wyl A. Smartphones in the nursery - parental smartphone use and parental sensitivity and responsiveness within parent-child interaction in early childhood (0-5 years): a scoping review. Infant Ment Health J. 2021;42:161–75 (https://doi.org/10.1002/imhj.21908).

31. Tammisalo K, Rotkirch A. Effects of information and communication technology on the quality of family relationships: a systematic review. J Soc Pers Relat. 2022;39:2724–65 (https://doi.org/10.1177/02654075221087942).

32. O'Day EB, Heimberg RG. Social media use, social anxiety, and loneliness: a systematic review. Comput Hum Behav Rep. 2021;3 (https://doi.org/10.1016/j.chbr.2021.100070).

33. Mahon NE, Yarcheski A, Yarcheski TJ, Cannella BL, Hanks MM. A meta-analytic study of predictors for loneliness during adolescence. Nurs Res. 2006;55:308–15 (https://doi.org/10.1097/00006199-200609000-00003).

34. Morgan R, Filia K, Lim MH, Baker D. Young people and loneliness: policy report. Parkville (VIC): Orygen and Ending Loneliness Together; 2024 (https://www.orygen.org.au/Orygen-Institute/Policy-Areas/Social-and-environmental-factors/Orygen-young-people-and-loneliness-report-Nove-(1).aspx?ext=.pdf).

35. Williams JR. The use of online social networking sites to nurture and cultivate bonding social capital: a systematic review of the literature from 1997 to 2018. New Media Soc. 2019;21:2710–29 (https://doi.org/10.1177/1461444819858749).

36. Liu D, Ainsworth SE, Baumeister RF. A meta-analysis of social networking online and social capital. Rev Gen Psychol. 2016;20:369–91 (https://doi.org/10.1037/gpr0000091).

37. Ahmad Z, Soroya SH, Mahmood K. Bridging social capital through the use of social networking sites: a systematic literature review. J Hum Behav Soc Environ. 2022;33:473–89 (https://doi.org/10.1080/10911359.2022.2064025).

38. Domahidi E. The associations between online media use and users' perceived social resources: a meta-analysis. J Comput-Mediat Commun. 2018;23:181–200 (https://doi.org/10.1093/jcmc/zmy007).

39. Abel S, Machin T, Brownlow C. Social media, rituals, and long-distance family relationship maintenance: a mixed-methods systematic review. New Media Soc. 2020;23:632–54 (https://doi.org/10.1177/1461444820958717).

40. Meier A, Reinecke L. Computer-mediated communication, social media, and mental health: a conceptual and empirical meta-review. Commun Res. 2020;48:1182–209 (https://doi.org/10.1177/0093650220958224).

41. Liu D, Wright KB, Hu B. A meta-analysis of social network site use and social support. Comput Educ. 2018;127:201–13 (https://doi.org/10.1016/j.compedu.2018.08.024).

42. Nguyen MH, Gruber J, Marler W, Hunsaker A, Fuchs J, Hargittai E. Staying connected while physically apart: digital communication when face-to-face interactions are limited. New Media Soc. 2021;24:2046–67 (https://doi.org/10.1177/1461444820985442).

43. Course-Choi J, Hammond L. Social media use and adolescent well-being: a narrative review of longitudinal studies. Cyberpsychol Behav Soc Netw. 2021;24:223–36 (https://doi.org/10.1089/cyber.2020.0020).

44. Teppers E, Luyckx K, Klimstra TA, Goossens L. Loneliness and Facebook motives in adolescence: a longitudinal inquiry into directionality of effect. J Adolesc. 2014;37:691–9 (https://doi.org/10.1016/j.adolescence.2013.11.003).

45. Ekoh PC, Okolie TJ, Nnadi FB, Oyinlola O, Walsh CA. Understanding the impact of digital technology on the well-being of older immigrants and refugees: a scoping review. Digit Health. 2023;9:20552076231194947 (https://doi.org/10.1177/20552076231194947).

46. Berger MN, Taba M, Marino JL, Lim MSC, Skinner SR. Social media use and health and well-being of lesbian, gay, bisexual, transgender, and queer youth: systematic review. J Med Internet Res. 2022;24:e38449 (https://doi.org/10.2196/38449).

47. Chen E, Wood D, Ysseldyk R. Online social networking and mental health among older adults: a scoping review. Can J Aging. 2022;41:26–39 (https://doi.org/10.1017/S0714980821000040).

48. Wright PJ, Raynor PA, Bowers D, Combs EM, Corbett CF, Hardy H, et al. Leveraging digital technology for social connectedness among adults with chronic conditions: a systematic review. Digit Health. 2023;9:20552076231204746 (https://doi.org/10.1177/20552076231204746).

49. Naslund JA, Aschbrenner KA, Marsch LA, Bartels SJ. The future of mental health care: peer-to-peer support and social media. Epidemiol Psychiatr Sci. 2016;25:113–22 (https://doi.org/10.1017/S2045796015001067).

50. Lei X, Matovic D, Leung WY, Viju A, Wuthrich VM. The relationship between social media use and psychosocial outcomes in older adults: a systematic review. Int Psychogeriatr. 2024;36:714–46 (https://doi.org/10.1017/S1041610223004519).

51. Petersen B, Khalili-Mahani N, Murphy C, Sawchuk K, Phillips N, Li KZH, et al. The association between information and communication technologies, loneliness and social connectedness: a scoping review. Front Psychol. 2023;14:1063146 (https://doi.org/10.3389/fpsyg.2023.1063146).

52. Casanova G, Zaccaria D, Rolandi E, Guaita A. The effect of information and communication technology and social networking site use on older people's well-being in relation to loneliness: review of experimental studies. J Med Internet Res. 2021;23:e23588 (https://doi.org/10.2196/23588).

53. Wiwatkunupakarn N, Pateekhum C, Aramrat C, Jirapornchaoren W, Pinyopornpanish K, Angkurawaranon C. Social networking site usage: a systematic review of its relationship with social isolation, loneliness, and depression among older adults. Aging Ment Health. 2022;26:1318–26 (https://doi.org/10.1080/13607863.2021.1966745).

54. Luo Y, Moosbrugger M, Smith DM, France TJ, Ma J, Xiao J. Is increased video game participation associated with reduced sense of loneliness? A systematic review and meta-analysis. Front Public Health. 2022;10:898338 (https://doi.org/10.3389/fpubh.2022.898338).

55. Maples B, Cerit M, Vishwanath A, Pea R. Loneliness and suicide mitigation for students using GPT3-enabled chatbots. NPJ Ment Health Res. 2024;3:4 (https://doi.org/10.1038/s44184-023-00047-6).

56. Herbener AB, Damholdt MF. Are lonely youngsters turning to chatbots for companionship? The relationship between chatbot usage and social connectedness in Danish high-school students. Int J Hum Comput Stud. 2025;196 (https://doi.org/10.1016/j.ijhcs.2024.103409).

57. Brandtzaeg PB, Skjuve M, Følstad A. My AI friend: how users of a social chatbot understand their human–AI friendship. Hum Commun Res. 2022;48:404–29 (https://doi.org/10.1093/hcr/hqac008).

58. Gunnes M, Loe IC, Kalseth J. Exploring the impact of information and communication technologies on loneliness and social isolation in community-dwelling older adults: a scoping review of reviews. BMC Geriatr. 2024;24:215 (https://doi.org/10.1186/s12877-024-04837-1).

59. Jecker NS, Sparrow R, Lederman Z, Ho A. Digital humans to combat loneliness and social isolation: ethics concerns and policy recommendations. Hastings Cent Rep. 2024;54:7–12 (https://doi.org/10.1002/hast.1562).

60. Appel M, Marker C, Gnambs T. Are social media ruining our lives? A review of meta-analytic evidence. Rev Gen Psychol. 2019;24:60–74 (https://doi.org/10.1177/1089268019880891).

61. Webster D, Dunne L, Hunter R. Association between social networks and subjective well-being in adolescents: a systematic review. Youth Soc. 2020;53:175–210 (https://doi.org/10.1177/0044118x20919589).

62. Hancock J, Liu SX, Luo M, Mieczkowski H. Psychological well-being and social media use: a meta-analysis of associations between social media use and depression, anxiety, loneliness, eudaimonic, hedonic and social well-being. SSRN Electronic J. 2022 (https://doi.org/10.2139/ssrn.4053961).

63. Dienlin T, Johannes N. The impact of digital technology use on adolescent well-being. Dialogues Clin Neurosci. 2020;22:135–42 (https://doi.org/10.31887/DCNS.2020.22.2/tdienlin).

64. Memon AM, Sharma SG, Mohite SS, Jain S. The role of online social networking on deliberate self-harm and suicidality in adolescents: a systematized review of literature. Indian J Psychiatry. 2018;60:384–92 (https://doi.org/10.4103/psychiatry.IndianJPsychiatry_414_17).

65. Piteo EM, Ward K. Review: social networking sites and associations with depressive and anxiety symptoms in children and adolescents - a systematic review. Child Adolesc Ment Health. 2020;25:201–16 (https://doi.org/10.1111/camh.12373).

66. Saiphoo AN, Dahoah Halevi L, Vahedi Z. Social networking site use and self-esteem: a meta-analytic review. Pers Individ Differ. 2020;153:109639 (https://doi.org/10.1016/j.paid.2019.109639).

67. Brautsch LA, Lund L, Andersen MM, Jennum PJ, Folker AP, Andersen S. Digital media use and sleep in late adolescence and young adulthood: a systematic review. Sleep Med Rev. 2023;68:101742 (https://doi.org/10.1016/j.smrv.2022.101742).

68. Valkenburg PM, Meier A, Beyens I. Social media use and its impact on adolescent mental health: an umbrella review of the evidence. Curr Opin Psychol. 2022;44:58–68 (https://doi.org/10.1016/j.copsyc.2021.08.017).

69. Holland G, Tiggemann M. A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. Body Image. 2016;17:100–10 (https://doi.org/10.1016/j.bodyim.2016.02.008).

70. Abi-Jaoude E, Naylor KT, Pignatiello A. Smartphones, social media use and youth mental health. Can Med Assoc J. 2020;192:E136–E41 (https://doi.org/10.1503/cmaj.190434).

71. Chayko M. Techno-social life: the internet, digital technology, and social connectedness. Sociol Compass. 2014;8:976–91 (https://doi.org/10.1111/soc4.12190).

72. Carraturo F, Di Perna T, Giannicola V, Nacchia MA, Pepe M, Muzii B et al. Envy, social comparison, and depression on social networking sites: a systematic review. Eur J Investig Health Psychol Educ. 2023;13:364–76 (https://doi.org/10.3390/ejihpe13020027).

73. Shannon H, Bush K, Villeneuve PJ, Hellemans KG, Guimond S. Problematic social media use in adolescents and young adults: systematic review and meta-analysis. JMIR Ment Health. 2022;9:e33450 (https://doi.org/10.2196/33450).

74. Haidt J. The anxious generation: How the great rewiring of childhood is causing an epidemic of mental illness. London: Penguin Press; 2024 (https://www.penguin.co.uk/books/456971/the-anxious-generation-by-haidt-jonathan/9781802063271).

75. Orben A. Teenagers, screens and social media: a narrative review of reviews and key studies. Soc Psychiatry Psychiatr Epidemiol. 2020;55:407–14 (https://doi.org/10.1007/s00127-019-01825-4).

76. Odgers CL, Jensen MR. Annual research review: adolescent mental health in the digital age: facts, fears, and future directions. J Child Psychol Psychiatry. 2020;61:336–48 (https://doi.org/10.1111/jcpp.13190).

77. Durkheim E. The division of labor in society. In: Grusky D, editor. Social stratification, class, race, and gender in sociological perspective, fourth edition. London: Routledge; 2019:178–83 (https://www.routledge.com/Social-Stratification-Class-Race-and-Gender-in-Sociological-Perspective/Grusky/p/book/9780813346717?srsltid=AfmBOoo7oBYBKh-6xE4UggLPGgwlZZ-X8hEwb9tXKl8EfskAyM47mMuR).

78. Norris P, Inglehart R. Sacred and secular: religion and politics worldwide. Cambridge: Cambridge University Press; 2011 (https://doi.org/10.1017/CBO9780511894862).

79. Rokach A, Neto F. Age, culture, and the antecedents of loneliness. Soc Behav Pers. 2005;33:477–94 (https://doi.org/10.2224/sbp.2005.33.5.477).

80. Das A. Secularism, family ties and loneliness: a multilevel longitudinal study of ten European societies. Soc Sci Res. 2022;101:102619 (https://doi.org/10.1016/j.ssresearch.2021.102619).

81. Hoffman PT. Why did Europe conquer the world? Princeton (NJ): Princeton University Press; 2015 (https://press.princeton.edu/books/hardcover/9780691139708/why-did-europe-conquer-the-world).

82. Reid P, Cormack D, Paine SJ. Colonial histories, racism and health – the experience of Māori and Indigenous peoples. Public Health. 2019;172:119–24 (https://doi.org/10.1016/j.puhe.2019.03.027).

83. Podsiadlowski A, Fox S. Collectivist value orientations among four ethnic groups: collectivism in the New Zealand context. N Z J Psychol. 2011;40:5–18 (https://www.psychology.org.nz/journal-archive/Padsiadlowski.pdf).

84. Brougham D, Haar JM. Collectivism, cultural identity and employee mental health: a study of New Zealand Māori. Soc Indic Res. 2012;114:1143–60 (https://doi.org/10.1007/s11205-012-0194-6).

85. Moeke-Maxwell T, Black S, Morgan T, Wiles J, Gott M. Etahi Kaumātua Mokemoke. In: Lewis JP, Heinonen T, editors. Social aspects of aging in indigenous communities. Oxford: Oxford University Press; 2023:315–35 (https://global.oup.com/academic/product/social-aspects-of-aging-in-indigenous-communities-9780197677216?cc=fr&lang=en).

86. Gallardo-Peralta LP, Fernández-Dávila Jara P, Tereucán Angulo J, Rodríguez Martín V. Loneliness among Chilean indigenous women: family, community, and socio-cultural integration as protective factors. J Women Aging. 2023;35:526-41 (https://doi.org/10.1080/08952841.2023.2189505).

87. Farrington D. Origins of violent behavior over the life span. In: Vazsonyi D, Flannery D, Delisi M, editors. The Cambridge handbook of violent behaviour and aggression, second edition. Cambridge: Cambridge University Press; 2018 (https://doi.org/10.1017/9781316847992).

88. Kraemer HC, Kazdin AE, Offord DR, Kessler RC, Jensen PS, Kupfer DJ. Coming to terms with the terms of risk. Arch Gen Psychiatry. 1997;54:337–43 (https://doi.org/10.1001/archpsyc.1997.01830160065009).

89. Dahlberg L, Agahi N, Lennartsson C. Lonelier than ever? Loneliness of older people over two decades. Arch Gerontol Geriatr. 2018;75:96–103 (https://doi.org/10.1016/j.archger.2017.11.004).

90. Giroux É. Risk factor and causality in epidemiology. In: Huneman P, Lambert G, Silberstein M, editors. Classification, disease and evidence: new essays in the philosophy of medicine. New York: Springer; 2014:179–92 (https:doi.org/10.1007/978-94-017-8887-8).

91. McDowell I. From risk factors to explanation in public health. J Public Health (Oxf). 2008;30:219–23 (https://doi.org/10.1093/pubmed/fdn051).

92. Hawkley LC, Hughes ME, Waite LJ, Masi CM, Thisted RA, Cacioppo JT. From social structural factors to perceptions of relationship quality and loneliness: the Chicago health, aging, and social relations study. J Gerontol B Psychol Sci Soc Sci. 2008;63:S375–84 (https://doi.org/10.1093/geronb/63.6.s375).

93. Chen M, Cao X, Wang A, Zhu Y, Lu G, Zhang L, Shen L. A global perspective on risk factors for social isolation in community-dwelling older adults: a systematic review and meta-analysis. Arch Gerontol Geriatr. 2024;116:105211 (https://doi.org/10.1016/j.archger.2023.105211).

94. Due P, Holstein BE, Lynch J, Diderichsen F, Gabhain SN, Scheidt P et al. Bullying and symptoms among school-aged children: international comparative cross sectional study in 28 countries. Eur J Public Health. 2005;15:128–32 (https://doi.org/10.1093/eurpub/cki105).

95. Hutten E, Jongen EMM, Hajema K, Ruiter RAC, Hamers F, Bos AER. Risk factors of loneliness across the life span. J Soc Pers Relat. 2021;39:1482–507 (https://doi.org/10.1177/02654075211059193).

96. Tian S, Zhang TY, Miao YM, Pan CW. Psychological distress and parental involvement among adolescents in 67 low-income and middle-income countries: a population-based study. J Affect Disord. 2021;282:1101–9 (https://doi.org/10.1016/j.jad.2021.01.010).

97. Wang S, Lin J, Kuang L, Yang X, Yu B, Cui Y. Risk factors for social isolation in older adults: a systematic review and meta-analysis. Public Health Nurs. 2024;41:200–8 (https://doi.org/10.1111/phn.13266).

98. Surkalim DL, Clare PJ, Eres R, Gebel K, Bauman A, Ding D. Have middle-aged and older Americans become lonelier? 20-year trends from the Health and Retirement Study. J Gerontol B Psychol Sci Soc Sci. 2023;78:1215–23 (https://doi.org/10.1093/geronb/gbad062).

99. Cohen-Mansfield J, Hazan H, Lerman Y, Shalom V. Correlates and predictors of loneliness in older-adults: a review of quantitative results informed by qualitative insights. Int Psychogeriatr. 2016;28:557–76 (https://doi.org/10.1017/S1041610215001532).

100. Gao Q, Prina AM, Prince M, Acosta D, Luisa Sosa A, Guerra M et al. Loneliness among older adults in Latin America, China, and India: prevalence, correlates and association with mortality. Int J Public Health. 2021;66:604449 (https://doi.org/10.3389/ijph.2021.604449).

101. Kung CSJ, Pudney SE, Shields MA. Economic gradients in loneliness, social isolation and social support: evidence from the UK Biobank. Soc Sci Med. 2022;306:115122 (https://doi.org/10.1016/j.socscimed.2022.115122).

102. Iovino P, Vellone E, Cedrone N, Riegel B. A middle-range theory of social isolation in chronic illness. Int J Environ Res Public Health. 2023;20 (https://doi.org/10.3390/ijerph20064940).

103. Kaiser T, Luhmann M. Socioeconomic correlates of loneliness and social isolation in late life. In: Hajek A, Riedel-Heller SG, König H-H, editors. Loneliness and Social Isolation in Old Age. London: Routledge; 2023:29–39.

104. Akhter-Khan SC, van Es W, Prina M, Lawrence V, Piri I, Rokach A et al. Experiences of loneliness in lower- and middle-income countries: a systematic review of qualitative studies. Soc Sci Med. 2024;340:116438 (https://doi.org/10.1016/j.socscimed.2023.116438).

105. Morrish N, Medina-Lara A. Does unemployment lead to greater levels of loneliness? A systematic review. Soc Sci Med. 2021;287:24 (https://doi.org/10.1016/j.socscimed.2021.114339).

106. Sherman DW, Alfano AR, Alfonso F, Duque CR, Eiroa D, Marrero Y et al. A systematic review of the relationship between social isolation and physical health in adults. Healthcare. 2024;12:1135 (https://doi.org/10.3390/healthcare12111135).

107. Solmi M, Veronese N, Galvano D, Favaro A, Ostinelli EG, Noventa V et al. Factors associated with loneliness: an umbrella review of observational studies. J Affect Disord. 2020;271:131–8 (https://doi.org/10.1016/j.jad.2020.03.075).

108. Social isolation and loneliness in older adults: opportunities for the health care system. Washington, DC: National Academies of Sciences, Engineering, and Medicine; 2020 (https://nap.nationalacademies.org/catalog/25663/social-isolation-and-loneliness-in-older-adults-opportunities-for-the).

109. Berkman LF, Glass T, Brissette I, Seeman TE. From social integration to health: Durkheim in the new millennium. Soc Sci Med. 2000;51:843–57 (https://doi.org/10.1016/s0277-9536(00)00065-4).

110. Buecker S, Maes M, Denissen JJA, Luhmann M. Loneliness and the Big Five personality traits: a meta–analysis. Eur J Pers. 2020;34:8–28 (https://doi.org/10.1002/per.2229).

111. Wang B, Dong X. The association between personality and loneliness: findings from a community-dwelling Chinese aging population. Gerontol Geriatr Med. 2018;4:2333721418778181 (https://doi.org/10.1177/2333721418778181).

112. Abdellaoui A, Chen HY, Willemsen G, Ehli EA, Davies GE, Verweij KJH et al. Associations between loneliness and personality are mostly driven by a genetic association with neuroticism. J Pers. 2019;87:386–97 (https://doi.org/10.1111/jopy.12397).

113. Schermer JA, Martin NG. A behavior genetic analysis of personality and loneliness. J Res Pers. 2019;78:133–7 (https://doi.org/10.1016/j.jrp.2018.11.011).

114. Haggerty BB, Bradbury TN, Karney BR. The disconnected couple: intimate relationships in the context of social isolation. Curr Opin Psychol. 2022;43:24–9 (https://doi.org/10.1016/j.copsyc.2021.06.002).

115. Capaldi DM, Knoble NB, Shortt JW, Kim HK. A systematic review of risk factors for intimate partner violence. Partn Abuse. 2012;3:231–80 (https://doi.org/10.1891/1946-6560.3.2.231).

116. Carmichael CL, Reis HT, Duberstein PR. In your 20s it's quantity, in your 30s it's quality: the prognostic value of social activity across 30 years of adulthood. Psychol Aging. 2015;30:95–105 (https://doi.org/10.1037/pag0000014).

117. Meehan DE, Grunseit A, Condie J, HaGani N, Merom D. Social-ecological factors influencing loneliness and social isolation in older people: a scoping review. BMC Geriatr. 2023;23:726 (https://doi.org/10.1186/s12877-023-04418-8).

118. Liliana C, Stepanova E. Loneliness & social and civic behaviours. Luxembourg: Office of the European Union; 2021 (https://publications.jrc.ec.europa.eu/repository/bitstream/JRC126983/JRC126983_01.pdf).

119. Matsuda N, Murata S, Torizawa K, Isa T, Ebina A, Kondo Y et al. Association between public transportation use and loneliness among urban elderly people who stop driving. Gerontol Geriatr Med. 2019;5:2333721419851293 (https://doi.org/10.1177/2333721419851293).

120. Marquez J, Qualter P, Petersen K, Humphrey N, Black L. Neighbourhood effects on loneliness among adolescents. J Public Health (Oxf). 2023;45:663–75 (https://doi.org/10.1093/pubmed/fdad053).

121. Astell-Burt T, Hartig T, Putra I, Walsan R, Dendup T, Feng X. Green space and loneliness: a systematic review with theoretical and methodological guidance for future research. Sci Total Environ. 2022;847:157521 (https://doi.org/10.1016/j.scitotenv.2022.157521).

122. Bagnall AM, Southby K, Jones R, Pennington A, South J, Corcoran R. Systematic review of community infrastructure (place and space) to boost social relations and community wellbeing: five year refresh. London: What Works Centre for Wellbeing; 2023 (https://whatworkswellbeing.org/wp-content/uploads/2023/01/Places-and-Spaces-Review-Refresh-31-Jan-2023-final-with-logos.pdf).

123. Swader CS, Moraru AV. Social infrastructure and the alleviation of loneliness in Europe. Köln Z Soziol Sozialpsychol. 2023;1–28 (https://doi.org/10.1007/s11577-023-00883-6).

124. Kelsey T, Kenny M. Townscapes: the value of social infrastructure. Cambridge: Bennett Institute for Public Policy; 2021 (https://www.bennettinstitute.cam.ac.uk/wp-content/uploads/2020/12/Townscapes_The_value_of_infrastructure.pdf).

125. Hollis H, Skropke C, Smith H, Harries R, Garling O. Social infrastructure: international comparative review. Cambridge: Institute for Community Studies, Bennett Institute for Public Policy; 2023 (https://www.bennettinstitute.cam.ac.uk/wp-content/uploads/2023/01/Social_infrastructure_international_comparative_review.pdf).

126. Enneking G, Custers G, Engbersen G. The rapid rise of social infrastructure: mapping the concept through a systematic scoping review. Cities. 2025;158:105608 (https://doi.org/10.1016/j.cities.2024.105608).

127. Matthews T, Odgers CL, Danese A, Fisher HL, Newbury JB, Caspi A et al. Loneliness and neighborhood characteristics: a multi-informant, nationally representative study of young adults. Psychol Sci. 2019;30:765–75 (https://doi.org/10.1177/0956797619836102).

128. Gillham D, De Bellis A, Xiao L, Willis E, Harrington A, Morey W, et al. Using research evidence to inform staff learning needs in cross-cultural communication in aged care homes. Nurse Educ Today. 2018;63:18–23 (https://doi.org/10.1016/j.nedt.2018.01.007).

129. Courtin E, Knapp M. Social isolation, loneliness and health in old age: a scoping review. Health Soc Care Community. 2017;25:799–812 (https://doi.org/10.1111/hsc.12311).

130. Oyserman D, Coon HM, Kemmelmeier M. Rethinking individualism and collectivism: evaluation of theoretical assumptions and meta-analyses. Psychol Bull. 2002;128:3–72 (https://doi.org/10.1037/0033-2909.128.1.3).

131. Triandis HC. Individualism-collectivism and personality. J Pers. 2001;69:907–24 (https://doi.org/10.1111/1467-6494.696169).

132. Barreto M, Victor C, Hammond C, Eccles A, Richins MT, Qualter P. Loneliness around the world: age, gender, and cultural differences in loneliness. Pers Individ Differ. 2021;169:110066 (https://doi.org/10.1016/j.paid.2020.110066).

133. De Jong Gierveld J, Tesch-Romer C. Loneliness in old age in Eastern and Western European societies: theoretical perspectives. Eur J Ageing. 2012;9:285–95 (https://doi.org/10.1007/s10433-012-0248-2).

134. Heu LC, van Zomeren M, Hansen N. Lonely alone or lonely together? A cultural-psychological examination of individualism-collectivism and loneliness in five European countries. Pers Soc Psychol Bull. 2019;45:780–93. (https://doi.org/10.1177/0146167218796793).

135. Lykes VA, Kemmelmeier M. What predicts loneliness? Cultural difference between individualistic and collectivistic societies in Europe. J Cross-Cult Psychol. 2013;45:468–90 (https://doi.org/10.1177/0022022113509881).

136. Taniguchi H, Kaufman G. Family, collectivism, and loneliness from a cross-country perspective. Appl Res Qual Life. 2021;17:1555–81 (https://doi.org/10.1007/s11482-021-09978-8).

137. Muennig P, Jiao B, Singer E. Living with parents or grandparents increases social capital and survival: 2014 General Social Survey–National Death Index. SSM Popul Health. 2018;4:71–5 (https://doi.org/10.1016/j.ssmph.2017.11.001).

138. Lohoar S, Butera N, Kennedy E. Strengths of Australian Aboriginal cultural practices in family life and child rearing (CFCA Paper No. 25 2014). Melbourne: Australian Government; 2014.

139. Harvey D. A brief history of neoliberalism. Oxford: Oxford University Press; 2005 (https://doi.org/10.1093/oso/9780199283262.001.0001).

140. Becker JC, Hartwich L, Haslam SA. Neoliberalism can reduce well-being by promoting a sense of social disconnection, competition, and loneliness. Br J Soc Psychol. 2021;60:947–65 (https://doi.org/10.1111/bjso.12438).

141. Barreto M, Qualter P, Doyle D. Loneliness inequalities evidence review. Cardiff: Wales Centre for Public Policy; 2023 (https://wcpp.org.uk/wp-content/uploads/2023/08/WCPP-REPORT-Loneliness-Inequalities-Evidence-Review.pdf).

142. Kovacs B, Caplan N, Grob S, King M. Social networks and loneliness during the COVID-19 pandemic. Socius. 2021;7:2378023120985254 (https://doi.org/10.1177/2378023120985254).

143. Skałacka K, Pajestka G. Digital or in-person: the relationship between mode of interpersonal communication during the COVID-19 pandemic and mental health in older adults from 27 countries. J Fam Nurs. 2021;27:275–84 (https://doi.org/10.1177/10748407211031980).

144. Teo RH, Cheng WH, Cheng LJ, Lau Y, Lau ST. Global prevalence of social isolation among community-dwelling older adults: a systematic review and meta-analysis. Arch Gerontol Geriatr. 2023;107:104904 (https://doi.org/10.1016/j.archger.2022.104904).

145. Ernst M, Niederer D, Werner AM, Czaja SJ, Mikton C, Ong AD et al. Loneliness before and during the COVID-19 pandemic: a systematic review with meta-analysis. Am Psychol. 2022;77:660–77 (https://doi.org/10.1037/amp0001005).

146. Nguyen MH, Gruber J, Fuchs J, Marler W, Hunsaker A, Hargittai E. Changes in digital communication during the COVID-19 global pandemic: implications for digital inequality and future research. Soc Media Soc. 2020;6:2056305120948255 (https://doi.org/10.1177/2056305120948255).

147. Burnell K, George MJ, Underwood MK. New media and solitude: implications for peer relations. In: Coplan RJ, Bowker JC, Nelson LJ, editors. The handbook of solitude. Psychological perspectives on social isolation, social withdrawal, and being alone. Second edition. Hoboken (NJ): John Wiley & Sons, Inc.; 2021 (https://download.e-bookshelf.de/download/0011/9471/94/L-G-0011947194-0054890595.pdf).

148. Nelson LJ, Millett MA. Social withdrawal during emerging adulthood. In: Coplan RJ, Bowker JC, Nelson LJ, editors. The handbook of solitude. Psychological perspectives on social isolation, social withdrawl, and being alone. Hoboken (NJ): John Wiley & Sons, Inc.; 2021 (https://download.e-bookshelf.de/download/0011/9471/94/L-G-0011947194-0054890595.pdf).

149. Rahmani M, Pumariega AJ, Prajapati P, Dalkilic A, Burakgazi-Yilmaz H, Unlu A. Anomie, loneliness, and psychopathology: results from the Study of Youth in Istanbul. World Soc Psychiatry. 2022;4:121–31 (https://doi.org/10.4103/wsp.wsp_13_22).

150. Goosby BJ, Bellatorre A, Walsemann KM, Cheadle JE. Adolescent loneliness and health in early adulthood. Sociol Inq. 2013;83 (https://doi.org/10.1111/soin.12018).

151. Xerxa Y, Rescorla LA, Shanahan L, Tiemeier H, Copeland WE. Childhood loneliness as a specific risk factor for adult psychiatric disorders. Psychol Med. 2023;53:227–35 (https://doi.org/10.1017/S0033291721001422).

152. Landry J, Asokumar A, Crump C, Anisman H, Matheson K. Early life adverse experiences and loneliness among young adults: the mediating role of social processes. Front Psychol. 2022;13:968383 (https://doi.org/10.3389/fpsyg.2022.968383).

153. Tzouvara V, Kupdere P, Wilson K, Matthews L, Simpson A, Foye U. Adverse childhood experiences, mental health, and social functioning: a scoping review of the literature. Child Abuse Negl. 2023;139:106092 (https://doi.org/10.1016/j.chiabu.2023.106092).

154. Matthews T, Caspi A, Danese A, Fisher HL, Moffitt TE, Arseneault L. A longitudinal twin study of victimization and loneliness from childhood to young adulthood. Dev Psychopathol. 2022;34:367–77 (https://doi.org/10.1017/S0954579420001005).

155. Solmi M, Radua J, Olivola M, Croce E, Soardo L, Salazar de Pablo G et al. Age at onset of mental disorders worldwide: large-scale meta-analysis of 192 epidemiological studies. Mol Psychiatry. 2022;27:281–95 (https://doi.org/10.1038/s41380-021-01161-7).

156. Raji NA, Liverpool S, Bannerman F, Fletcher KA. Experiences and outcomes of young carers living in low-and middle-income countries: a scoping review and narrative synthesis. J Child Fam Stud. 2025;34:83–94 (https://doi.org/10.1007/s10826-024-02992-y).

157. Campbell M. Loneliness, social anxiety and bullying victimization in young people: a literature review. Psychol Educ. 2013;50:1–10 (https://api.semanticscholar.org/CorpusID:141087537).

158. Pavri S. Loneliness: the cause or consequence of peer victimization in children and youth. Open Psychol J. 2015;8 (https://doi.org/10.2174/1874350101508010078).

159. Igami K, Hosozawa M, Ikeda A, Bann D, Shimizu T, Iso H. Adolescent loneliness in 70 countries across Africa, America, and Asia: a comparison of prevalence and correlates. J Adolesc Health. 2023;72:906–13 (https://doi.org/10.1016/j.jadohealth.2022.12.029).

160. Matthews T, Qualter P, Bryan BT, Caspi A, Danese A, Moffitt TE et al. The developmental course of loneliness in adolescence: implications for mental health, educational attainment, and psychosocial functioning. Dev Psychopathol. 2023;35:537–46 (https://doi.org/10.1017/S0954579421001632).

161. Lodder GMA, Scholte RHJ, Goossens L, Verhagen M. Loneliness in early adolescence: friendship quantity, friendship quality, and dyadic processes. J Clin Child Adolesc Psychol. 2017;46:709–20 (https://doi.org/10.1080/15374416.2015.1070352).

162. Hemberg J, Korzhina Y, Groundstroem H, Östman L, Nyström L, Nyman-Kurkiala P. Loneliness – two sides to the story: adolescents' lived experiences. Int J Adolesc Youth. 2021;26:41–56 (https://doi.org/10.1080/02673843.2021.1883075).

163. Rageliene T. Links of adolescents identity development and relationship with peers: a systematic literature review. J Can Acad Child Adolesc Psychiatry. 2016;25:97–105 (https://www.ncbi.nlm.nih.gov/pubmed/27274745).

164. Haskett ME, Stelter R, Proffit K, Nice R. Parent emotional expressiveness and children's self-regulation: associations with abused children's school functioning. Child Abuse Negl. 2012;36:296–307 (https://doi.org/10.1016/j.chiabu.2011.11.008).

165. Burns A, Leavey G, O'Sullivan R. Associations between parental bonding, social isolation and loneliness: do associations persist in later life and is isolation a mediator between parental bonding and loneliness? BMC Psychol. 2022;10:152 (https://doi.org/10.1186/s40359-022-00855-z).

166. Yan J, Feng X, Schoppe-Sullivan SJ. Longitudinal associations between parent–child relationships in middle childhood and child-perceived loneliness. J Fam Psychol. 2018;32:841–7 (https://doi.org/10.1037/fam0000446).

167. Harding S, Morris R, Gunnell D, Ford T, Hollingworth W, Tilling K et al. Is teachers' mental health and wellbeing associated with students' mental health and wellbeing? J Affect Disord. 2019;242:180–7 (https://doi.org/10.1016/j.jad.2018.08.080).

168. Jefferson R, Barreto M, Jones F, Conway J, Chohan A, Madsen KR et al. Adolescent loneliness across the world and its relation to school climate, national culture and academic performance. Br J Educ Psychol. 2023;93:997–1016 (https://doi.org/10.1111/bjep.12616).

169. Thapa A, Cohen J, Guffey S, Higgins-D'Alessandro A. A review of school climate research. Rev Educ Res. 2013;83:357–85 (https://doi.org/10.3102/0034654313483907).

170. Hajek A, Kretzler B, Konig HH. Informal caregiving, loneliness and social isolation: a systematic review. Int J Environ Res Public Health. 2021;18 (https://doi.org/10.3390/ijerph182212101).

171. Feagin JR, Feagin CB. Discrimination American style: institutional racism and sexism. Malabar (FL): Robert E. Krieger Publishing Company; 1986.

172. Hatzenbuehler ML. Structural stigma and the health of lesbian, gay, and bisexual populations. Curr Dir Psychol Sci. 2014;23:127–32 (https://doi.org/10.1177/0963721414523775).

173. Te Aka Matua o te Ture | Law Commission. A review of the protections in the Human Rights Act 1993 for people who are transgender, people who are non-binary and people with innate variations of sex characteristics. Wellington: New Zealand Government; 2023 (https://www.lawcom.govt.nz/our-work/ia-tangata/tab/issues-paper).

Chapter 4

Impacts of social connection, social isolation and loneliness

"When my husband died, my children also followed him […] What I'm experiencing now is pure suffering. I don't have anything."

Maria Ondosia Mawero, older woman living in Kibera, an informal settlement (Kenya)
© WHO

Key messages

- **Social connection is an under-recognized factor in health and societal well-being. It can help to avoid serious risks, promote many beneficial outcomes and potentially extend lifespans.**

- **Social isolation and loneliness have serious, negative impacts on mortality, and physical and mental health and are associated with many important social and economic issues, including education, employment, economic growth and innovation.**

- **New estimates suggest that loneliness alone may be responsible for about 871 000 deaths each year.**

- **The economic cost of these wide-ranging impacts on society is only beginning to be understood. Estimates suggest substantial costs to employers, health and care systems and individuals.**

- **Stronger social connections provide important protection in health and social and economic domains.**
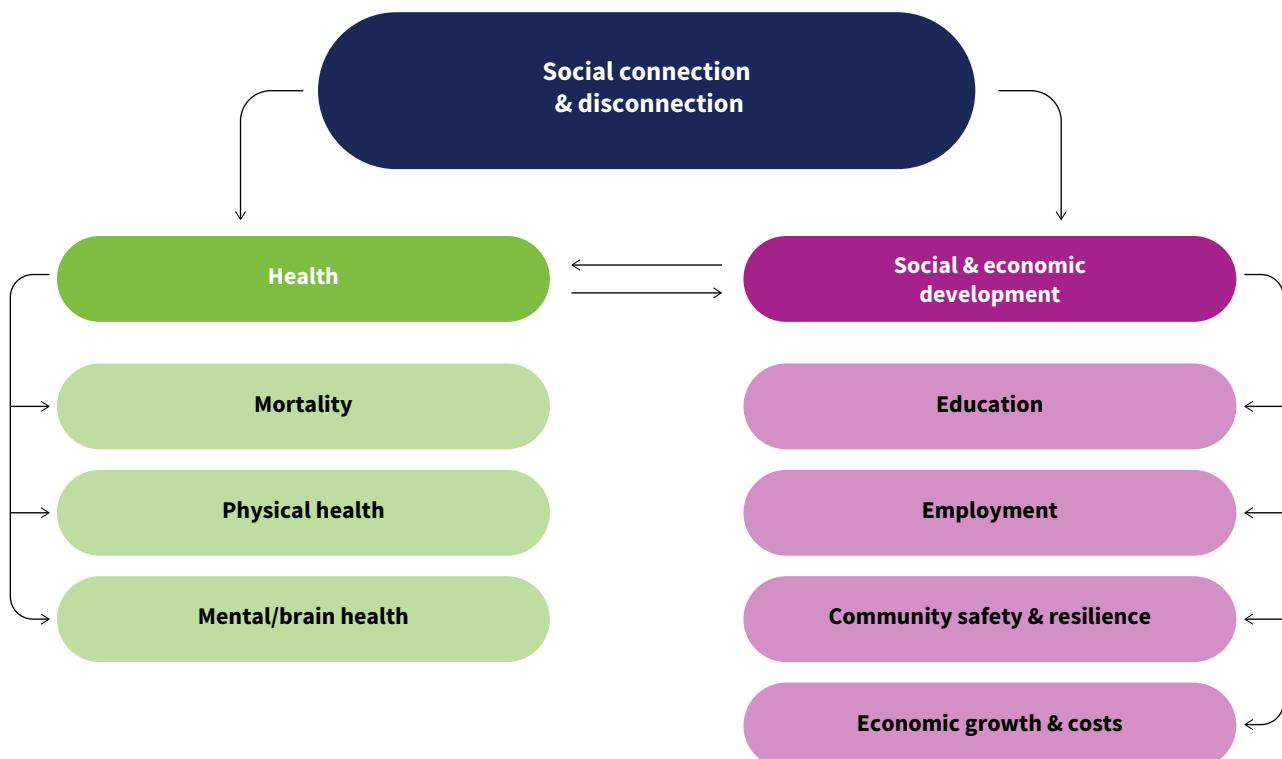
This chapter presents the diverse impacts of social connection and disconnection (e.g. social isolation and loneliness) on individuals and society. Section 4.1 describes the substantial effects of social disconnection on health (e.g. mortality, physical health and mental/brain health) and on social and economic development (e.g. education, employment, economic growth and costs). Section 4.2 explores the protective effects of social connection in similar health, social and economic domains.

Social disconnection has serious impacts on health and beyond. Until a few decades ago, this was largely unrecognized, and, even today, the impacts of social disconnection are under-recognized. The combination of the scale of the issue – affecting, as reported in Chapter 2, nearly one in six people on this planet – and the severity of its consequences – described in this chapter – makes it a priority.

During the past few decades, a large body of research in many disciplines has highlighted the protective benefits of social connection and the negative impacts of social disconnection in a range of health, social and economic domains (Fig. 13).

Fig. 13.

Impacts of social connection on various domains

4.1   Impacts of social disconnection

Increased risk of mortality

Robust evidence from various regions of the world shows significant links between social disconnection and an increased risk of mortality, which are probably causal (Boxes 4 and 5). The global number of deaths due to loneliness alone is estimated to have been 871 000 per year during the period 2014–2019. Estimates are not yet available for other measures of social disconnection.

Box 4.
Causality

Demonstrating that the link between social disconnection and health is causal, rather than merely correlational and hence spurious, is critical to convince policy- and decision-makers to act *(1).* It is difficult to demonstrate causality when experiments cannot be conducted – such as for smoking, obesity and social connection. Ethically, researchers cannot subject large groups of people to years of social disconnection and then see how they fare in comparison with those who stayed with their family and friends.

Instead, to demonstrate causality, different sources of evidence must be used. The Bradford Hill criteria *(2)* are well known, widely used guidelines for evaluating several lines of evidence to infer causality. They include the strength of the effect (the size of effect is greater than the combined effect of other influencing factors), temporality (the effect occurs after the purported cause), a dose–response relation (higher levels of social disconnection are more strongly associated with mortality) and plausible causal mechanisms (reasonable biological mechanism of action; see Box 5).

"Bradford Hill states that if these guidelines are all satisfied, then we have good reason to assert that a relationship is causal and not spurious" *(3)*. When the guidelines were applied to the body of evidence on social relationships and health, all the criteria were met *(3)*. Therefore, it is likely that the link between social connection and health is causal *(3, 4)*.

In recent years, researchers have begun to use Mendelian randomization analyses to identify causal relations between social disconnection and health *(5–7)*. This method includes genetic variation (naturally occurring differences in DNA among individuals that are linked to certain traits) in analyses. As genetic variants are not influenced by factors such as a person's environment or lifestyle, their inclusion can help to eliminate confounding variables and determine causal effects. With this method, some studies have identified potentially causal associations between loneliness and health outcomes (depression *(6)*, diabetes *(5)*). In one recent study, genetic, behavioural, hospitalization and death registry data for a large sample of individuals in the United Kingdom were combined to establish associations between loneliness and 26 diseases. Only six diseases were found to potentially be causally associated with loneliness: hypothyroidism, asthma, depression, psychoactive substance abuse, sleep apnoea and hearing loss. There was little causal evidence for an association between loneliness and the other 20 diseases examined (e.g. cardiovascular disease (CVD), type 2 diabetes, obesity, chronic liver disease) *(7)*. Further research with these techniques will improve understanding of causality.

Box 5.
Causal pathways and how social disconnection gets "under the skin"

Three causal pathways: Three interconnected pathways – or plausible causal mechanisms – have been put forward to explain how social disconnection gets "under the skin", i.e. becomes biologically embedded and causes early death and disease (Fig. 14).

1. Biological pathway. Social disconnection can trigger a biological stress response that influences a person's cellular and molecular biology, making them more susceptible to disease. For instance, chronic stress affects endocrine (stress hormones), immune, metabolic and cardiovascular systems and gut-microbiome interactions, adversely affecting aspects of functioning, such as the level of cortisol, blood pressure, immunity and inflammation. Inflammation appears to be an important pathway for many chronic diseases. Other responses include slower recovery from wounds and decreased natural killer cell activity (i.e. natural destruction of diseased cells, which protect against diseases such as cancer). Additionally, stress due to social disconnection can affect the way in which an individual's genes are expressed (i.e. whether they are turned off or on) over time, influencing the development of diseases in the longer term. Stronger social connections can help to regulate biological systems, offering greater protection from disease.
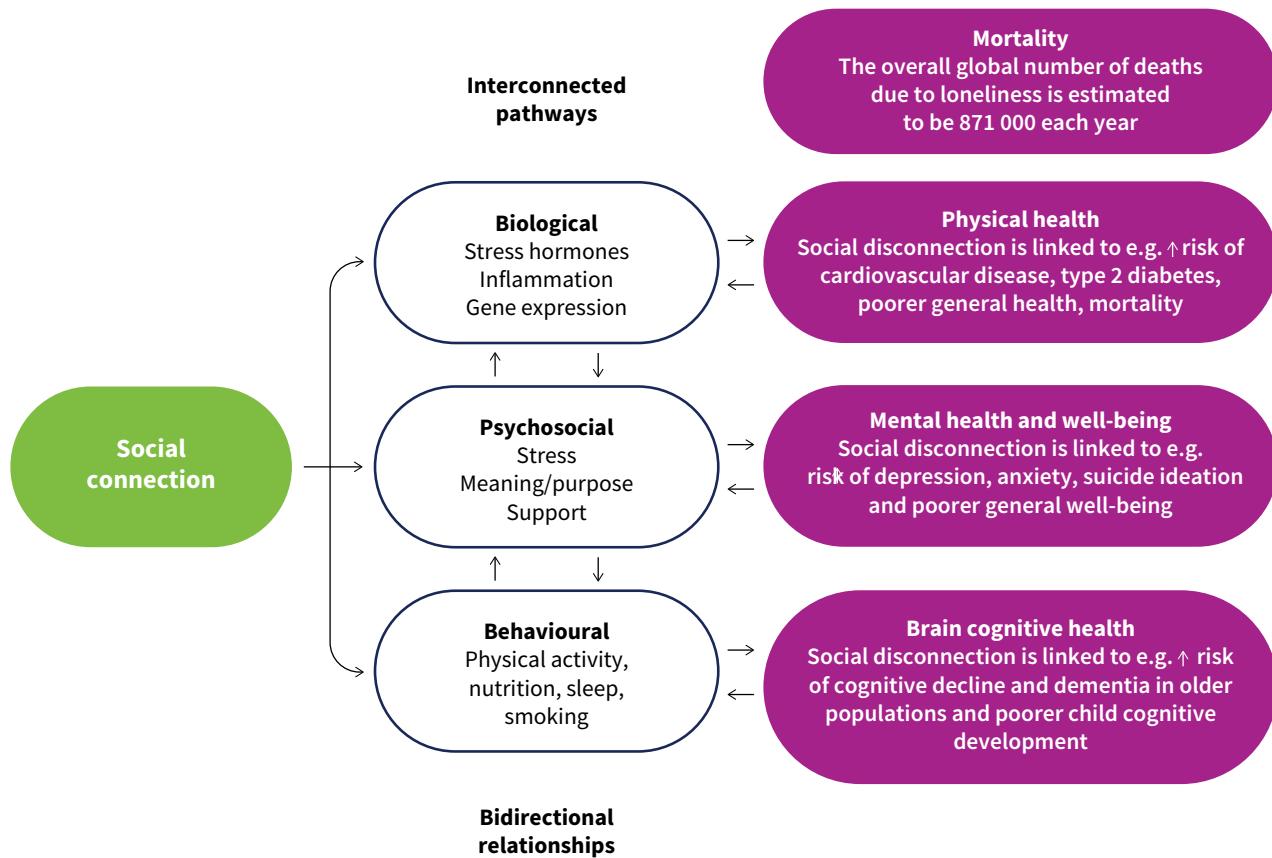
2. Psychological pathway. The increase in stress triggered by social disconnection can also increase the risks of depression and anxiety, which can increase the development and progression of chronic disease. Conversely, stronger social connections provide more opportunities for emotional and practical support for day-to-day problems, which reduces the harmful build-up of stress. Social connection can also provide meaning, purpose and motivation in people's lives. These have been shown to be associated with emotional well-being.

3. Behavioural pathway. Social disconnection can increase the chances of engaging in risky health behaviour, such as smoking, excessive alcohol use, little physical activity and poor diet, all of which are risk factors for chronic disease. These behaviours may be adopted as ways of coping with the stress of social disconnection, or chronic disease may be more likely because of limited access to health advice and support provided by social networks. Social disconnection has also been linked to sleep disturbances and non-adherence to treatment, factors that are also associated with poorer health. Stronger social connections offer more opportunities to receive health advice and support, which may increase the likelihood of engaging in healthy behaviour. The health behaviour of others is also important, as individuals behave similarly to those around them over time, and stronger social connections can therefore increase the likelihood of engaging in unhealthy behaviour.

Fig. 14.

Three main causal pathways from social disconnection to health

Interconnected pathways

Social connection

Biological
Stress hormones
Inflammation
Gene expression

Psychosocial
Stress
Meaning/purpose
Support

Behavioural
Physical activity,
nutrition, sleep,
smoking

Bidirectional relationships

Mortality
The overall global number of deaths
due to loneliness is estimated
to be 871 000 each year

Physical health
Social disconnection is linked to e.g. ↑ risk of
cardiovascular disease, type 2 diabetes,
poorer general health, mortality

Mental health and well-being
Social disconnection is linked to e.g.
risk of depression, anxiety, suicide ideation
and poorer general well-being

Brain cognitive health
Social disconnection is linked to e.g. ↑ risk
of cognitive decline and dementia in older
populations and poorer child cognitive
development

Sources: US Surgeon-General *(4)*, Holt-Lunstad et al. *(8)*, Paul et al. *(9)*, Teshale et al. *(10)*, Almeida et al. *(11)*, Freilich *(12)*, Furman et al. *(13)*
Other structural elements may also impact social connection and disconnection, as well as wider health outcomes (Chapter 3).

Evidence of an association between social disconnection and mortality is strong, including from large population-based studies in which individuals were followed up over long periods and in which other possible influencing factors were taken into account *(3)*. Recent meta-analyses show that, among mostly older adults, loneliness and social isolation increase the risk of all-cause mortality by 9–22% *(14–17)* and 32–33%, respectively *(17, 18)*. For instance, one of the most recent, comprehensive meta-analyses found that loneliness increased the risk of all-cause mortality by 14% *(17)*. Another showed that living alone was more strongly associated with all-cause mortality (32% increased likelihood) than social isolation (29% increased likelihood) or loneliness (26% increased likelihood) *(19)*. As each of these concepts – social isolation, loneliness and living alone – has an independent effect on mortality, strategies to address one will not necessarily be effective for another.

Most of the research on links between social disconnection and mortality has been conducted in high-income countries in Europe and north America. One meta-analysis of links between social isolation and risk of mortality showed similar risks in high
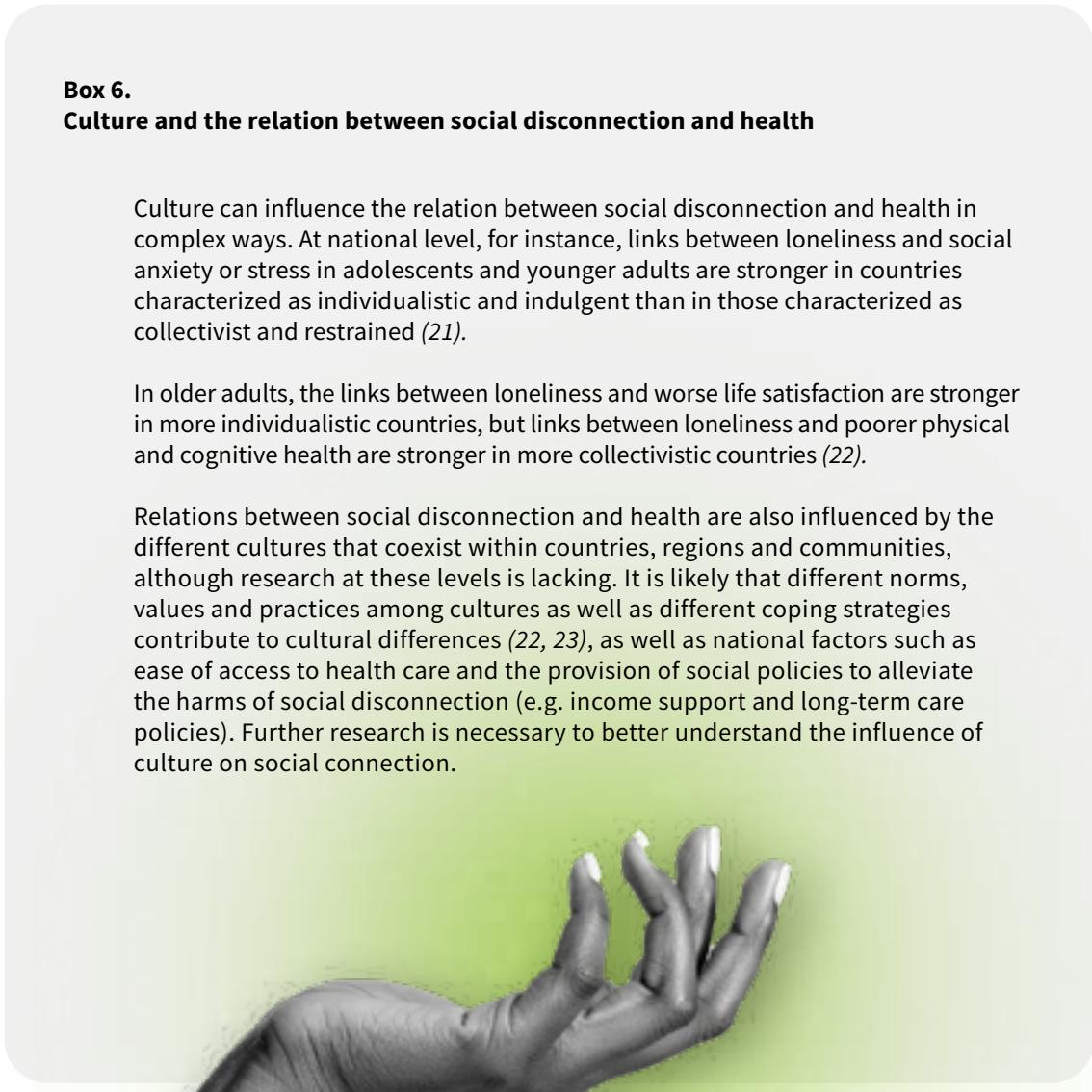
(27 studies), middle (1 multi-country study) and low-income countries (1 multi-country study) *(18).* Differences were found, however, by region (Asia, Europe, north America), the increased risk of mortality being highest in north America (41% – 14 studies), followed by Europe (33% increased risk – 10 studies) and Asia (20% increased risk – 5 studies) *(18).* Another multi-country study of older adults showed an association between loneliness and risk of mortality in Latin American countries (13% increased risk) and China (58% increased risk) but not in India *(20).* A further meta-analysis showed consistent relations between social disconnection and mortality in all world regions, although most of the studies included were conducted in Australia, Europe and north America *(19).* It is possible that differences in family, community and the social norms governing social relations among cultures and regions contribute to differences in risks of mortality associated with social disconnection *(18)* (see also Box 6), in addition to other factors such as variations in access to health systems and levels of social policies (e.g. income support policies and long-term care policies that alleviate the absence of social connections). Further research is needed to clarify variations and their causes. Links between social disconnection and mortality appear to be consistent across genders *(19).*

Box 6.
Culture and the relation between social disconnection and health

Culture can influence the relation between social disconnection and health in complex ways. At national level, for instance, links between loneliness and social anxiety or stress in adolescents and younger adults are stronger in countries characterized as individualistic and indulgent than in those characterized as collectivist and restrained *(21).*

In older adults, the links between loneliness and worse life satisfaction are stronger in more individualistic countries, but links between loneliness and poorer physical and cognitive health are stronger in more collectivistic countries *(22).*

Relations between social disconnection and health are also influenced by the different cultures that coexist within countries, regions and communities, although research at these levels is lacking. It is likely that different norms, values and practices among cultures as well as different coping strategies contribute to cultural differences *(22, 23)*, as well as national factors such as ease of access to health care and the provision of social policies to alleviate the harms of social disconnection (e.g. income support and long-term care policies). Further research is necessary to better understand the influence of culture on social connection.

Impacts on physical health

Social isolation and loneliness are associated with health conditions such as CVD and type 2 diabetes, as well as with poorer general physical health. The most abundant evidence is on the impact of loneliness or social isolation on the risk of developing CVD in adulthood *(10, 24–27)*. For instance, a meta-analysis of 23 longitudinal studies conducted mainly in high-income countries showed that loneliness or social isolation was associated with a 29% increase in the risk of incident coronary heart disease and that social isolation was linked to a 32% increase in the risk of stroke *(24)*. In an updated review, loneliness or social isolation was found to be associated with a 16% increased risk of incident CVD *(25)*. Studies also suggest a link between loneliness and risk factors for CVD, such as hypertension *(10)*.

Although less research has been conducted, that available suggests that social disconnection is linked to wider aspects of physical health by reducing resistance to diseases and infection *(28)* and increasing the risks of poorer general physical health, such as physical functioning, bodily pain or fatigue *(23)* and type 2 diabetes *(5, 29–31)*. For instance, in a large prospective study of over 465 000 adults in Denmark, feeling lonely once in a while was associated with a 14% higher risk of type 2 diabetes at the 6-year follow-up, and feeling lonely often was linked to a 24% increased risk *(29)*. Links between social disconnection and increased use of health care (e.g. primary care and emergency department visits, hospital admissions) have also been reported, particularly for loneliness *(32–36)*. Some studies, however, suggest only a small or no association *(33, 37)* or links with less use of health care *(38)*. Differences in the finding of an association may be linked to the measures of social disconnection used, health-care service type and cultural differences (Box 6).

Importantly, the relation between social disconnection and physical health can be bidirectional. The experience of chronic illness, limitations due to disease (e.g. mobility or frailty) or stigma surrounding certain health conditions may limit the ability of individuals to connect with others and may contribute to social isolation and feelings of loneliness *(10, 39, 40)*, which, in turn, may further impact health.

More research should be conducted on differences among regions and countries in the magnitude of the links between social disconnection and physical health. One meta-analysis showed that links between loneliness and physical health did not differ significantly by geographical location in Asia (mainly China), Europe and North America *(23)*. Other research, however, indicates geographical differences. For instance, a study in which data from several longitudinal datasets were combined showed that social isolation was associated with poorer ability to perform basic daily tasks (functional ability) in older people in Asian but not Western regions *(41)*. In a further, large, multi-country study, associations between social isolation and the risk of certain morbidities (e.g. stroke, cancer, pneumonia) were stronger in low-income than in middle- or high-income countries *(42)*.

As disease is more likely later in life, links between social disconnection and poorer physical health may be less apparent in children and adolescents. Loneliness during childhood and adolescence has nevertheless been associated with increased risky behaviour such as smoking, less physical activity and poorer sleep quality, as well as lower perceived general health *(43–45)*. Furthermore, extensive childhood social isolation can increase the risk of health problems such as obesity, hypertension and diabetes in adulthood *(11)*, and loneliness in adolescence has been associated with poorer self-rated health and metabolic risk factors associated with CVD in adulthood *(46)*.

Research also indicates differences in associations between chronic and transient social disconnection and health outcomes, the strongest associations being seen for chronic social disconnection (Box 7).

Box 7.
Impact of chronic and transient social disconnection

Many people experience temporary social disconnection (i.e. situational or transient loneliness or social isolation). Some individuals, however, experience longer, stable periods of social disconnection that last years and even decades (i.e. chronic, persistent or cumulative loneliness or social isolation). A growing number of longitudinal studies have addressed how these patterns of social disconnection are related to health. In general, studies that addressed loneliness indicate that people who are chronically lonely are more likely to have poorer health outcomes, including all-cause mortality *(47–49)*, incident CVD *(47)*, poor functional ability *(50)*, depression *(51, 52)*, cognitive decline *(53)* and dementia *(54, 55)*. Whether there is an association between transient loneliness and poorer health outcomes is less clear: a number of studies have reported significant associations *(47, 48, 51, 55, 56)*, while others have reported no association *(47, 50)*.

While less research has been conducted on the impacts of chronic and transient social isolation, similar patterns have been reported. For instance, one large prospective study in the United Kingdom found that chronic social isolation resulted in higher risks for incident CVD, all-cause mortality and cardiovascular mortality than other patterns of isolation (e.g. transient or incident) *(47)*.

Impacts on mental health and well-being

Robust evidence links social isolation, loneliness and other measures of social disconnection to increased risks and severity of mental health conditions such as depression, anxiety, psychosis, suicidal ideation and self-harm, most of the evidence being on the links between loneliness and depression *(23, 57–61)*. Associations have also been identified between loneliness and poorer well-being *(23, 62)*. Relations between social disconnection and poor mental health can be bidirectional *(6, 63)*, in that mental health conditions such as depression can impair social functioning, potentially limiting an individual's ability to connect with others and reducing the quality of relationships *(64)*.

The results of recent meta-analyses of studies on loneliness suggest that it has a large effect on depression, anxiety and well-being and an effect on suicidality that ranges from small to large, depending on the study. For instance, adults who are often lonely were at more than double the risk of new onset of depression as compared with those who did not often feel lonely *(58)*, while loneliness in older adults can more than double the risk of suicidal ideation *(65)*.

An umbrella review of 53 systematic reviews and meta-analyses (most conducted in high-income countries) identified associations between various constructs of social relationships, including social isolation, loneliness and levels of social support, and the onset or severity of various mental health conditions, including depression, bipolar disorder, anxiety, psychosis, post-traumatic stress disorder and eating disorders. Depression and psychosis were addressed most often, a few systematic reviews addressed eating disorders and post-traumatic stress disorder, and only four addressed anxiety *(57)*.

The relation between social disconnection and mental health may differ by region and country, such as for well-being *(24)* and suicidal ideation *(65)*. The strength of the association between social disconnection and mental health may be greater for people with a disability than for those with no disability *(66)*.

Although most research has been conducted in adult populations, strong links between social disconnection and poorer mental health have also been identified in children and adolescents, particularly for depression and anxiety *(11, 67, 68)*. Furthermore, feelings of loneliness in adolescence have been associated with reduced life satisfaction *(69)* and poorer well-being *(70)*. Loneliness experienced throughout childhood is a particular risk factor for depression during adolescence *(71)*.

Impacts on brain health

Many reviews and meta-analyses have concluded that, in older populations, measures of social disconnection are associated with cognitive decline *(72–81)*. For instance, loneliness has been associated with a 14% increase in the likelihood of mild cognitive impairment *(78)*, while having poor social relationships has been found to increase the likelihood of cognitive decline by 12–15% *(77, 81)*.

Associations have also been reported between measures of social disconnection and dementia, including Alzheimer disease *(73, 74, 82–88)*. The results of meta-analyses suggest several associations.

- Loneliness can increase the risk of dementia by 23–58% (*83, 85–88*) and that of Alzheimer disease by 72% *(83)*.

- Social isolation can increase the risk of major neurocognitive disorder by 22% *(80)*. Furthermore, eliminating social isolation as a risk factor later in life has been estimated to lead to a 5% reduction in the prevalence of dementia *(89)*.

- Poor social networks and poor social support can increase the risk of dementia by 59% and 28%, respectively *(90)*.

While most meta-analyses showed significant associations between measures of social disconnection and cognitive decline and dementia, some found non-significant associations for certain outcomes *(83, 87, 90)*. The risk of poorer cognitive health appears to be higher for males *(78)* and was lower in studies conducted in Asia than in other geographical locations (e.g. Europe and the USA) *(78, 83)*.

Although much of the research addresses adults and particularly older populations, social disconnection can have important impacts on cognitive health in early childhood *(91)*. For instance, greater social engagement (e.g. maternal sensitivity, mother–child interactions, emotional support) is associated with higher levels of cognition in early childhood *(92)*. Socially isolated children have lower intelligence quotients than their non-isolated peers *(11)*, which may impact subsequent educational achievement (section 4.2).

Links between social disconnection and cognitive health are probably bidirectional, with poorer cognitive health contributing to social isolation and loneliness. For instance, it is possible that cognitive decline discourages or limits an individual's ability to participate socially, and stigma associated with symptoms of dementia may be a barrier to social interaction *(72, 93)*.

Reflections from lived experience: impacts of social disconnection

Meryl

Workplace accessibility advocate (USA)

"I was born profoundly deaf. I never learned American Sign Language. I'm a lipreader and speaker. I don't belong in the deaf community or the hearing community. My whole life, I never felt like I had a group of friends I could do girl trips with or anything. I'm fortunate to have a spouse as a lifelong partner. It's not enough. I've had depression my whole life because of isolation and exclusion."

Abulogn

Refugee in Nairobi (Kenya)

"Social isolation and loneliness have impacted on both my life and my community as a refugee in Nairobi, Kenya. The lack of social support has caused stress, making it harder to cope with daily challenges and reducing overall my well-being. Within the community, widespread social isolation and loneliness have weaken[ed] social cohesion and trust among community members. It has created a sense of fragmentation and hinder[ed] collective efforts to improve living conditions and advocate for rights […] reducing the community's overall resilience and ability to support its members."

Nim

Narrative practitioner (Australia)

"The impact [of social isolation and loneliness] on my life was significant. I became more susceptible to illness, withdrew from activities I loved, and developed an unhealthy relationship with work, intertwining my identity with my job. My community diminished as I isolated myself from loved ones, drastically shrinking my social circle."

Julio

Gay older man
(Costa Rica)

"I feel stuck, and I feel a sense of loneliness, as if I have nothing left that merits continuing with my life. So it's important to socialize because I have realized that people, when they get to know each other, they have a strong bond of unity and support each other."

Impacts on social and economic development

The impacts of social disconnection go beyond health to affect various aspects of social and economic development, including education, employment and the economy, imposing a financial burden on societies. The levels of social connection and disconnection may also be associated with wider societal outcomes, such as support for extremism *(94, 95)*, although a discussion of these issues is beyond the scope of this report. To date, the evidence for impacts on social and economic development is more limited than for the impacts on health and often originates from high-income countries.

Impacts on education

Aspects of social disconnection such as loneliness can affect education. A survey of over 518 000 15-year-old people in 75 countries found that loneliness was associated with poorer academic performance *(96)*. Similarly, in England and Wales, a longitudinal cohort study of development in over 2000 twins found that, at the age of 18, loneliness was associated with a 22% increase in the likelihood of lower educational qualifications *(43)*. Furthermore, people who reported having been lonely at the ages of 12 and 18 years (i.e. had recurrent loneliness) were most likely to have lower qualifications *(97)*. Loneliness may affect education by reducing adolescents' perceived competence and self-worth or by negative effects on the quality of sleep *(45, 96, 97)*, which supports cognitive functioning *(98)*.

Impacts on employment

Loneliness also impacts employment outcomes and income levels. For instance, in England and Wales, individuals who felt lonely in early adolescence were more likely in early adulthood to be out of education, employment or training, have lower employability scores (based on level of education, employment history and work-related self-perceptions) and to rate themselves as having lower social status *(99)*.

In working age populations, feelings of loneliness have been associated with a greater likelihood of subsequent unemployment, the greatest impacts being found for individuals with chronic rather than transient loneliness *(100)*. There is probably a bidirectional relation between loneliness and unemployment *(100, 101)*. Loneliness in the workplace itself has been linked to lower job performance, reduced job satisfaction and more frequent "burnout" *(102)*.

Longer-term impacts on income have also been identified. For instance, in Norway, a study of over 3000 adolescents found that those who reported loneliness were at higher risk for lower income in midlife, possibly due to difficulties in building work-related networks that increase opportunities for more successful careers *(103)*.

Impacts on the economy

Poverty: social disconnection is a crucial yet often overlooked factor in understanding poverty, of which it is an essential component *(104–106)*. For instance, a study on the relations between social isolation and multidimensional poverty in Mozambique and South Africa and among the First Nations of Canada and people with a disability showed that social isolation exacerbates the conditions of people living in poverty *(107)*. "Failing resources" and "social withdrawal" have been proposed to explain the link. The failing resources of poorer people (i.e. lack of resources) lead them to forgo opportunities that could be used to maintain existing or initiate new social ties (e.g. a dwelling too cramped to accommodate guests; having to work many jobs, leaving little time to socialize). Social withdrawal is the result of the anxiety, shame and stigma that may arise from comparing oneself with others in a better social position *(108)*.
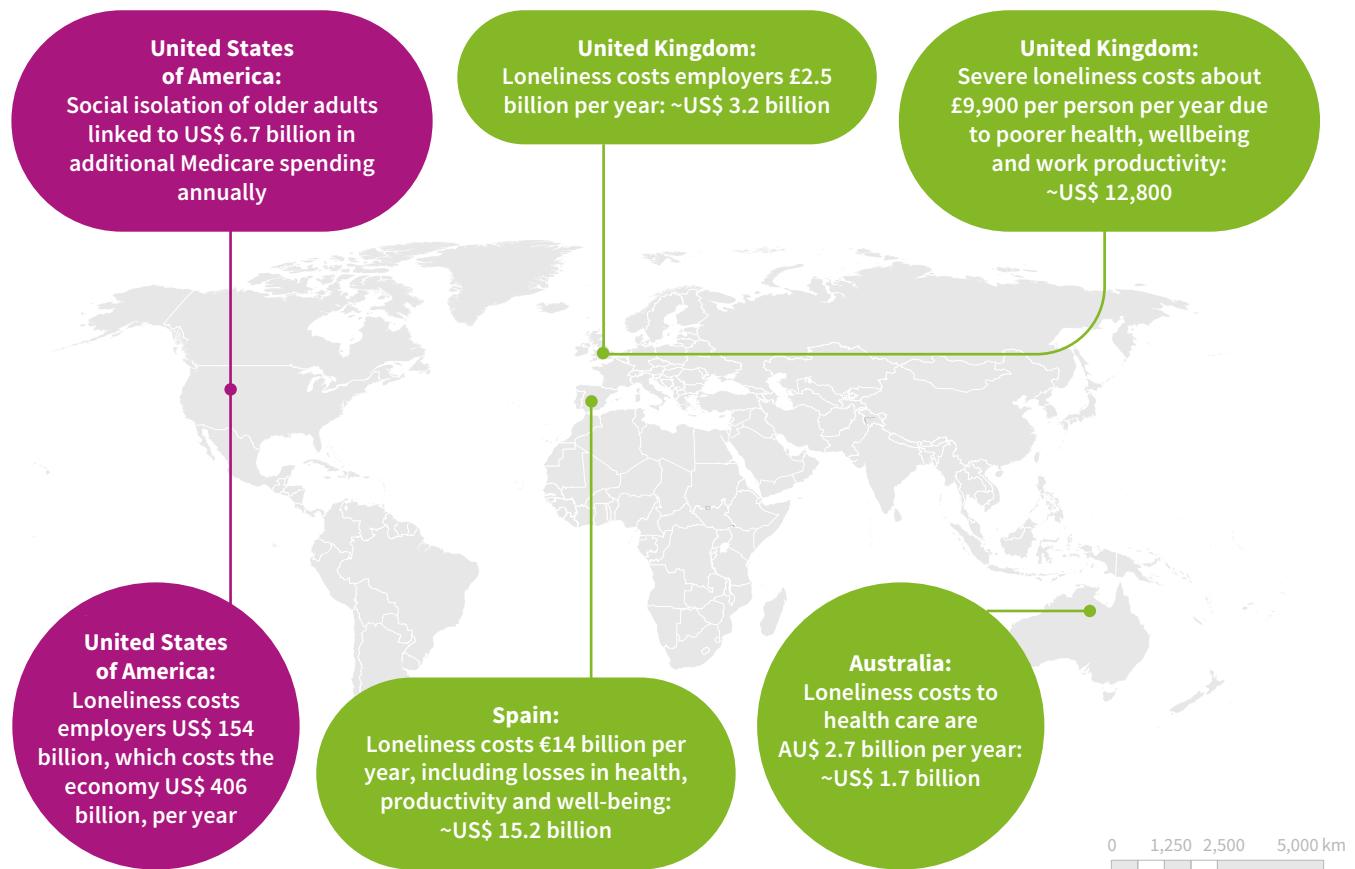
Economic cost of social isolation and loneliness: the economic cost of social disconnection can be substantial (Fig. 15). For instance, in Spain, the estimated cost of loneliness in 2021 was 14 billion euros (including health-care costs, productivity losses and losses in well-being), representing 1.17% of Spain's gross domestic product *(109)*. These high costs demonstrate the fundamental importance of interventions to help build and sustain healthy social connections in society. The costs can include those to:

- society as a whole, such as the costs of lower workforce participation due to premature mortality;

- employers, such as the costs of lower productivity, absenteeism and higher turnover of staff due to lower job satisfaction. For example, in a study in the United Kingdom, loneliness cost employers the equivalent of US$ 3.2 billion per year *(110)*;

- health and care systems, such as costs for health consultations, hospital admissions and treatment, as well as residential or informal care for chronic health conditions. For example, in the USA, social isolation is linked to US$ 6.7 billion in additional Medicare [Federal health insurance for people > 65 and those < 65 years with certain diseases or disability] funding *(111)*; and

- individuals, such as reduced earnings and costs arising from reduced quality of life due to chronic health conditions.

Examples of estimates of the economic cost of loneliness and/or social isolation are illustrated in Fig. 15. While these are limited to only a few high-income countries, the examples illustrate the high costs of social isolation and loneliness to national economies.

Fig. 15.

Examples of findings of the economic costs of social isolation and loneliness

United States
of America:
Social isolation of older adults linked to US$ 6.7 billion in additional Medicare spending annually

United Kingdom:
Loneliness costs employers £2.5 billion per year: ~US$ 3.2 billion

United Kingdom:
Severe loneliness costs about £9,900 per person per year due to poorer health, wellbeing and work productivity:
~US$ 12,800

United States
of America:
Loneliness costs employers US$ 154 billion, which costs the economy US$ 406 billion, per year

Spain:
Loneliness costs €14 billion per year, including losses in health, productivity and well-being:
~US$ 15.2 billion

Australia:
Loneliness costs to health care are AU$ 2.7 billion per year:
~US$ 1.7 billion

0   1,250 2,500   5,000 km

Note: As different methods were used for measurement, the costs presented are not comparable.

Sources: Rodriguez et al. *(109)*, Jeffrey et al. *(110)*, Flowers et al. *(111)*, Bowers et al. *(112)*, Blake *(113)*, The Cigna Group *(114)*, Peytrignet et al. *(115)*. Equivalent costs in US$ are based on the exchange rates in March 2025.

A review of studies of the economic cost of social isolation and loneliness included four analyses of the cost of illness, from Portugal, the United Kingdom and the USA *(116).* While most studies reported excess health-care costs, one study in the USA identified increased Medicare spending costs per beneficiary for social isolation and reduced spending costs for loneliness, suggesting that loneliness could be a barrier to accessing health care. The studies focused on older populations, had different methods and measuring tools and did not include productivity losses, indicating research gaps that could be addressed *(116)*.

4.2   Protective effects of social connection

Impacts on health

Social connection can provide protection against both mortality and morbidity. For instance, having stronger social connections (in terms of functional and/or structural aspects) increased the likelihood of survival over a 7.5 year average by 50% *(117)*. Furthermore, among older adults, having a larger social network has been associated with a 4% reduction in the risk of mortality *(16)*.

In terms of morbidity, facets of social connection such as social support and social integration are significantly related to lower levels of inflammation *(118)*, which plays a role in the onset of many physical health conditions (see Box 5). Stronger social connections have also been found to protect physical, mental and brain health and to improve well-being and the quality of life. Examples are given below.

- An individual's level of social support can influence the incidence as well as the prognosis of coronary heart disease and stroke *(10, 119–122)*. Among people with chronic health conditions, social support has generally been associated with improved health outcomes and better quality of life *(123–126)*.

- Social support can protect against depression *(127)* and suicidality *(60, 65)*, and better social networks (in terms of quality and quantity) have been associated with better mental health and well-being *(82, 128)*. Social support may also play a role in reducing use of mental health services after a negative life event, by buffering the effects of stress *(129)*.

- Social engagement, social participation and social support have all been associated with lower risks of cognitive decline or higher levels of cognitive functioning *(130–133)*. While most research has addressed middle-aged or older populations, associations between social support and cognition have also been reported in samples that included younger adults and children *(133)*.

- Two measures of social connection – strong social engagement and frequent social contact – have been associated with 19% and 14% reduced risks of dementia, respectively *(87)*; however, an association between social support and dementia appears to be less conclusive. Although some studies reported a protective effect of social support *(132)*, one meta-analysis reported a non-significant reduction in the risk of dementia *(87)*.

Higher levels of social capital, measured at either individual or group level, have also been linked to better health outcomes for individuals, including better mental and physical health and protection against mortality *(134–136)*. For example, in the USA, a 10% increase in the level of social trust was associated with an 8% reduction in overall mortality *(137)*.

The relations between social capital and health are not, however, straightforward. Some studies reported non-significant relations or associations with certain measures of social capital while others did not *(134, 138)*. In addition, any links may depend on individual factors; in Japan, relations between social capital and functional ability have been found to differ by gender and individual psychosocial characteristics *(139)*. Social capital may also have negative health consequences. For instance, certain behaviours can spread through social networks via peer influence and role modelling, known as "social contagion". This can include both behaviours that protect health (e.g. healthy food choices and physical activity) and health-damaging behaviours (e.g. risky use of alcohol or drugs or unhealthy food choices) *(140)*.

Impacts on social and economic development

Education: social connections can have positive effects on education. In a meta-analysis of 51 studies of young people aged 12–17 years, having social support increased the likelihood of positive educational outcomes (academic performance, grade point average, educational commitment) by 42% *(141)*.

Community safety:communities with more social capital generally have less violent crime *(142–145)*. This may be due to greater social participation in connected communities and an increased ability to facilitate collective action, such as the informal policing of neighbourhoods *(144, 146–149)*. A sense of belonging that can arise from positive community connections may also play a role in discouraging gang membership, organized crime and violence *(150)*.

Resilience to natural disasters: social capital is an important factor in improving community resilience to natural disasters such as flooding, earthquakes, hurricanes and fires, which are becoming more frequent with climate change *(151–156)*. Aspects of social capital such as trust and good social networks can help post-disaster recovery, encourage collaborative working and generate resources, information and aid more quickly *(157)*.

Civic engagement and local governance: social capital has been shown to increase civic engagement and participation in local politics. Facets of social capital such as neighbourhood social networks, involvement in associations, trust and reciprocity have been shown to lead to more informal collective action by residents to solve public problems in neighbourhoods and greater participation in formal political processes *(158)*. While most of the studies on this association were conducted in high-income countries *(159–162)*, evidence is also emerging from some low- and middle-income countries. For instance, a study in Beijing, China, showed that neighbourhood social capital (e.g. social ties, support and shared norms and trust) was associated with greater participation in local elections *(158)*.

Economic growth and innovation: social capital is considered to have a number of economic advantages. For individuals, social capital can shape employment opportunities, as connections to higher socio-economic groups contribute to upward economic mobility *(163)*. Social capital also strengthens communities to

confront poverty and vulnerability and to take advantage of new opportunities *(164)*. It reduces transaction costs, corruption, social exclusion and costs due to conflicts and violence *(146)*. It facilitates knowledge sharing and diffusion and increases the transparency and accountability of economic policy by increasing the access of enterprises and citizens to information. It also strengthens cooperation between the public and private sectors *(165)*.

Over the past 30 years, many empirical studies have reported associations between social capital and economic growth and innovation *(146, 166–175)*. Several recent, large multi-country studies suggest, however, that the relation is not always as straightforward or as strong as assumed. It sometimes appears to be bidirectional *(176)* or to require prior achievement of a certain level of social capital *(165)*. It may hold only for certain types of social capital, bridging (across groups) rather than bonding (within groups) social capital *(170)*; or, it may be weaker once publication bias (the fact that studies that find no effect tend not to be published) is taken into account *(177)*. The lack of consistent findings may be due partly to lack of consensus on definitions and standard measures. More work is required to disentangle the concepts.

Future research directions

- Further work, particularly in low- and middle-income countries, should be done to determine more accurately global estimates of deaths due to social isolation and of morbidity due to social isolation and loneliness.

- Although there is considerable evidence that the relation between social connection and health is causal, further research with representative population samples and novel techniques to explore causality (e.g. Mendelian randomization) would strengthen the evidence.

- More evidence should be provided on the proposed causal pathways between social disconnection and poor health outcomes, including more research on chronic and transient social disconnection.

- More research should be conducted on the links between social disconnection and wider aspects of physical health, such as resistance to diseases and infection.

- Further research is required on the relations between social disconnection and mortality and health in low- and middle-income countries and differences among regions.

- More research should be conducted on differences in the strength of the relation and the causal pathways between social disconnection on health in different cultures.

- Studies, especially in low- and middle-income countries, of the full range of costs – for employers, health and care systems, individuals – of social disconnection should be conducted urgently to strengthen the investment case for addressing this issue.

Conclusion

This chapter shows that social connection has significant beneficial influences and that social disconnection has serious negative impacts on mortality, health and other important domains of social and economic development. The links with mortality are now well established: new estimates suggest that approximately 871 000 deaths per year are due to loneliness. Social disconnection also has serious consequences for physical and mental health. Although less research has been conducted, social connection, social isolation and loneliness are also related to educational and employment outcomes, community health and economic growth and innovation. The financial costs to societies of the wide range of negative impacts are considerable, although they have so far been tallied for only a few countries. This highlights the importance of taking action to build and sustain healthy social connections throughout society.

References

1. Howick J, Kelly P, Kelly M. Establishing a causal link between social relationships and health using the Bradford Hill guidelines. SSM Popul Health. 2019;8:100402 (https://doi.org/10.1016/j.ssmph.2019.100402).

2. Hill AB. The environment and disease: Association or causation? Proc R Soc Med. 1965;58(5):295–300 (https://doi.org/10.1177/003591576505800503).

3. Holt-Lunstad J. Social connection as a critical factor for mental and physical health: evidence, trends, challenges and future implications. World Psychiatry. 2024;23:1–21 (https://doi.org/10.1002/wps.21224).

4. Our epidemic of loneliness and isolation. The US Surgeon General's advisory on the healing effects of social connection and community. Washington, DC: Office of the US Surgeon General; 2023 (https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf).

5. Song Y, Zhu C, Shi B, Song C, Cui K, Chang Zg et al. Social isolation, loneliness, and incident type 2 diabetes mellitus: results from two large prospective cohorts in Europe and East Asia and Mendelian randomization. eClinicalMedicine. 2023;64 (https://doi.org/10.1016/j.eclinm.2023.102236).

6. Sbarra DA, Ramadan FA, Choi KW, Treur JL, Levey DF, Wootton RE et al. Loneliness and depression: bidirectional mendelian randomization analyses using data from three large genome-wide association studies. Mol Psychiatry. 2023;28(11):4594–601 (https://doi.org/10.1038/s41380-023-02259-w).

7. Liang YY, Zhou M, He Y, Zhang W, Wu Q, Luo T et al. Observational and genetic evidence disagree on the association between loneliness and risk of multiple diseases. Nat Hum Behav. 2024;8(11):2209–2 (https://doi.org/10.1038/s41562-024-01970-0).

8. Holt-Lunstad J. The major health implications of social connection. Curr Dir Psychol Sci. 2021;30(3):251-9 (https://doi.org/10.1177/0963721421999630).

9. Paul E, Bu F, Fancourt D. Loneliness and risk for cardiovascular disease: mechanisms and future directions. Curr Cardiol Rep. 2021;23(6):68 (https://doi.org/10.1007/s11886-021-01495-2).

10. Teshale AB, Htun HL, Hu J, Dalli LL, Lim MH, Neves BB et al. The relationship between social isolation, social support, and loneliness with cardiovascular disease and shared risk factors: a narrative review. Arch Gerontol Geriatr. 2023;111:105008 (https://doi.org/10.1016/j.archger.2023.105008).

11. Almeida ILL, Rego JF, Teixeira ACG, Moreira MR. Social isolation and its impact on child and adolescent development: a systematic review. Rev Paul Pediatr. 2021;40:e2020385 (https://doi.org/10.1590/1984-0462/2022/40/2020385).

12. Freilich CD. How does loneliness "get under the skin" to become biologically embedded? Biodemography Soc Biol. 2023;68(4):115–48 (https://doi.org/10.1080/19485565.2023.2260742).

13. Furman D, Campisi J, Verdin E, Carrera-Bastos P, Targ S, Franceschi C et al. Chronic inflammation in the etiology of disease across the life span. Nat Med. 2019;25(12):1822–32 (https://doi.org/10.1038/s41591-019-0675-0).

14. Zhou X, Yang F, Gao Y. A meta-analysis of the association between loneliness and all-cause mortality in older adults. Psychiatry Res. 2023;328:115430 (https://doi.org/10.1016/j.psychres.2023.115430).

15. Rico-Uribe LA, Caballero FF, Martin-Maria N, Cabello M, Ayuso-Mateos JL, Miret M. Association of loneliness with all-cause mortality: A meta-analysis. PLoS One. 2018;13(1):e0190033 (https://doi.org/10.1371/journal.pone.0190033).

16. Schutter N, Holwerda TJ, Comijs HC, Stek ML, Peen J, Dekker JJM. Loneliness, social network size and mortality in older adults: a meta-analysis. Eur J Ageing. 2022;19(4):1057–76 (https://doi.org/10.1007/s10433-022-00740-z).

17. Wang F, Gao Y, Han Z, Yu Y, Long Z, Jiang X et al. A systematic review and meta-analysis of 90 cohort studies of social isolation, loneliness and mortality. Nat Hum Behav. 2023;7(8):1307–19 (https://doi.org/10.1038/s41562-023-01617-6).

18. Naito R, McKee M, Leong D, Bangdiwala S, Rangarajan S, Islam S et al. Social isolation as a risk factor for all-cause mortality: systematic review and meta-analysis of cohort studies. PLoS One. 2023;18(1):e0280308 (https://doi.org/10.1371/journal.pone.0280308).

19. Holt-Lunstad J, Smith T, Baker M, Harris T, Stephenson D. Loneliness and social isolation as risk factors for mortality: a meta-analytic review. Perspect Psychol Sci. 2015;10:227–37 (https://doi.org/10.1177/1745691614568352).

20. Gao Q, Prina AM, Prince M, Acosta D, Luisa Sosa A, Guerra M et al. Loneliness among older adults in Latin America, China, and India: prevalence, correlates and association with mortality. Int J Public Health. 2021;66:604449 (https://doi.org/10.3389/ijph.2021.604449).

21. Wang JA, Wang HF, Cao B, Lei X, Long C. Cultural dimensions moderate the association between loneliness and mental health during adolescence and younger adulthood: a systematic review and meta-analysis. J Youth Adolesc. 2024;53(8):1774–1819 (https://doi.org/10.1007/s10964-024-01977-w).

22. Beller J, Wagner A. Loneliness and health: the moderating effect of cross-cultural individualism/collectivism. J Aging Health. 2020;32(10):1516–27 (https://doi.org/10.1177/0898264320943336).

23. Park C, Majeed A, Gill H, Tamura J, Ho RC, Mansur RB et al. The effect of loneliness on distinct health outcomes: a comprehensive review and meta-analysis. Psychiatry Res. 2020;294:113514 (https://doi.org/10.1016/j.psychres.2020.113514).

24. Valtorta NK, Kanaan M, Gilbody S, Ronzi S, Hanratty B. Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. Heart. 2016;102(13):1009–16 (https://doi.org/10.1136/heartjnl-2015-308790).

25. Albasheer O, Abdelwahab SI, Zaino MR, Altraifi AAA, Hakami N, El-Amin EI et al. The impact of social isolation and loneliness on cardiovascular disease risk factors: a systematic review, meta-analysis, and bibliometric investigation. Sci Rep. 2024;14(1):12871 (https://doi.org/10.1038/s41598-024-63528-4).

26. Gronewold J, Engels M, van de Velde S, Cudjoe TKM, Duman EE, Jokisch M et al. Effects of life events and social isolation on stroke and coronary heart disease. Stroke. 2021;52(2):735–47 (https://doi.org/10.1161/STROKEAHA.120.032070).

27. Cene CW, Beckie TM, Sims M, Suglia SF, Aggarwal B, Moise N et al. Effects of objective and perceived social isolation on cardiovascular and brain health: a scientific statement from the American Heart Association. J Am Heart Assoc. 2022;11(16):e026493 (https://doi.org/10.1161/JAHA.122.026493).

28. Bzdok D, Dunbar RIM. The neurobiology of social distance. Trends Cogn Sci. 2020;24(9):717–33 (https://doi.org/10.1016/j.tics.2020.05.016).

29. Rosenkilde S, Hoffmann SH, Thorsted AB, Horsbol TA, Madsen KR, Lehn SF et al. Loneliness and the risk of type 2 diabetes. BMJ Open Diabetes Res Care. 2024;12(2) (https://doi.org/10.1136/bmjdrc-2023-003934).

30. Henriksen RE, Nilsen RM, Strandberg RB. Loneliness increases the risk of type 2 diabetes: a 20 year follow-up – results from the HUNT study. Diabetologia. 2023;66(1):82–92 (https://doi.org/10.1007/s00125-022-05791-6).

31. Christiansen J, Lund R, Qualter P, Andersen CM, Pedersen SS, Lasgaard M. Loneliness, social isolation, and chronic disease outcomes. Ann Behav Med. 2021;55(3):203–15 (https://doi.org/10.1093/abm/kaaa044).

32. Chamberlain SA, Bronskill SE, Hsu Z, Youngson E, Gruneir A. Resident loneliness, social isolation and unplanned emergency department visits from supportive living facilities: a population-based study in Alberta, Canada. BMC Geriatr. 2022;22(1):21 (https://doi.org/10.1186/s12877-021-02718-5).

33. Christiansen J, Pedersen SS, Andersen CM, Qualter P, Lund R, Lasgaard M. Loneliness, social isolation, and healthcare utilization in the general population. Health Psychol. 2023;42(2):63–72 (https://doi.org/10.1037/hea0001247).

34. Gerst-Emerson K, Jayawardhana J. Loneliness as a public health issue: the impact of loneliness on health care utilization among older adults. Am J Public Health. 2015;105(5):1013–9 (https://doi.org/10.2105/AJPH.2014.302427).

35. Mosen DM, Banegas MP, Tucker-Seeley RD, Keast E, Hu W, Ertz-Berger B et al. Social isolation associated with future health care utilization. Popul Health Manag. 2021;24(3):333–7 (https://doi.org/10.1089/pop.2020.0106).

36. Sirois FM, Owens J. A meta-analysis of loneliness and use of primary health care. Health Psychol Rev. 2023;17(2):193–210 (https://doi.org/10.1080/17437199.2021.1986417).

37. Valtorta NK, Moore DC, Barron L, Stow D, Hanratty B. Older adults' social relationships and health care utilization: A systematic review. Am J Public Health. 2018;108(4):e1-e10 (https://doi.org/10.2105/AJPH.2017.304256).

38. Lim KK, Chan A. Association of loneliness and healthcare utilization among older adults in Singapore. Geriatr Gerontol Int. 2017;17(11):1789–98 (https://doi.org/10.1111/ggi.12962).

39. Ferrante LE, Cohen AB. All the lonely people: social isolation and loneliness in chronic obstructive pulmonary disease. Ann Am Thorac Soc. 2023;20(12):1703–4 (https://doi.org/10.1513/AnnalsATS.202309-833ED).

40. Brighton LJ, Chilcot J, Maddocks M. Social dimensions of chronic respiratory disease: stigma, isolation, and loneliness. Curr Opin Support Palliat Care. 2022;16(4):195–202 (https://doi.org/10.1097/spc.0000000000000616).

41. Lai ET, Chau AKC, Ho IY, Hashimoto H, Kim CY, Chiang TL et al. The impact of social isolation on functional disability in older people: a multi-cohort study. Arch Gerontol Geriatr. 2024;125:105502 (https://doi.org/10.1016/j.archger.2024.105502).

42. Naito R, Leong DP, Bangdiwala SI, McKee M, Subramanian SV, Rangarajan S et al. Impact of social isolation on mortality and morbidity in 20 high-income, middle-income and low-income countries in five continents. BMJ Glob Health. 2021;6(3):e004124 (https://doi.org/10.1136/bmjgh-2020-004124).

43. Matthews T, Danese A, Caspi A, Fisher HL, Goldman-Mellor S, Kepa A et al. Lonely young adults in modern Britain: findings from an epidemiological cohort study. Psychol Med. 2018;49(2):268–77 (https://doi.org/10.1017/s0033291718000788).

44. Harris RA, Qualter P, Robinson SJ. Loneliness trajectories from middle childhood to pre-adolescence: impact on perceived health and sleep disturbance. J Adolesc. 2013;36(6):1295–304 (https://doi.org/10.1016/j.adolescence.2012.12.009).

45. Qualter P, Brown SL, Rotenberg KJ, Vanhalst J, Harris RA, Goossens L et al. Trajectories of loneliness during childhood and adolescence: predictors and health outcomes. J Adolesc. 2013;36(6):1283–93 (https://doi.org/10.1016/j.adolescence.2013.01.005).

46. Goosby BJ, Bellatorre A, Walsemann KM, Cheadle JE. Adolescent loneliness and health in early adulthood. Sociol Inq. 2013;83(4):10.1111/soin.12018 (https://doi.org/10.1111/soin.12018).

47. Chen Y, Xue H, Nie Y, Zhou Y, Ai S, Liu Y et al. Evaluation of changes in social isolation and loneliness with incident cardiovascular events and mortality. J Epidemiol Glob Health. 2024;14(3):962–73 (https://doi.org/10.1007/s44197-024-00243-3).

48. Shiovitz-Ezra S, Ayalon L. Situational versus chronic loneliness as risk factors for all-cause mortality. Int Psychogeriatr. 2009;22(3):455–62 (https://doi.org/10.1017/s1041610209991426).

49. Yu X, Cho TC, Westrick AC, Chen C, Langa KM, Kobayashi LC. Association of cumulative loneliness with all-cause mortality among middle-aged and older adults in the United States, 1996 to 2019. Proc Natl Acad Sci U S A. 2023;120(51):e2306819120 (https://doi.org/10.1073/pnas.2306819120).

50. Qi X, Belsky DW, Yang YC, Wu B. Association between types of loneliness and risks of functional disability in older men and women: a prospective analysis. Am J Geriatr Psychiatry. 2023;31(8):621–32 (https://doi.org/10.1016/j.jagp.2023.02.046).

51. Martín-María N, Caballero FF, Lara E, Domènech-Abella J, Haro JM, Olaya B et al. Effects of transient and chronic loneliness on major depression in older adults: a longitudinal study. Int J Geriatr Psychiatry. 2020;36(1):76–85 (https://doi.org/10.1002/gps.5397).

52. Wolska K, Creaven AM. Associations between transient and chronic loneliness, and depression, in the Understanding Society Study. Br J Clin Psychol. 2022;62(1):112–28 (https://doi.org/10.1111/bjc.12397).

53. Yu X, Westrick AC, Kobayashi LC. Cumulative loneliness and subsequent memory function and rate of decline among adults aged >/=50 in the United States, 1996 to 2016. Alzheimers Dement. 2023;19(2):578–88 (https://doi.org/10.1002/alz.12734).

54. Akhter-Khan SC, Tao Q, Ang TFA, Itchapurapu IS, Alosco ML, Mez J et al. Associations of loneliness with risk of Alzheimer's disease dementia in the Framingham Heart Study. Alzheimers Dement. 2021;17(10):1619–27 (https://doi.org/10.1002/alz.12327).

55. Zhong BL, Chen SL, Conwell Y. Effects of transient versus chronic loneliness on cognitive function in older adults: findings from the Chinese Longitudinal Healthy Longevity Survey. Am J Geriatr Psychiatry. 2016;24(5):389–98 (https://doi.org/10.1016/j.jagp.2015.12.009).

56. Khaing K, Dolja-Gore X, Nair BR, Byles J, Attia J. The effect of temporal persistence of loneliness on dementia: a longitudinal analysis from the Hunter Community Study. Int J Geriatr Psychiatry. 2024;39(8):e6132 (https://doi.org/10.1002/gps.6132).

57. Pearce E, Birken M, Pais S, Tamworth M, Ng Y, Wang J et al. Associations between constructs related to social relationships and mental health conditions and symptoms: an umbrella review. BMC Psychiatry. 2023;23(1):652 (https://doi.org/10.1186/s12888-023-05069-0).

58. Mann F, Wang J, Pearce E, Ma R, Schlief M, Lloyd-Evans B et al. Loneliness and the onset of new mental health problems in the general population. Soc Psychiatry Psychiatr Epidemiol. 2022;57(11):2161–78 (https://doi.org/10.1007/s00127-022-02261-7).

59. McClelland H, Evans JJ, Nowland R, Ferguson E, O'Connor RC. Loneliness as a predictor of suicidal ideation and behaviour: a systematic review and meta-analysis of prospective studies. J Affect Disord. 2020;274:880–96 (https://doi.org/10.1016/j.jad.2020.05.004).

60. Motillon-Toudic C, Walter M, Seguin M, Carrier JD, Berrouiguet S, Lemey C. Social isolation and suicide risk: literature review and perspectives. Eur Psychiatry. 2022;65(1):e65 (https://doi.org/10.1192/j.eurpsy.2022.2320).

61. Shaw RJ, Cullen B, Graham N, Lyall DM, Mackay D, Okolie C et al. Living alone, loneliness and lack of emotional support as predictors of suicide and self-harm: a nine-year follow up of the UK Biobank cohort. J Affect Disord. 2021;279:316–23 (https://doi.org/10.1016/j.jad.2020.10.026).

62. Castelletti C, Dolz Del Castellar B, Miret M, Mercier H, Lara E. Loneliness and subjective wellbeing during the Covid-19 pandemic: a systematic review. J Psychol. 2024;158(6):403–27 (https://doi.org/10.1080/00223980.2024.2319172).

63. Zhu S, Kong X, Han F, Tian H, Sun S, Sun Y et al. Association between social isolation and depression: evidence from longitudinal and Mendelian randomization analyses. J Affect Disord. 2024;350:182–7 (https://doi.org/10.1016/j.jad.2024.01.106).

64. Kupferberg A, Hasler G. The social cost of depression: investigating the impact of impaired social emotion regulation, social cognition, and interpersonal behavior on social functioning. J Affect Disord Rep. 2023;14:100631 (https://doi.org/10.1016/j.jadr.2023.100631).

65. Chang Q, Chan CH, Yip PSF. A meta-analytic review on social relationships and suicidal ideation among older adults. Soc Sci Med. 2017;191:65–76 (https://doi.org/10.1016/j.socscimed.2017.09.003).

66. Emerson E, Stancliffe R, Fortune N, Llewellyn G. Disability, loneliness and health in the UK: cross-sectional survey. Eur J Public Health. 2021;31(3):533–8 (https://doi.org/10.1093/eurpub/ckab018).

67. Dunn C, Sicouri G. The relationship between loneliness and depressive symptoms in children and adolescents: a meta-analysis. Behav Change. 2022;39(3):134–45 (https://doi.org/10.1017/bec.2022.13).

68. Maes M, Nelemans SA, Danneel S, Fernandez-Castilla B, Van den Noortgate W, Goossens L et al. Loneliness and social anxiety across childhood and adolescence: multilevel meta-analyses of cross-sectional and longitudinal associations. Dev Psychol. 2019;55(7):1548–65 (https://doi.org/10.1037/dev0000719).

69. Moksnes UK, Bjornsen HN, Ringdal R, Eilertsen MB, Espnes GA. Association between loneliness, self-esteem and outcome of life satisfaction in Norwegian adolescents aged 15–21. Scand J Public Health. 2022;50(8):1089–96 (https://doi.org/10.1177/14034948221081287).

70. Farrell AH, Vitoroulis I, Eriksson M, Vaillancourt T. Loneliness and well-being in children and adolescents during the COVID-19 pandemic: a systematic review. Children. 2023;10(2):279 (https://doi.org/10.3390/children10020279).

71. Qualter P, Brown SL, Munn P, Rotenberg KJ. Childhood loneliness as a predictor of adolescent depressive symptoms: an 8-year longitudinal study. Eur Child Adolesc Psychiatry. 2010;19(6):493–501 (https://doi.org/10.1007/s00787-009-0059-y).

72. Cardona M, Andres P. Are social isolation and loneliness associated with cognitive decline in ageing? Front Aging Neurosci. 2023;15:1075563 (https://doi.org/10.3389/fnagi.2023.1075563).

73. Guarnera J, Yuen E, Macpherson H. The impact of loneliness and social isolation on cognitive aging: a narrative review. J Alzheimers Dis Rep. 2023;7(1):699–714 (https://doi.org/10.3233/ADR-230011).

74. Ren Y, Savadlou A, Park S, Siska P, Epp JR, Sargin D. The impact of loneliness and social isolation on the development of cognitive decline and Alzheimer's disease. Front Neuroendocrinol. 2023;69:101061 (https://doi.org/10.1016/j.yfrne.2023.101061).

75. Harrington KD, Vasan S, Kang JE, Sliwinski MJ, Lim MH. Loneliness and cognitive function in older adults without dementia: a systematic review and meta-analysis. J Alzheimers Dis. 2023;91(4):1243–59 (https://doi.org/10.3233/JAD-220832).

76. Kang JW, Oremus M. Examining the combined effects of social isolation and loneliness on memory: a systematic review. Arch Gerontol Geriatr. 2023;104:104801 (https://doi.org/10.1016/j.archger.2022.104801).

77. Piolatto M, Bianchi F, Rota M, Marengoni A, Akbaritabar A, Squazzoni F. The effect of social relationships on cognitive decline in older adults: an updated systematic review and meta-analysis of longitudinal cohort studies. BMC Public Health. 2022;22(1):278 (https://doi.org/10.1186/s12889-022-12567-5).

78. Fan K, Seah B, Lu Z, Wang T, Zhou Y. Association between loneliness and mild cognitive impairment in older adults: a meta-analysis of longitudinal studies. Aging Ment Health. 2024;1–9 (https://doi.org/10.1080/13607863.2024.2358079).

79. Evans IEM, Martyr A, Collins R, Brayne C, Clare L. Social isolation and cognitive function in later life: a systematic review and meta-analysis. J Alzheimers Dis. 2019;70(s1):S119–44 (https://doi.org/10.3233/JAD-180501).

80. Jones A, Ali MU, Kenny M, Mayhew A, Mokashi V, He H et al. Potentially modifiable risk factors for dementia and mild cognitive impairment: an umbrella review and meta-analysis. Dement Geriatr Cogn Disord. 2024;53(2):91–106 (https://doi.org/10.1159/000536643).

81. Kuiper JS, Zuidersma M, Zuidema SU, Burgerhof JG, Stolk RP, Oude Voshaar RC et al. Social relationships and cognitive decline: a systematic review and meta-analysis of longitudinal cohort studies. Int J Epidemiol. 2016;45(4):1169–206 (https://doi.org/10.1093/ije/dyw089).

82. Leigh-Hunt N, Bagguley D, Bash K, Turner V, Turnbull S, Valtorta N et al. An overview of systematic reviews on the public health consequences of social isolation and loneliness. Public Health. 2017;152:157–71 (https://doi.org/10.1016/j.puhe.2017.07.035).

83. Qiao L, Wang G, Tang Z, Zhou S, Min J, Yin M et al. Association between loneliness and dementia risk: a systematic review and meta-analysis of cohort studies. Front Hum Neurosci. 2022;16:899814 (https://doi.org/10.3389/fnhum.2022.899814).

84. Desai R, John A, Stott J, Charlesworth G. Living alone and risk of dementia: a systematic review and meta-analysis. Ageing Res Rev. 2020;62:101122 (https://doi.org/10.1016/j.arr.2020.101122).

85. Lara E, Martin-Maria N, De la Torre-Luque A, Koyanagi A, Vancampfort D, Izquierdo A et al. Does loneliness contribute to mild cognitive impairment and dementia? A systematic review and meta-analysis of longitudinal studies. Ageing Res Rev. 2019;52:7–16 (https://doi.org/10.1016/j.arr.2019.03.002).

86. Lazzari C, Rabottini M. COVID-19, loneliness, social isolation and risk of dementia in older people: a systematic review and meta-analysis of the relevant literature. Int J Psychiatry Clin Pract. 2022;26(2):196–207 (https://doi.org/10.1080/13651501.2021.1959616).

87. Wang S, Molassiotis A, Guo C, Leung ISH, Leung AYM. Association between social integration and risk of dementia: a systematic review and meta-analysis of longitudinal studies. J Am Geriatr Soc. 2023;71(2):632–45 (https://doi.org/10.1111/jgs.18094).

88. Kuiper JS, Zuidersma M, Oude Voshaar RC, Zuidema SU, van den Heuvel ER, Stolk RP et al. Social relationships and risk of dementia: a systematic review and meta-analysis of longitudinal cohort studies. Ageing Res Rev. 2015;22:39–57(https://doi.org/10.1016/j.arr.2015.04.006).

89. Livingston G, Huntley J, Liu KY, Costafreda SG, Selbaek G, Alladi S et al. Dementia prevention, intervention, and care: 2024 report of the Lancet Standing Commission. Lancet. 2024;404(10452):572–628 (https://doi.org/10.1016/S0140-6736(24)01296-0).

90. Penninkilampi R, Casey AN, Singh MF, Brodaty H. The association between social engagement, loneliness, and risk of dementia: a systematic review and meta-analysis. J Alzheimers Dis. 2018;66(4):1619–33 (https://doi.org/10.3233/JAD-180439).

91. Optimizing brain health across the life course: WHO position paper. Geneva: World Health Organization; 2022 (https://iris.who.int/handle/10665/361251). Licence: CC BY-NC-SA 3.0 IGO.

92. Kang DH, Boss L, Clowtis L. Social support and cognition: early childhood versus older adulthood. West J Nurs Res. 2016;38(12):1639–59 (https://doi.org/10.1177/0193945916655796).

93. Drinkwater E, Davies C, Spires-Jones TL. Potential neurobiological links between social isolation and Alzheimer's disease risk. Eur J Neurosci. 2022;56(9):5397–412 (https://doi.org/10.1111/ejn.15373).

94. Pfundmair M, Wood NR, Hales A, Wesselmann ED. How social exclusion makes radicalism flourish: a review of empirical evidence. J Soc Issues. 2022;80(1):341–59 (https://doi.org/10.1111/josi.12520).

95. Cuccu L, Stepanova E. Loneliness and social and civic behaviours. Luxembourg: European Union; 2021 (https://publications.jrc.ec.europa.eu/repository/handle/JRC126983).

96. Jefferson R, Barreto M, Jones F, Conway J, Chohan A, Madsen KR et al. Adolescent loneliness across the world and its relation to school climate, national culture and academic performance. Br J Educ Psychol. 2023;93(4):997–1016 (https://doi.org/10.1111/bjep.12616).

97. Matthews T, Qualter P, Bryan BT, Caspi A, Danese A, Moffitt TE et al. The developmental course of loneliness in adolescence: implications for mental health, educational attainment, and psychosocial functioning. Dev Psychopathol. 2023;35:537–46. https://doi.org/10.1017/S0954579421001632).

98. Tarokh L, Saletin JM, Carskadon MA. Sleep in adolescence: physiology, cognition and mental health. Neurosci Biobehav Rev. 2016;70:182–8 (https://doi.org/10.1016/j.neubiorev.2016.08.008).

99. Bryan BT, Thompson KN, Goldman-Mellor S, Moffitt TE, Odgers CL, So SLS et al. The socioeconomic consequences of loneliness: evidence from a nationally representative longitudinal study of young adults. Soc Sci Med. 2024;345:116697 (https://doi.org/10.1016/j.socscimed.2024.116697).

100. Morrish N, Mujica-Mota R, Medina-Lara A. Understanding the effect of loneliness on unemployment: propensity score matching. BMC Public Health. 2022;22(1):740 (https://doi.org/10.1186/s12889-022-13107-x).

101. Morrish N, Medina-Lara A. Does unemployment lead to greater levels of loneliness? A systematic review. Soc Sci Med. 2021;287:114339 (https://doi.org/10.1016/j.socscimed.2021.114339).

102. Bryan BT, Andrews G, Thompson KN, Qualter P, Matthews T, Arseneault L. Loneliness in the workplace: a mixed-method systematic review and meta-analysis. Occup Med. 2023;73(9):557–67 (https://doi.org/10.1093/occmed/kqad138).

103. von Soest T, Luhmann M, Gerstorf D. The development of loneliness through adolescence and young adulthood: its nature, correlates, and midlife outcomes. Dev Psychol. 2020;56(10):1919–34 (https://doi.org/10.1037/dev0001102).

104. Narayan D, Patel R, Schafft K, Rademacher A, Koch-Schulte S. Voices of the poor: Can anyone hear us? Voices from 47 countries. Washington, DC: World Bank; 1999 (https://documents1.worldbank.org/curated/en/131441468779067441/pdf/Voices-of-the-poor-can-anyone-hear-us.pdf).

105. Sen A. Social exclusion: concept, application, and scrutiny. Manila: Asian Development Bank; 2000 (https://www.adb.org/publications/social-exclusion-concept-application-and-scrutiny).

106. Zavaleta D, Samuel K, Mills CT. Measures of social isolation. Soc Indic Res. 2017;131:367–91 (https://doi.org/10.1007/s11205-016-1252-2).

107. Samuel K, Alkire S, Zavaleta D, Mills C, Hammock J. Social isolation and its relationship to multidimensional poverty. Oxf Dev Stud. 2018;46(1):83–97 (https://doi.org/10.1080/13600818.2017.1311852).

108. Eckhard J. Does poverty increase the risk of social isolation? Insights based on panel data from Germany. Sociol Q. 2018;59(2):338–59 (https://doi.org/10.1080/00380253.2018.1436943).

109. Rodriguez B, Castineira B, Rodriguez-Miguez E. The cost of loneliness in Spain. Madrid: Observatorio Estatal de la Soledad No Deseada; 2023 (https://www.soledades.es/sites/default/files/contenidos/Executive%20summary_The%20cost%20of%20loneliness%20in%20Spain.pdf).

110. Jeffrey K, Abdallah S, Michaelson J. The cost of loneliness to UK employers. London: New Economics Foundation; 2017 (https://www.campaigntoendloneliness.org/wp-content/uploads/cost-of-loneliness-2017.pdf).

111. Flowers L, Houser A, Noel-Miller C, Shaw JG, Bhattacharya J, Schoemaker L et al. Medicare spends more on socially isolated older adults. Washington, DC: AARP Public Policy Institute; 2017 (https://www.aarp.org/content/dam/aarp/ppi/2017/10/medicare-spends-more-on-socially-isolated-older-adults.pdf).

112. Bowers A, Wu J, Lustig S, Nemecek D. Loneliness influences avoidable absenteeism and turnover intention reported by adult workers in the United States. J Organ Eff. 2022;9(2):312–35 (https://doi.org/10.1108/joepp-03-2021-0076).

113. Blake M. Connections matter: a report on the impacts of loneliness in Australia. Spit Junction (NSW): Groundswell Foundation; 2022 (https://www.groundswellfoundation.com.au/post/connectionsmatter-a-report-on-the-impacts-of-loneliness-in-australia).

114. Loneliness and its impact on the American workplace. Bloomfield (CT): The Cigna Group; 2020 (https://legacy.cigna.com/static/www-cigna-com/docs/about-us/newsroom/studies-and-reports/combatting-loneliness/loneliness-and-its-impact-on-the-american-workplace.pdf).

115. Peytrignet S, Garforth-Bles S, Keohane K. Loneliness monetisation report. London: Simetrica Jacobs; 2020 (https://tacklinglonelinesshub.org/wp-content/uploads/2021/07/Loneliness_monetisation_report.pdf).

116. Mihalopoulos C, Le LK, Chatterton ML, Bucholc J, Holt-Lunstad J, Lim MH et al. The economic costs of loneliness: a review of cost-of-illness and economic evaluation studies. Soc Psychiatry Psychiatr Epidemiol. 2020;55(7):823–36 (https://doi.org/10.1007/s00127-019-01733-7).

117. Holt-Lunstad J, Smith TB, Layton JB. Social relationships and mortality risk: a meta-analytic review. PLoS Med. 2010;7(7):e1000316 (https://doi.org/10.1371/journal.pmed.1000316).

118. Uchino BN, Trettevik R, Kent de Grey RG, Cronan S, Hogan J, Baucom BRW. Social support, social integration, and inflammatory cytokines: a meta-analysis. Health Psychol. 2018;37(5):462–71 (https://doi.org/10.1037/hea0000594).

119. Kuper H, Marmot M, Hemingway H. Systematic review of prospective cohort studies of psychosocial factors in the etiology and prognosis of coronary heart disease. Semin Vasc Med. 2002;2(3):267–314. (https://doi.org/10.1055/s-2002-35401).

120. Barth J, Schneider S, von Kanel R. Lack of social support in the etiology and the prognosis of coronary heart disease: a systematic review and meta-analysis. Psychosom Med. 2010;72(3):229–38 (https://doi.org/10.1097/PSY.0b013e3181d01611).

121. Compare A, Zarbo C, Manzoni GM, Castelnuovo G, Baldassari E, Bonardi A et al. Social support, depression, and heart disease: a ten year literature review. Front Psychol. 2013;4:384 (https://doi.org/10.3389/fpsyg.2013.00384).

122. Meng M, Ma Z, Zhou H, Xie Y, Lan R, Zhu S et al. The impact of social relationships on the risk of stroke and post-stroke mortality: a systematic review and meta-analysis. BMC Public Health. 2024;24(1):2403 (https://doi.org/10.1186/s12889-024-19835-6).

123. Luszczynska A, Pawlowska I, Cieslak R, Knoll N, Scholz U. Social support and quality of life among lung cancer patients: a systematic review. Psychooncology. 2013;22(10):2160–8 (https://doi.org/10.1002/pon.3218).

124. Kruithof WJ, van Mierlo ML, Visser-Meily JM, van Heugten CM, Post MW. Associations between social support and stroke survivors' health-related quality of life – a systematic review. Patient Educ Couns. 2013;93(2):169–76 (https://doi.org/10.1016/j.pec.2013.06.003).

125. Barton C, Effing TW, Cafarella P. Social support and social networks in COPD: a scoping review. COPD. 2015;12(6):690–702 (https://doi.org/10.3109/15412555.2015.1008691).

126. Almubaid Z, Alhaj Z, Almosa O, Marikh M, Khan W. The impact of social support on health outcomes of diabetic patients: a systematic review. Cureus. 2024;16(8):e67842 (https://doi.org/10.7759/cureus.67842).

127. De Risio L, Pettorruso M, Collevecchio R, Collacchi B, Boffa M, Santorelli M et al. Staying connected: an umbrella review of meta-analyses on the push-and-pull of social connection in depression. J Affect Disord. 2024;345:358–68 (https://doi.org/10.1016/j.jad.2023.10.112).

128. Pinquart M, Sorensen S. Influences of socioeconomic status, social network, and competence on subjective well-being in later life: a meta-analysis. Psychol Aging. 2000;15(2):187–224 (https://doi.org/10.1037//0882-7974.15.2.187).

129. Maulik PK, Eaton WW, Bradshaw CP. The effect of social networks and social support on mental health services use, following a life event, among the Baltimore Epidemiological Catchment Area Cohort. J Behav Health Serv Res. 2010;38(1):29–50 (https://doi.org/10.1007/s11414-009-9205-z).

130. Joshi P, Hendrie K, Jester DJ, Dasarathy D, Lavretsky H, Ku BS et al. Social connections as determinants of cognitive health and as targets for social interventions in persons with or at risk of Alzheimer's disease and related disorders: a scoping review. Int Psychogeriatr. 2024;36(2):92–118 (https://doi.org/10.1017/S1041610223000923).

131. Cunha C, Voss G, Andrade R, Delerue-Matos A. Is formal social participation associated with cognitive function in middle-aged and older adults? A systematic review with meta-analysis of longitudinal studies. Behav Sci (Basel). 2024;14(4):262 (https://doi.org/10.3390/bs14040262).

132. Mogic L, Rutter EC, Tyas SL, Maxwell CJ, O'Connell ME, Oremus M. Functional social support and cognitive function in middle- and older-aged adults: a systematic review of cross-sectional and cohort studies. Syst Rev. 2023;12(1):86 (https://doi.org/10.1186/s13643-023-02251-z).

133. Costa-Cordella S, Arevalo-Romero C, Parada FJ, Rossi A. Social support and cognition: a systematic review. Front Psychol. 2021;12:637060 (https://doi.org/10.3389/fpsyg.2021.637060).

134. Ehsan A, Klaas HS, Bastianen A, Spini D. Social capital and health: a systematic review of systematic reviews. SSM Popul Health. 2019;8:100425 (https://doi.org/10.1016/j.ssmph.2019.100425).

135. Gilbert KL, Quinn SC, Goodman RM, Butler J, Wallace J. A meta-analysis of social capital and health: a case for needed research. J Health Psychol. 2013;18(11):1385–99 (https://doi.org/10.1177/1359105311435983).

136. Hu F, Hu B, Chen R, Ma Y, Niu L, Qin X et al. A systematic review of social capital and chronic non-communicable diseases. Biosci Trends. 2014;8(6):290–6 (https://doi.org/10.5582/bst.2014.01138).

137. Kawachi I, Kennedy BP, Lochner K, Prothow-Stith D. Social capital, income inequality, and mortality. Am J Public Health. 1997;87(9):1491–8 (https://doi.org/10.2105/ajph.87.9.1491).

138. Choi M, Mesa-Frias M, Nuesch E, Hargreaves J, Prieto-Merino D, Bowling A et al. Social capital, mortality, cardiovascular events and cancer: a systematic review of prospective studies. Int J Epidemiol. 2014;43(6):1895–920 (https://doi.org/10.1093/ije/dyu212).

139. Amemiya A, Saito J, Saito M, Takagi D, Haseda M, Tani Y et al. Social capital and the improvement in functional ability among older people in Japan: a multilevel survival analysis using JAGES data. Int J Environ Res Public Health. 2019;16(8):1310 (https://doi.org/10.3390/ijerph16081310).

140. Villalonga-Olives E, Kawachi I. The dark side of social capital: a systematic review of the negative health effects of social capital. Soc Sci Med. 2017;194:105–27 (https://doi.org/10.1016/j.socscimed.2017.10.020).

141. Heerde JA, Hemphill SA. Examination of associations between informal help-seeking behavior, social support, and adolescent psychosocial outcomes: a meta-analysis. Dev Rev. 2018;47:44–62 (https://doi.org/10.1016/j.dr.2017.10.001).

142. Binik O, Ceretti A, Cornelli R, Schadee H, Verde A, Gatti U. Neighborhood social capital, juvenile delinquency, and victimization: results from the international self-report delinquency study – 3 in 23 countries. Eur J Crim Pol Res. 2019;25(3):241–58 (https://doi.org/10.1007/s10610-018-9406-1).

143. Moore MD, Recker NL. Social capital, type of crime, and social control. Crime Delinquency. 2013;62(6):728–47 (https://doi.org/10.1177/0011128713510082).

144. Roh S, Lee J-L. Social capital and crime: a cross-national multilevel study. Int J Law Crime Justice. 2013;41(1):58–80 (https://doi.org/10.1016/j.ijlcj.2012.11.004).

145. Stuart BA, Taylor EJ. The effect of social connectedness on crime: evidence from the great migration. Rev Econ Stat. 2021;103(1):18–33 (https://doi.org/10.1162/rest_a_00860).

146. Foa RS. The economic rationale for social cohesion – the cross country evidence. Cambridge (MA): Harvard University; 2011 (https://doi.org/10.17863/CAM.90182).

147. Sampson RJ, Raudenbush SW, Earls F. Neighborhoods and violent crime: a multilevel study of collective efficacy. Science. 1997;277(5328):918–24 (https://doi.org/10.1126/science.277.5328.918).

148. Riley C, Roy B, Harari N, Vashi A, Violano P, Greene A et al. Preparing for disaster: a cross-sectional study of social connection and gun violence. J Urban Health. 2017;94(5):619–28 (https://doi.org/10.1007/s11524-016-0121-2).

149. Lanfear CC. Collective efficacy and the built environment. Criminology. 2022;60(2):370–96 (https://doi.org/10.1111/1745-9125.12304).

150. Allen KA, Kern ML, Rozek CS, McInereney D, Slavich GM. Belonging: a review of conceptual issues, an integrative framework, and directions for future research. Aust J Psychol. 2021;73(1):87–102 (https://doi.org/10.1080/00049530.2021.1883409).

151. Lubis SN, Ronoatmodjo S. Social capital for disaster management. In: 1st International Conference on Health and Medicine. Nusantra Sci Technol Proc. 2023:44–55 (https://doi.org/10.11594/nstp.2023.3507).

152. Carmen E, Fazey I, Ross H, Bedinger M, Smith FM, Prager K et al. Building community resilience in a context of climate change: the role of social capital. Ambio. 2022;51(6):1371–87 (https://doi.org/10.1007/s13280-021-01678-9).

153. Jovita HD, Nashir H, Mutiarin D, Moner Y, Nurmandi A. Social capital and disasters: How does social capital shape post-disaster conditions in the Philippines? J Hum Behav Soc Environ. 2019;29(4):519–34 (https://doi.org/10.1080/10911359.2018.1556143).

154. Aldrich DP, Meyer MA. Social capital and community resilience. Am Behav Sci. 2014;59(2):254–69 (https://doi.org/10.1177/0002764214550299).

155. Losee JE, Webster GD, McCarty C. Social network connections and increased preparation intentions for a disaster. J Environ Psychol. 2022;79:101726 (https://doi.org/10.1016/j.jenvp.2021.101726).

156. Enhancing community resilience through social capital and social connectedness: stronger together! Washington, DC: National Academies of Sciences Engineering and Medicine; 2021 (https://doi.org/10.17226/26123).

157. Susanto IW, Kusumasari B, Santoso AD, Bafadhal OM. Social capital in disaster management: a systematic literature review of research trends from 1998 to 2019. Indones J Geogr. 2023;55(2):179 (https://doi.org/10.22146/ijg.71572).

158. Liu Z, Yang L, Wang X. Neighbourhood social capital and political participation in neighbourhood governance: the case of Beijing, China. Trans Plann Urban Res. 2024;3(1–2):82–96 (https://doi.org/10.1177/27541223241235413).

159. Andrews R. Civic engagement, ethnic heterogeneity, and social capital in urban areas: evidence from England. Urban Aff Rev. 2009;44(3):428–40 (https://doi.org/10.1177/1078087408321492).

160. Hays RA. Neighborhood networks, social capital, and political participation: the relationships revisited. J Urban Aff. 2016;37(2):122–43 (https://doi.org/10.1111/juaf.12137).

161. Dekker K. Social capital, neighbourhood attachment and participation in distressed urban areas. A case study in the Hague and Utrecht, the Netherlands. Hous Stud. 2007;22(3):355–79 (https://doi.org/10.1080/02673030701254103).

162. Collins CR, Neal JW, Neal ZP. Transforming individual civic engagement into community collective efficacy: the role of bonding social capital. Am J Community Psychol. 2014;54(3–4):328–36 (https://doi.org/10.1007/s10464-014-9675-x).

163. Chetty R, Jackson MO, Kuchler T, Stroebel J, Hendren N, Fluegge RB et al. Social capital I: measurement and associations with economic mobility. Nature. 2022;608(7921):108–21 (https://doi.org/10.1038/s41586-022-04996-4).

164. Woolcock M, Narayan D. Social capital: implications for development theory, research, and policy. World Bank Res Obs. 2000;15(2):225–49 (https://doi.org/10.1093/wbro/15.2.225).

165. Janton-Crozdowska E, Majewska M. Social capital as a key driver of productivity growth of the economy: across-countries comparison. Torun: Institute of Economic Research; 2015 (https://www.econstor.eu/bitstream/10419/219748/1/ier-wp-2015-132.pdf).

166. Doh S, Acs ZJ. Innovation and social capital: a cross-country investigation. Ind Innov. 2010;17(3):241–62 (https://doi.org/10.1080/13662711003790569).

167. Alguezaui S, Filieri R. Investigating the role of social capital in innovation: sparse versus dense network. J Knowl Manag. 2010;14(6):891–909 (https://doi.org/10.1108/13673271011084925).

168. Kobeissi N, Hasan I, Wang B, Wang H, Yin D. Social capital and regional innovation: evidence from private firms in the US. Reg Stud. 2022;57(1):57–71 (https://doi.org/10.1080/00343404.2022.2030053).

169. Crescenzi R, Gagliardi L, Percoco M. The 'bright' side of social capital: How 'bridging' makes Italian provinces more innovative. In: Crescenzi R, Percoco M, editors. Geography, Institutions and Regional Economic Performance. Berlin: Springer; 2013:143–64 (https://doi.org/10.1007/978-3-642-33395-8_8).

170. Muringani J, Fitjar RD, Rodríguez-Pose A. Social capital and economic growth in the regions of Europe. Environ Plan A. 2021;53(6):1412–34 (https://doi.org/10.1177/0308518x211000059).

171. Sommer C. Social cohesion and economic development: unpacking the relationship. Briefing paper, No. 16/2019. Bonn: Deutsches Institut fur Entwicklungspolitik; 2019 (https://doi.org/10.23661/bp16.2019).

172. Knack S, Keefer P. Does social capital have an economic payoff? A cross-country investigation. Q J Econ. 1997;112(4):1251–88 (https://doi.org/10.1162/003355300555475).

173. Westlund H, Adam F. Social capital and economic performance: a meta-analysis of 65 studies. Eur Plan Stud. 2010;18(6):893–919 (https://doi.org/10.1080/09654311003701431).

174. Dinda S. Social capital in the creation of human capital and economic growth: a productive consumption approach. J Socio Econ. 2008;37(5):2020–33 (https://doi.org/10.1016/j.socec.2007.06.014).

175. Fukuyama F. Trust: the social virtues and the creation of prosperity. New York: The Free Press; 1995. ISBN: 0-241-13376-9.

176. Pylypenko HM, Pylypenko YI, Dubiei YV, Solianyk LG, Pazynich YM, Buketov V et al. Social capital as a factor of innovative development. J Open Innov Tech Market Complexity. 2023;9(2):100118 (https://doi.org/10.1016/j.joitmc.2023.100118).

177. Xue X, Reed WR, van Aert RCM. Social capital and economic growth: a meta-analysis. J Econ Surv. 2024:1–38 (https://doi.org/10.1111/joes.12660).

Chapter 5

Advocacy, campaigns, networks and coalitions

"I want people in their thinking about isolation in their communities [to ask]: Who is not at the table? Who's missing, and why are they missing? And what changes do you need to make to fill those seats at the table so that everyone can participate?"

Amy Kavanagh, disability activist and person with vision impairment (United Kingdom)
© WHO

Key messages

- **Few campaigns on social isolation and loneliness and no networks have been evaluated.**

- **Evidence from campaigns and networks on other issues suggests that advocacy could be vital for promoting social connection and accountability for action.**

- **Advocacy can complement individual and community approaches, providing a platform for systemic change and sustained action.**

- **There is substantial need and untapped potential to create strong local, national and global networks on social connection, but they will require institutional incentives and strategies to facilitate and promote more collaborative ways of working and building political coalitions beyond the health sector.**

This chapter explores the critical roles of advocacy, campaigns, networks and coalitions in addressing social isolation and loneliness and fostering social connection. Section 5.1 defines advocacy and examines its three key elements – policy influence, campaigns and networks. Section 5.2 addresses the use of campaigns. Section 5.3 discusses the formation and function of networks and coalitions, stressing their importance in supporting both advocacy and campaigns by providing a platform for collaboration and sustained action. The section also provides a map of existing networks based on a survey commissioned for this report.

Advocacy campaigns and networks are vital for fostering social connection, as they amplify voices, encourage decision-makers to prioritize an issue and mobilize resources. They also create opportunities to strengthen collaboration and collective action, helping to build stronger, more connected communities with aligned priorities. Advocacy, campaigns, networks and coalitions, which are primarily societal or systemic strategies, support policy development and can complement community and individual approaches, as reviewed in subsequent chapters of this report.

5.1   Advocacy

Advocacy involves work to influence policies, practices and social norms to reduce loneliness and/or social isolation and/or foster greater social connection. The aim of advocacy is to create change at the systemic level by persuading decision-makers, raising public awareness and mobilizing resources. Three key elements are:

- **policy influence**: targeting legislators, government bodies and organizations to shape policies, regulations and resources related to social connection (Chapter 6);

- **campaigns**: raising consciousness about social disconnection, its prevalence, harms and solutions to build public support; and

- **networks**: working with various stakeholders, including civil society, for systemic change.

5.2   Campaigns

What are campaigns?

Campaigns are time-limited, structured events, usually led by governments, non-governmental organizations or community groups, to achieve a specific objective. They are often part of a broader advocacy strategy and complement other work, which may include "insider" approaches to changing policy. They raise public awareness, increase the number and diversity of champions and supporters, build constituencies and strengthen public and political will *(1)*. Campaigns can also affect characteristics such as awareness, salience, attitudes, beliefs, self-efficacy, social norms, behavioural intentions and behaviour change *(1–5)*. Campaign managers use both traditional media (e.g. television, radio, billboards, print) and new media (e.g. social media, digital advertisements, blogs) with non-media activities, such as letter-writing campaigns, community mobilization, direct action, creative communications, petitions and public meetings *(6)*.

Campaigns to address social isolation and loneliness are relatively recent. In a stakeholder network mapping exercise in 2024, of the 106 organizations that took part in the global survey (see section 5.3), 33% reported that campaigning was one of their core areas of work on social isolation, loneliness and or social connection.

How well do campaigns reduce loneliness and social isolation?

Testing the effectiveness of campaigns is challenging, which may explain why so few campaigns to reduce loneliness and social isolation have been evaluated. One high-quality study *(7)* assessed the effectiveness of an anti-loneliness strategy in England as part of nationwide campaign to end loneliness in older adults (Box 8). No significant reduction in loneliness or improvement in mental health was found among older adults exposed to the campaign, and their social participation showed little change. The campaign did, however, slightly reduce loneliness and increase social activities among older adults with higher education and income, although these changes did not lead to better mental health *(8)*. This result may be due to insufficient investment or to the scope of the interventions, inadequate length of exposure to the campaign or poorly targeted strategies. The structural causes of loneliness, such as living arrangements, patterns of social interaction and changes in family composition, were unchanged, as they are not easily addressed in public campaigns. The effectiveness of campaigns can be evaluated from their intermediary outcomes, such as raising awareness, attracting supporters and promoting behavioural change. For example, the Campaign to End Loneliness in the United Kingdom (Box 8) launched a Tackling Loneliness Hub, which attracted over 800 supporters *(9)*.

Neighbour Day is a community campaign in Australia to encourage social connections in neighbourhoods. In 2019, it reached 300 000 people at 437 events in 276 suburbs. The activities ranged from social gatherings, leaving cards in neighbours' letterboxes and checking up on vulnerable neighbours to community games and engagement via social media. The events ranged from small-scale activities to large gatherings of over 500 people. Participants were surveyed before, after and 6 months following the event. Hosting a neighbourhood event significantly increased social identification, leading to a sustained increase in social cohesion, less loneliness and better well-being over 6 months *(10)*.

Although few loneliness campaigns have been evaluated, evidence from similar health and stigma-related campaigns shows small but positive effects, with mixed results *(11–13)*. A review of reviews found moderate evidence that mass media campaigns can reduce sedentary behaviour and influence sexual health and treatment-seeking behaviours, but results for tobacco, physical activity and alcohol were mixed or limited *(6)*. Tobacco control campaigns were found to be cost-effective, and longer, more frequent campaigns were likely to be more effective *(6)*. Health campaigns usually have more impact on knowledge and awareness than on behaviour change *(14, 15)*.

Box 8.
The United Kingdom Campaign to End Loneliness

A large-scale campaign was started in the United Kingdom in 2010 with the goal of sharing research, evidence and knowledge to connect individuals and communities across the country *(7)*. The campaign was conducted by Independent Age, a charitable organization for the well-being of older people, and was supported by the National Lottery Community Fund, the Calouste Gulbenkian Foundation, the Tudor Trust and public donations.

A series of toolkits, research briefs and events were created for the campaign to raise awareness among public health and health-care practitioners about the deleterious health effects of social isolation and loneliness. The campaign also created the Learning Network *(1)*, which links like-minded organizations, distributes the latest research on social isolation and loneliness and shares examples of best practices for addressing loneliness. It does not necessarily include evidence-based assessments of these practices. The campaign also distributed information to bring loneliness to the forefront of public discourse.

An evaluation of the campaign's outreach (including lobbying, networking and an on-line toolkit) to the National Health Service health and well-being boards showed that 128 of the 152 boards had published a joint health and well-being strategy. Of these, almost half acknowledged loneliness and social isolation as serious issues. The levels of commitment varied:

- 28 strategies acknowledged loneliness but did not identify specific targets or actions.

- 25 strategies were committed to learning more about loneliness or established, measurable targets.

- 8 strategies were committed to measurable actions and/or targets to address loneliness *(9)*.

Reviews of campaigns for reducing the stigma of mental health showed small-to-moderate positive impacts on stigma-related knowledge, attitudes and intended behaviour, although the effects on discrimination were mixed *(16, 17)*. These findings are supported by a recent review of media mental health campaigns directed towards young people *(18)*. Little evidence is available on campaigns addressing stigma related to race and ethnicity and what evidence exists shows a mixed picture *(19, 20)*.

Evaluation of the effectiveness of a campaign requires more than indicators of coverage. Recent evidence on health campaigns — including large-scale, targeted interventions — indicates that both demand-side outcomes, such as beneficiary acceptability, awareness and satisfaction and supply-side outcomes, including health worker acceptability, equity and efficiency, should be evaluated. This broader approach can strengthen the impact of a campaign, improve population health and contribute to more equitable, resilient health systems. It can also increase the effectiveness of campaigns and population health and result in the development of stronger, more equitable health systems *(21)*.

Characteristics of successful campaigns in other areas

Campaigns can be conducted by governments and by non-State actors at global, national, regional or local level. No studies have, to our knowledge, systematically identified the characteristics of effective campaigns to prevent or respond to social isolation or loneliness. The examples in boxes in this chapter, unless otherwise stated, have not been evaluated for effectiveness. Limited evidence about such factors is available from campaigns in other areas, primarily health campaigns. We have drawn on those sources to identify characteristics that may be effective in campaigns to increase social connection, although they require evaluation.

Objectives and audience: campaigns should have clear objectives and well identified audiences, targets, allies and detractors.

Duration and intensity: longer, more intense public health campaigns tend to be more effective *(6)*. There is, however, no consensus on the exact duration necessary for success. For instance, the US Centers for Disease Control and Prevention suggest that advertisements for tobacco prevention should run for at least 6 months to raise awareness, 12–18 months to influence attitudes and 18–24 months to change behaviour *(22)*. The "dose" of content can be increased by combining traditional media with digital platforms to reach a broader audience. For example, in New Zealand, the "Let's End Loneliness" campaign was run in a combination of social media, community events and partnerships with local organizations to spread its message and engage with diverse audiences. Other countries have used specified days or weeks (Box 9).

Box 9.
Loneliness Awareness Week

Loneliness Awareness Week, initiated by the Marmalade Trust in the United Kingdom, is gaining attention in other countries as an opportunity to connect civil society with governments.

The aims of the Australian Loneliness Awareness Week, held in the first week of August, are to:

- deepen understanding of loneliness and community responses;

- normalize and encourage healthy conversations about loneliness and social isolation;

- build a national network of people who can speak about their lived experience; and

- inspire individuals and organizations to foster meaningful, healthy social connections.

Many annual campaigns are based on research reports, such as the State of the Nation Social Connection (2023) *(23)* and Why We Feel Lonely (2024) *(24)* in Australia. Success is measured by media reach. The 2023 Loneliness Awareness Week campaign achieved 211 million media impressions in 7 days, and the 2024 campaign achieved 589 million in 21 days. The Week coincides with the sitting of the Australian Parliament and includes a meeting of the bipartisan Parliamentary Friends of Ending Loneliness at Parliament House.

Loneliness Awareness Week in the USA, hosted in June 2024 by the Coalition to End Social Isolation and Loneliness and the Foundation for Social Connection, held 3 days of interactive events and activities. Day 1 included a "summit" of stakeholders from organizations and communities in the fields of public health and policy, advocacy, technology, urban planning, design and other fields, who met to learn, network and exchange ideas. On day 2, members of the Coalition met on Capitol Hill to inform legislators about the importance of prioritizing policies to increase social connection. On day 3, members of the Coalition's board and steering committee met with senior Government officials to discuss social connection policies *(25)*.

In Japan, the Public–Private Coordination Platform for Loneliness and Isolation Measures designated May as Loneliness and Isolation Prevention Month *(26)*. The aim of this initiative is to achieve a society in which people feel comfortable in seeking support, reaching out to others and asking for help when they experience loneliness or isolation. In 2024, the activities included widespread dissemination of information through promotional posters, a dedicated website explaining the work of organizations that address loneliness and isolation, events held in the Metaverse and 24-hour telephone consultation services.

Framing: how an issue is communicated – what is emphasized, how it is explained and what is left unsaid – can significantly influence perceptions, attitudes and actions related to loneliness and social isolation. Effective framing must be culturally and contextually relevant for diverse audiences to drive meaningful change. Despite the widespread adoption and potential of framing, researchers and communication strategists have yet to develop easily accessible, research-based frames, messages or communication campaigns and tools specifically tailored to social isolation and loneliness. The absence of culturally relevant frames limits efforts to address this critical issue *(1)*. For example, media framing of social isolation as a public health issue was rejected by some members of the New Zealand public, who saw it as an individual problem requiring personal and family action *(27)*.

Messaging: effective campaigns often include simple, actionable messages that avoid reinforcing extreme stereotypes. Messages that de-normalize behaviour (i.e. making it socially unacceptable) may be particularly effective *(6)*. Box 10 describes a number of campaigns, including "digital detox", which discourages excessive screen time and promotes face-to-face interaction. Individuals may be reluctant to engage with campaigns designed to combat loneliness because they do not want to admit to feeling lonely or isolated. Future campaigns should also focus on understanding and addressing the different ways in which stigma is experienced, so that they more effectively target and reduce its impact *(28)*.

Interactivity and use of social media: campaigns with interactive elements (e.g. personalized emails) and those on social media tend to be more effective than static ones (e.g. passive video viewing) *(6)*.

Community engagement: involving community members – in all their diversity – that are affected by social isolation and loneliness in the design of a campaign can enhance its impact. This can be done through participatory action research and by inviting community representatives to share their experiences and help create communication tools. Australia's Ending Loneliness Together initiative, for example, recognizes that an inclusive, diverse, multi-faceted movement is necessary to engage all Australians in ending loneliness, combining grassroots initiatives with formal Government policies and programmes *(29)*.

Box 10.
Promoting human connection through annual campaigns

Canada's Human Connection Movement – GenWell – runs seven annual campaigns to promote face-to-face connections by providing reminders and opportunities to connect with family, friends, neighbours, classmates and colleagues. Each campaign targets a specific group, a peak time of isolation or moments to foster connection. The campaigns are:

- **RED January:** encourages New Year's resolutions involving physical activity with others;

- **Face-to-face February:** highlights in-person connections for students;

- **Two Weekend Campaigns:** one in the spring, another in the fall (or autumn) promote connection during seasonal transitions;

- **Loneliness Awareness Week:** raises awareness about loneliness in older populations;

- **Talk to a Stranger Week:** describes the benefits of engaging with strangers; and

- **Digital Detox Days:** offer tips for healthier use of technology on the first day of each month.

The aim of these campaigns is to educate and inspire people to prioritize social connection in everyday life *(30)*. In GenWell, success is measured according to its reach, engagement and actions taken after a campaign.

During the GenWell Spring Weekend in 2024, 265 people registered for the event. All of the 32 participants who responded to the survey reported that the experience of connecting with friends, family, neighbours and colleagues had had a positive impact on their health and well-being. The event also fostered greater awareness of social health: 53.1% of respondents reported that it made them more aware of its importance, and 34.4% were encouraged to take a more proactive approach to building connections. These findings suggest that GenWell Weekends play a meaningful role in strengthening social bonds and promoting well-being.[1]

[1]   GenWell weekend – spring and fall 2024 (unpublished).

People with lived experience and first-person narratives: stigma and discrimination in mental health can be effectively reduced by ensuring that activities are led or co-led by people with lived experience, including social contact between people with lived experience and those with none and by fostering inclusive collaboration with diverse groups *(31)*. Research on campaigns for reducing stigma about mental health through the mass media suggests that those that include first-person narratives tend to be more effective than those that rely on third-person accounts *(16)*.

Funding and partnerships: sustainable, long-term funding from many sources and partnerships with larger programmes, organizations or networks can strengthen campaigns.

Combining strategies: campaigns against loneliness and social isolation may be more effective when combined with other strategies, such as provision of tangible support or integration into other health campaigns. Sustained government support and policy integration are crucial for long-term success, although the success of multicomponent interventions depends on the context *(2, 21)*.

Cultural relevance: cultural appropriateness is crucial, especially for international and multicultural campaigns. Engagement of local communities and cultural leaders can foster collective dialogue, leading to culturally informed, effective campaigns *(32–35)*.

Responsive to the political landscape: the success of a campaign is also influenced by the ability of its initiators to respond to changes in the political landscape. The murder of Jo Cox, a backbench Member of Parliament in the United Kingdom who had championed the issue of loneliness, catalysed the movement in the country, with formation of a Jo Cox Commission that led to appointment of the country's first Minister for Loneliness *(8)*.

It is crucial to identify what works in campaigns to address loneliness and social isolation or to foster social connection to avoid wasting human and financial resources that could be used for policies and interventions for which there is better evidence of effectiveness *(21)*.

Reflections from lived experience: collective action for social connection

Chris

Black mental health advocate
(United Kingdom)

"Imagine we take 10 minutes every day to go out and smile and say 'hello' to a perfect stranger. I've tried it and it makes a huge difference to my day despite some people thinking I'm strange. But […] others are genuinely surprised and respond so positively."

Joe

Doctoral health student and
LGBTIQ+, living with OCD (Australia)

"I think tackling the stigma at a community level can help people to open up about their experiences and try to seek help. But we also need more community-led initiatives to support those experiencing social isolation and loneliness. […] Sometimes a simple conversation can be all a person needs to feel a bit more connected."

Ruth

From Kyondoni Village
(Kenya)

"Promoting activities and events that bring people together can create opportunities for social interaction and build a sense of belonging."

Leila

First generation immigrant
with Filipino heritage (Canada)

"I am actively trying to manage social isolation. Getting involved in the community and learning from others helped me feel less lonely growing up. I was a devoted volunteer in my school and community as a youth and have continued to be involved today. Through volunteer boards and events, I bring others together and find fulfilment in fostering those connections and creating new ones myself."

5.3   Networks and coalitions

Cross-sectoral coalitions, networks and partnerships can enhance support, coordination and advocacy on social connection (Box 11), as can identifying and implementing effective interventions for social isolation and loneliness.

Networks are webs of individuals and organizations united by a shared interest for a specific issue and may be local, national or global. Networks usually connect a variety of institutions, such as United Nations agencies, bilateral donors, international financial institutions, private foundations, national governments, nongovernmental organizations, medical associations, research institutions and think tanks. Networks exist for nearly all the major health challenges faced in low-, middle- and high-income countries *(39)*. Members may provide knowledge, advocacy or funding, develop policies or implement programmes, often engaging and supporting each other in activities. They collaborate in various ways, including by information and resource exchange (e.g. technical capacity), global conferences, broadening and strengthening outreach (e.g. campaigns), service integration and joint research. Networks differ in their ability to attract attention, secure funding, develop interventions and persuade national governments to adopt policies and implement programmes, which may explain why the rates of mortality and morbidity due to some health issues have decreased faster than others *(39)*.

Box 11.
Commit to Connect

"Yes" is a cross-sectoral initiative launched by the US Administration for Community Living to combat social isolation and loneliness by fostering social connections. Its strategy includes raising awareness, strengthening collaboration and expanding programmes to promote social engagement. Its work includes increasing adoption of social connection programmes, creating a network of champions, hosting events such as the National Summit to Increase Social Connections and providing resources for reducing isolation. The initiative is funded mainly by the US Administration for Community Living, with support from the Office of the Assistant Secretary for Health *(36)*.

In Japan, the Act on the Advancement of Measures to Address Loneliness and Isolation *(37)* mandates the creation of local offices in each municipality, providing a legal basis for cross-sectoral collaboration. To strengthen horizontal coordination among the public, private and not-for-profit sectors, the Government established a Public–Private Coordination Platform for Loneliness and Isolation Measures *(38)*, which offers grants for the establishment of local chapters and provides support, such as knowledge-sharing.

Several networks have been formed specifically in response to growing public recognition of the health impacts of social isolation and loneliness. In 2024, an online survey was distributed on the Stakeholder.Net platform in two waves. The first wave included organizations known to the WHO Commission on Social Connection, and the second included organizations nominated by respondents to the first wave and those that had not responded initially. This exercise in stakeholder network mapping identified 214 organizations working on social isolation, loneliness and/or social connection, of which 106 responded to the survey (Table 4).

Table 4.

Statistics of 106 organizations that responded to a survey in 2024
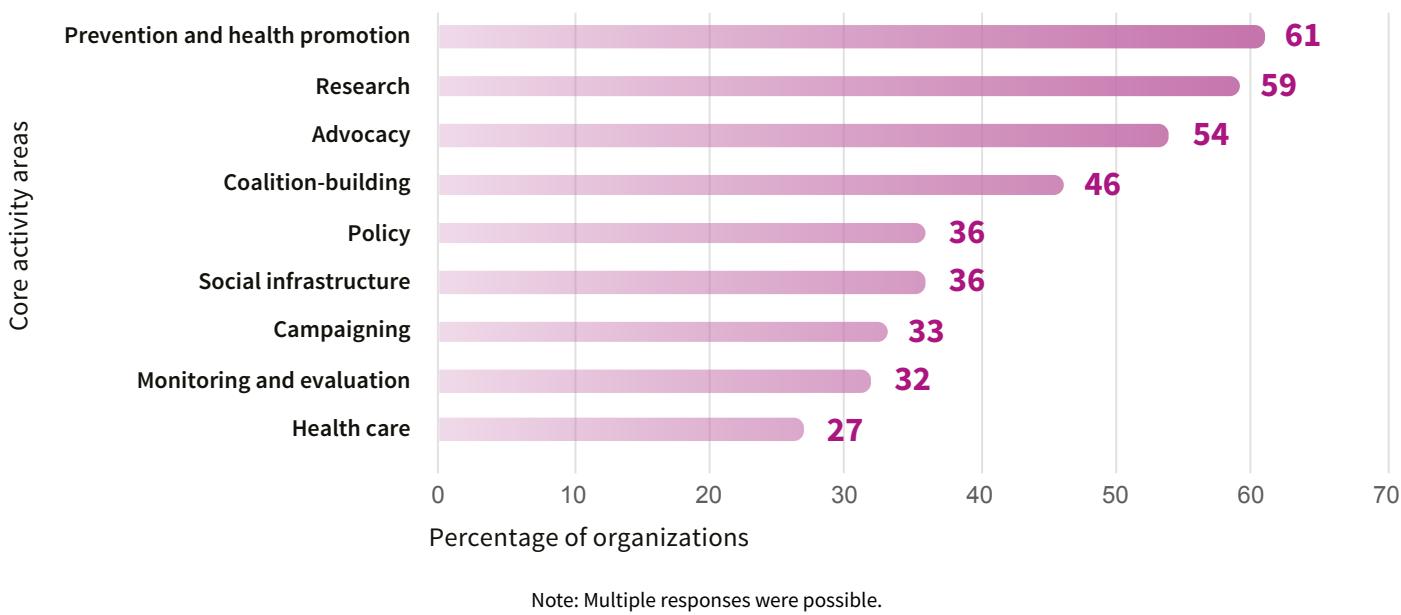
	NO.	%
No. of organizations that responded to the survey	106	
No. of organizations identified	214	
No. that had links with other organizations	196	
Density[a]		0.45
Global reciprocity[a]		16.7
Purpose of connection (organizations could answer all applicable options)		
To be inspired by other organizations' work	116	59.2
To inspire them by our work	92	46.9
To share our organization's resources	115	58.7
To obtain assistance with resources	70	35.7
Broader outreach	80	40.8
Service integration	37	18.9
Innovative solutions	56	28.6
Unified voice	76	38.8
Network creation	125	63.8
Collaborative research	58	29.6
Forms of engagement		
Communication only, e.g. shared information but no other resources	102	54.3
Shared resources, e.g. infrastructure, staff, funding	18	9.6
Joint programming, e.g. worked together towards common goals	68	36.2

[a] Calculated only from the network of respondents, excluding organizations that were nominated but that did not take part in the survey. Density could range from 0% (no connections) to 100% (all possible relations reported). The closer to 100%, the denser the network is, with more connections between members. Global reciprocity is the proportion of mutual connections among members of the network., i.e. when respondent A nominates a connection with respondent B, and respondent B nominates a connection with respondent A, ranging from 0% (no mutual connections) to 100% (all connections are mutual, i.e. reported by the two organizations involved).
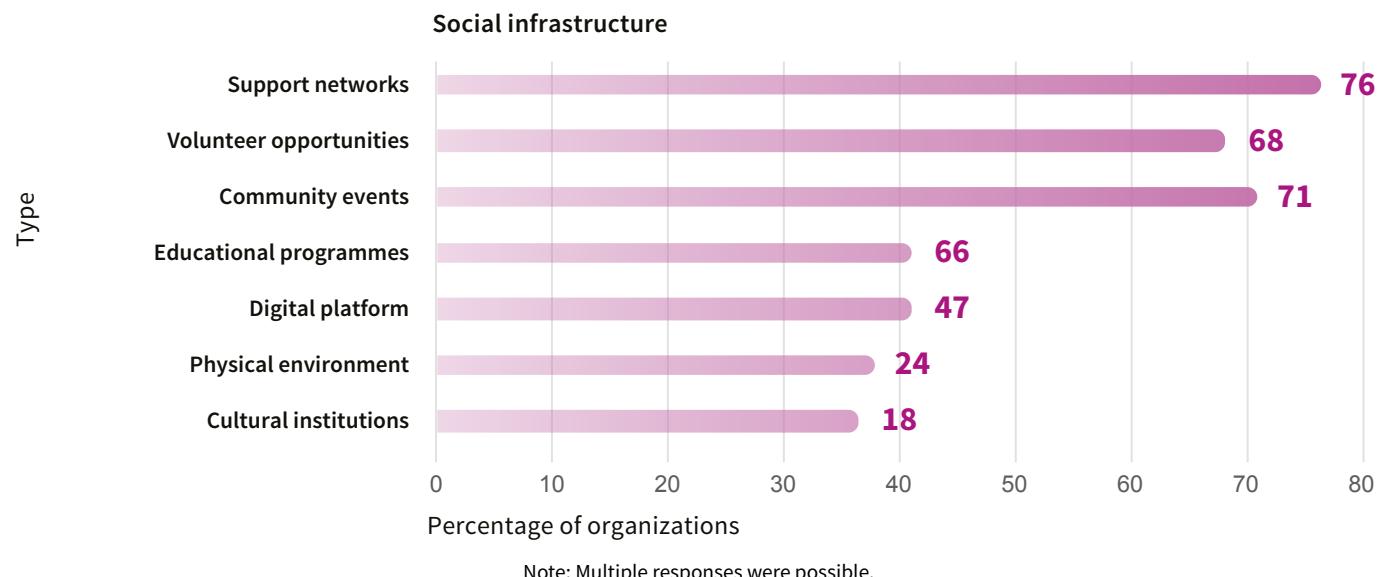
The reach of their work ranged from local or subregional (28 organizations, 27%) to national (45 organizations, 43%) and international (31 organizations, 30%). The organizations work in various areas (Fig. 16), more than half on prevention, health promotion, research and advocacy. Of the 106 organizations, fewer than 50% directly delivered health care (27%), monitoring and evaluation (32%), campaigning (33%), policy development (36%), strengthening social infrastructure (36%) or coalition building (46%). Most of the organizations working on social infrastructure developed support networks, volunteering opportunities, community events or educational programmes (Fig. 17). The number of those working in digital environments was almost double that of organizations working in physical environments.

Fig. 16.

Activities of organizations working on social isolation, loneliness or social connection

Note: Multiple responses were possible.

Fig. 17.

Areas in which organizations are investing in social infrastructure

Note: Multiple responses were possible.
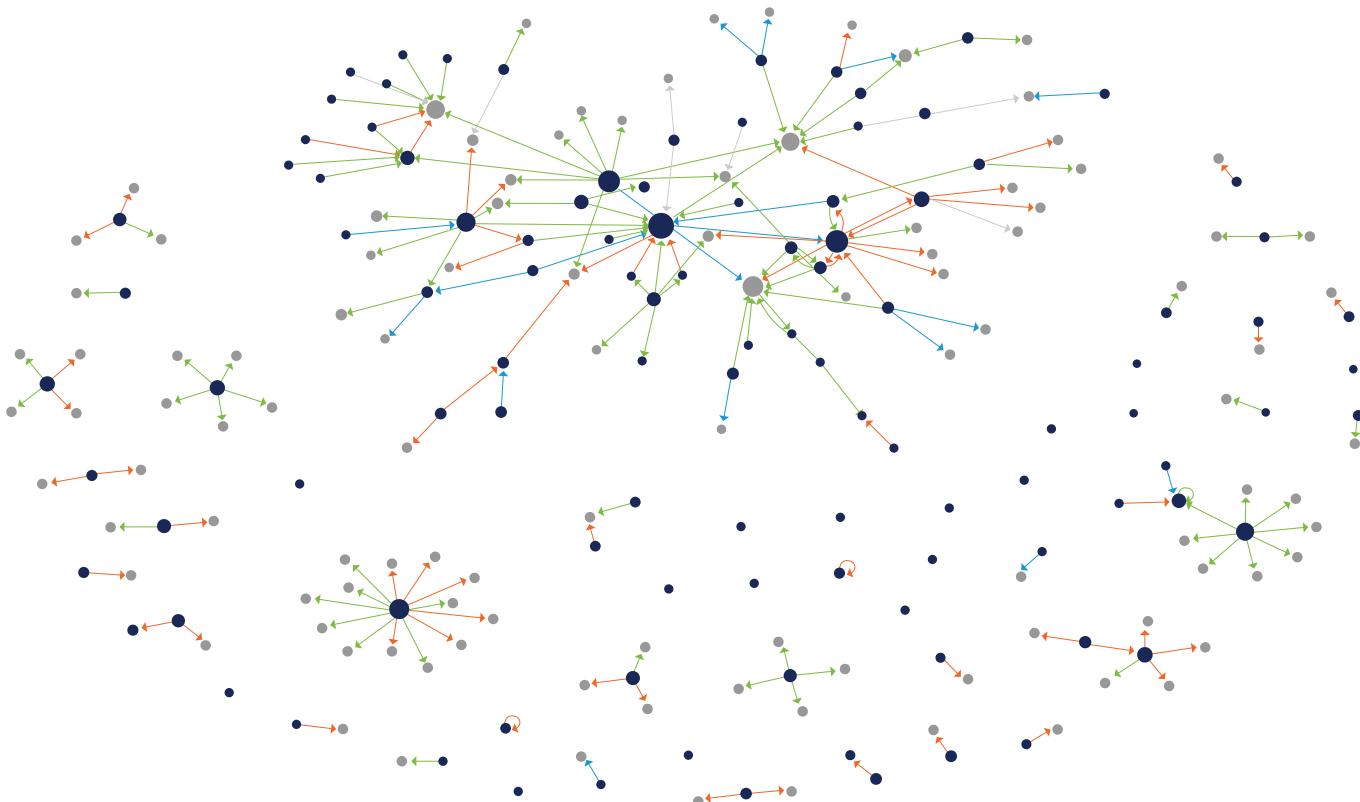
Together, the 106 organizations reported 196 connections with other organizations working on the same theme; 45 organizations (48%) reported none or only one connection. The most frequent purpose of collaboration was creation of a network (64%), being inspired by other organizations' work (59%) and sharing their organization's resources (59%) (Table 4). More than half of the collaboration links were for communication only (54%) and about one third for joint programming (36%). Lack of encouragement or incentive for networking was reported by 64 organizations (68%) as the main barrier to engagement with other organizations. Further barriers that were often cited were lack of human resources or technical capacity (40 organizations, 43%) and lack of time (38 organizations, 40%).

The results of the survey (see Table 4) show a sparsely connected network characterized by very low density (0.45%), i.e., with very few connections between members; limited reciprocity (16.7%), i.e. proportion of mutual connections among members of the network; and a skewed distribution of nominations, i.e., many organizations made or received few nominations, and a few organizations had many nominations (Fig. 18).

Fig. 18.
Network of organizations as captured by a survey conducted by WHO on Stakeholder.Net

⬤ **organizations that responded to the survey**   ⬤ **organizations nominated by respondents but did not respond themselves**
Node size represents the total number of nominations made and received (degree).

↑ **joint programming**   ↑ **shared resources**   ↑ **communication only**   ↑ **collaboration type not specified**
Arrows: nominations, their colours representing the highest level of collaboration in the past 12 months.

Factors that may contribute to these patterns are:

- **Maturity of the network:** younger, less formal networks tend to have less connectivity, which could explain the overall sparse structure.

- **Global survey or local focus:** although the aim of the survey was to identify organizations that address social isolation, loneliness and social connection on a global scale, many of the organizations operate in a limited geographical area, largely in Australasia, Europe and north America. Consequently, their interactions are more likely within their regions than in broader networks. Localized subgroups are also shown in Fig. 18.

- **Barriers to participation:** barriers such as limited time and human resources probably influenced the ability of many organizations to respond to the survey. This, in turn, influenced the statistics, potentially resulting in underestimation of the true extent of connections.

Achieving maximum values in network statistics is not always ideal or realistic. As networks grow, their density tends to decrease, as members can manage only a limited number of collaborations. Maintaining high-quality relationships, characterized by reciprocity and purpose, is crucial. It is also important to ensure that members can access various parts of the network with minimal effort to ensure efficient, effective connections.

While many organizations made or received very few nominations, a small number had significantly higher numbers. Organizations other than WHO that can play key roles in mobilizing the network at this stage include: Ending Loneliness Together (Australia), the Global Initiative on Loneliness and Connection and the Foundation for Social Connection (USA), the Campaign to End Loneliness (United Kingdom), Annecy Behavioural Science Lab (France), ALONE (Ireland), GenWell (Canada's Human Connection Movement), Leyden Academy on Vitality and Ageing (Netherlands [Kingdom of the]), Neighbourly Lab (United Kingdom), the Joint Research Centre (European Commission) and the Organisation for Economic Co-operation and Development. To ensure global work, it will be crucial to identify and engage champions in low- and middle-income countries who can drive action in their own contexts and strengthen the network's reach and impact.
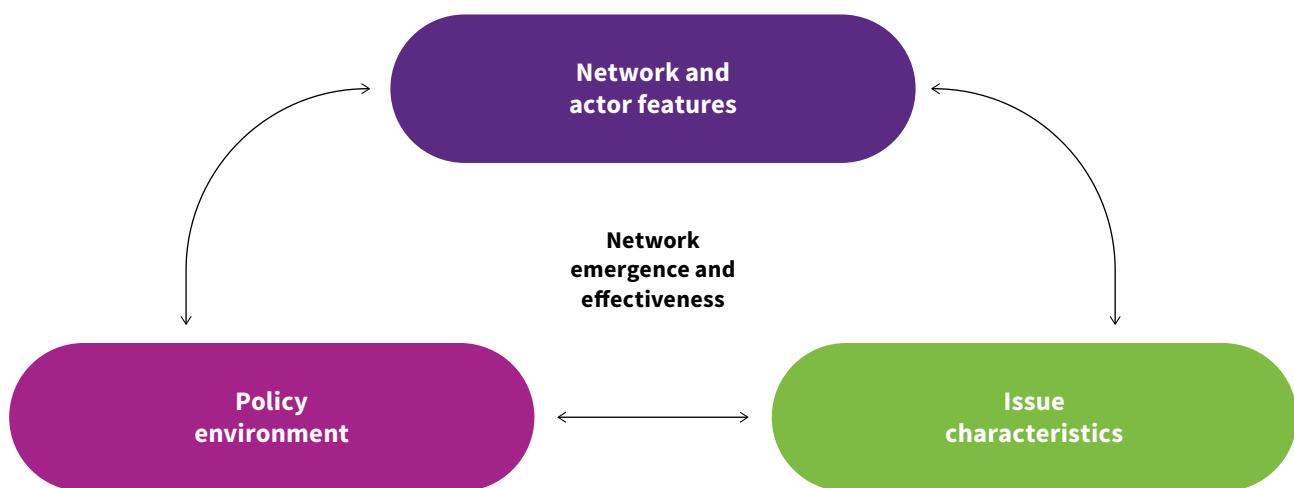
Effectiveness of networks in addressing social isolation and loneliness

It is not known how effective networks are in addressing loneliness and social isolation. In the absence of studies on the effectiveness of networks in addressing social isolation, loneliness or social connection, this chapter draws on evidence from global health networks for addressing other issues, such as harm due to alcohol abuse, early childhood development, maternal mortality, neonatal mortality, pneumonia, surgically treatable conditions, tobacco use and tuberculosis.

Three factors and several features have been found to influence the emergence and effectiveness of global health networks: the characteristics of networks and their members, the policy environments in which they operate and the specific attributes of the health issues they address (Fig. 19) *(39–42)*.

Fig. 19.

A framework of the emergence and effectiveness of global health networks

Source: Adapted from *(39)*.

Features of networks and participants:

- **Leadership:** individual champions often drive the formation of networks by uniting previously isolated actors. Strong leaders who provide vision can attract attention to an issue.

- **Governance:** formal, coordinated governance structures support collective action and enhance network effectiveness.

- **Composition:** diverse membership, including political leaders outside the health sector, strengthens the network's capacity and broadens its impact.

- **Framing strategies:** networks are formed when the current frameworks on an issue are inadequate. Effective networks create unified, compelling frameworks to advocate for solutions (see also "Framing" in section 5.2).

Policy environment:

- **Allies and opponents:** strong opponents can spark network formation, while alliances with influential actors increase their effectiveness.

- **Funding:** access to donor funding is crucial for the formation and sustainability of a network.

- **Norms:** networks emerge when there is pressure on states and other entities to address a neglected issue, and their effectiveness depends on aligning their goals with global norms.

Issue characteristics:

- **Severity:** evidence of a neglected or severe issue often triggers network formation to develop a response.

- **Tractability:** identifying solutions or evidence that a problem can be addressed encourages formation of a network to use the evidence to find solutions.

- **Affected groups:** networks are often formed to act on evidence showing the impact of an issue on specific populations. Their effectiveness is enhanced when they can mobilize support for these groups.

Future research directions

- Develop metrics and systematically evaluate the effectiveness (and scalability) of existing advocacy, campaigns and networks with respect to social isolation and loneliness to catalyse systemic changes, such as policy adoption and resource allocation, and long-term effects on loneliness and social connection, specifically for the most affected groups.

- Investigate the characteristics of successful digital and face-to-face campaigns that target loneliness which are part of wider campaigns that address other public health issues.

- Examine the roles of stigma, culture and other contextual factors in shaping the design and effectiveness of loneliness-related campaigns.

- Study the structure, dynamics and effectiveness of existing networks of campaigns on social isolation and loneliness, including barriers and facilitators to collaboration and reciprocity among organizations in networks.

- Investigate the effectiveness of cross-sector coalitions in addressing loneliness and fostering social connection, and explore strategies to engage diverse stakeholders, including in the health, social services, education and private sectors, in collaboration.

- Explore models for sustainable funding and resource-sharing in networks and campaigns.

Conclusion

Advocacy, campaigns, networks and coalitions could be significant in addressing social isolation and loneliness and fostering social connection by amplifying voices, mobilizing resources, facilitating collaboration and stimulating policies. These strategies can complement individual and community approaches, offering a platform for systemic change and sustained action. While direct evidence of their impact on social isolation and loneliness is limited, evidence from advocacy on other issues offers valuable direction for future action and research.
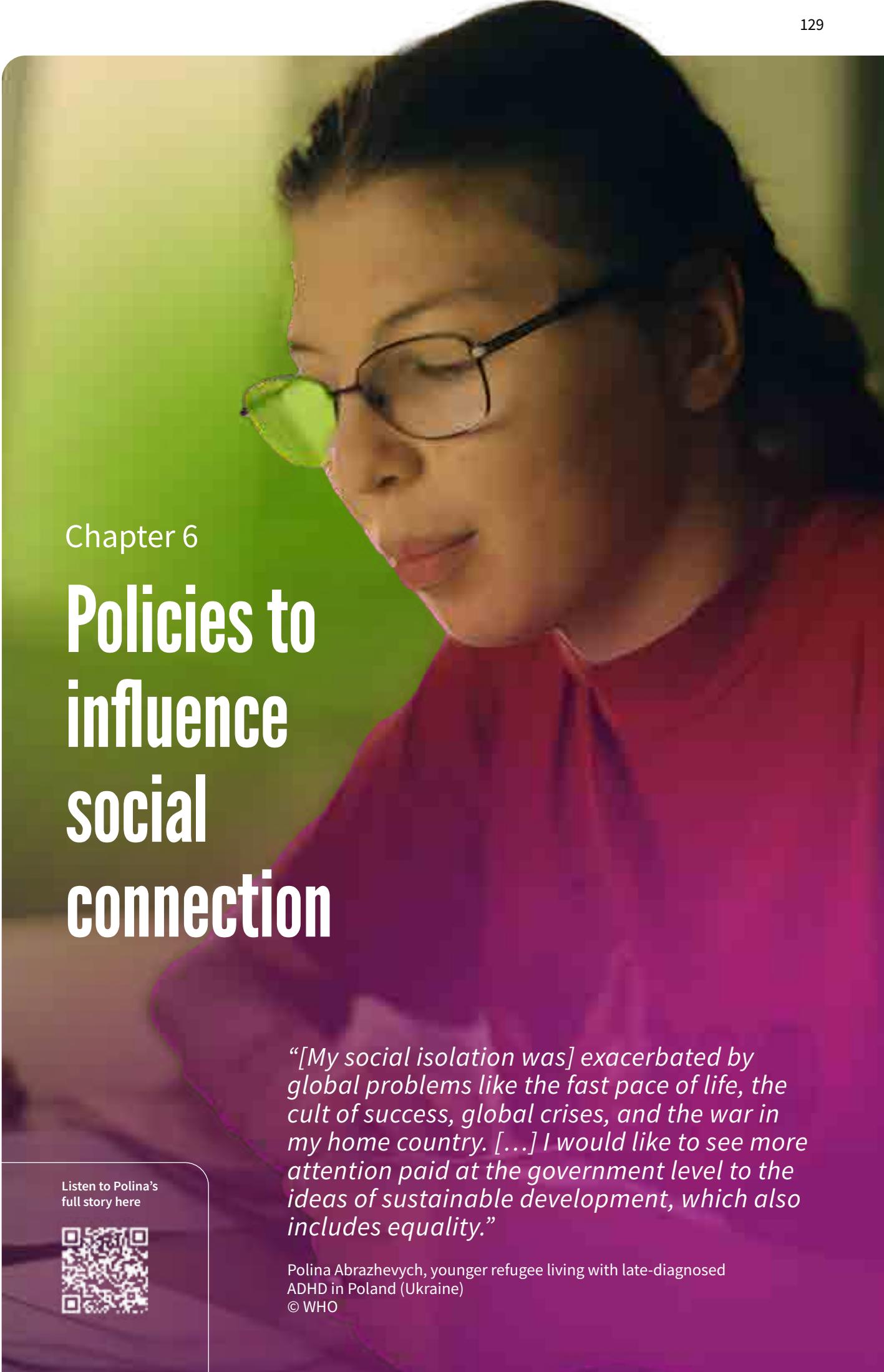
The results of the survey suggest that, given the low density and reciprocity in existing networks, there is both a need and untapped potential to build stronger local, national and global networks on social connection. This will require institutional incentives and strategies to facilitate and promote more collaborative ways of working *(2, 21, 40)*. Critically, it also requires aligned action to increase policy creation and resource mobilization for social connection, ensuring that political coalitions in and beyond the health sector drive meaningful, sustained impact *(2, 21, 40)*.

References

1. Social isolation and loneliness in older adults: opportunities for the health care system. Washington, DC: National Academies of Sciences, Engineering, and Medicine; 2020. (https://doi.org/10.17226/25663).

2. Bazant E, McPhillips-Tangum C, Shrestha SD, Preetha GS, Khera A, Nic Lochlainn L et al. Promising practices for the collaborative planning of integrated health campaigns from a synthesis of case studies. BMJ Glob Health. 2022;7(12):e010321 (https://doi.org/10.1136/bmjgh-2022-010321).

3. Coffman J. Public communication campaign evaluation. Washington, DC: Communications Consortium Media Center; 2002 (https://www.dors.it/documentazione/testo/200905/Public%20Communication%20Campaign%20Evaluation.pdf).

4. Rice RE, Atkin CK. Theory and principles of public communication campaigns. In: Public communication campaigns. Thousand Oaks (CA): SAGE Publications; 2012:3–19 (https://uk.sagepub.com/en-gb/eur/public-communication-campaigns/book234975#contents).

5. Rogers EM, Storey JD. Communication campaigns. In: Berger C, Chaffee S, editors. Handbook of Communication Science. Thousand Oaks (CA): SAGE Publications; 1987:817–46 (https://us.sagepub.com/en-us/nam/the-handbook-of-communication-science/book227447).

6. Stead M, Angus K, Langley T, Katikireddi SV, Hinds K, Hilton S et al. Mass media to communicate public health messages in six health topic areas: a systematic review and other reviews of the evidence. Public Health Res. 2019;7(8) (https://doi.org/10.3310/phr07080).

7. Jopling K. Exploring the legacy of the Campaign to End Loneliness. London: Campaign to End Loneliness; 2024 (https://www.campaigntoendloneliness.org/wp-content/uploads/Exploring-the-legacy-of-the-Campaign-to-End-Loneliness-April-2024.pdf).

8. Li L, Carrino L, Reinhard E, Avendano M. Has the UK Campaign to End Loneliness reduced loneliness and improved mental health in older age? A difference-in-differences design. Am J Geriatr Psychiatry. 2024;32(3):358–72 (https://doi.org/10.1016/j.jagp.2023.10.007).

9. Cupitt S. The Campaign to End Loneliness evaluation: Health and wellbeing boards' uptake of campaign messages. London: Charities Evaluation Services; 2013 (https://www.campaigntoendloneliness.org/wp-content/uploads/downloads/2013/06/Health-and-wellbeing-boards-uptake-of-Campaign-messages.pdf).

10. Fong P, Cruwys T, Robinson SL, Haslam SA, Haslam C, Mance PL et al. Evidence that loneliness can be reduced by a whole-of-community intervention to increase neighbourhood identification. Soc Sci Med. 2021;277:113909 (https://doi.org/10.1016/j.socscimed.2021.113909).

11. Noar SM. Challenges in evaluating health communication campaigns: defining the issues. Commun Meth Meas. 2009;3(1–2):1–11 (https://doi.org/10.1080/19312450902809367).

12. Noar SM, Palmgreen P, Zimmerman RS. Reflections on evaluating health communication campaigns. Commun Meth Meas. 2009;3(1–2):105–14 (https://doi.org/10.1080/19312450902809730).

13. Sixsmith J, Fox K, Doyle P, Barry MM. A literature review on health communication campaign evaluation with regard to the prevention and control of communicable diseases in Europe. Stockholm: European Centre for Disease prevention and Control; 2014 (https://www.ecdc.europa.eu/sites/default/files/media/en/publications/Publications/Campaign-evaluation.pdf).

14. Lim CCW, Rutherford B, Gartner C, McClure-Thomas C, Foo S, Su FY et al. A systematic review of second-hand smoking mass media campaigns (2002–2022). BMC Public Health. 2024;24(1):693 (https://doi.org/10.1186/s12889-024-18222-5).

15. Suman A, Armijo-Olivo S, Deshpande S, Marietta-Vasquez J, Dennett L, Miciak M et al. A systematic review of the effectiveness of mass media campaigns for the management of low back pain. Disabil Rehabil. 2021;43(24):3523–51 (https://doi.org/10.1080/09638288.2020.1743777).

16. Clement S, Lassman F, Barley E, Evans-Lacko S, Williams P, Yamaguchi S et al. Mass media interventions for reducing mental health-related stigma. Cochrane Database Syst Rev. 2013;2013(7):CD009453 (https://doi.org/10.1002/14651858.CD009453.pub2).

17. Gronholm PC, Henderson C, Deb T, Thornicroft G. Interventions to reduce discrimination and stigma: the state of the art. Soc Psychiatry Psychiatr Epidemiol. 2017;52(3):249–58 (https://doi.org/10.1007/s00127-017-1341-9).

18. Tam MT, Wu JM, Zhang CC, Pawliuk C, Robillard JM. A systematic review of the impacts of media mental health awareness campaigns on young people. Health Promot Pract. 2024;25(5):907–20 (https://doi.org/10.1177/15248399241232646).

19. McBride M. What works to reduce prejudice and discrimination? A review of the evidence. Edinburgh: Scottish Government; 2015 (https://www.gov.scot/publications/works-reduce-prejudice-discrimination-review-evidence/pages/2/).

20. Paluck EL, Green DP. Prejudice reduction: What works? A review and assessment of research and practice. Annu Rev Psychol. 2009;60:339–67 (https://doi.org/10.1146/annurev.psych.60.110707.163607).

21. Wernette R, Bhatnagar B, Bazant E. Technical brief: Defining health campaigns and health campaign effectiveness. Decatur (GA): Health Campaign Effectiveness Coalition and the Task Force for Global Health; 2020 (https://campaigneffectiveness.org/wp-content/uploads/2020/10/Health-Campaign-Effectiveness-October-2020.pdf).

22. Schar E, Gutierrez K, Murphy-Hoefer R, Nelson DE. Tobacco use prevention media campaigns; lessons learned from youth in nine countries. Atlanta (GA): Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2006 (https://stacks.cdc.gov/view/cdc/11400/cdc_11400_DS1.pdf).

23. State of the nation report. Social connection in Australia 2023. Pyrmont (NSW): Ending Loneliness Together; 2023 (https://ncq.org.au/wp-content/uploads/2023-Loneliness-Awareness_State-of-the-Nation-Report.pdf).

24. Why we feel lonely. Sydney: Ending Loneliness Together; 2024 (https://endingloneliness.com.au/wp-content/uploads/2024/09/why-we-feel-lonely.pdf).

25. Coalition to End Social Isolation and Loneliness, Foundation for Social Connection. Global loneliness awareness summit: Building a culture of connection. Washington, DC: Coalition to End Social Isolation and Loneliness; 2024 (https://www.endsocialisolation.org/wp-content/uploads/2024/10/2024-GLAW-Post-Event-Report.pdf).

26. Priority plan to facilitate the promotion of the policies regarding measures to address loneliness and isolation. Tokyo: Headquarters for Advancement of Measures to Address Loneliness and Isolation; 2024 (https://www.cao.go.jp/kodoku_koritsu/torikumi/jutenkeikaku/pdf/jutenkeikaku_english.pdf).

27. Breheny M, Severinsen C. Is social isolation a public health issue? A media analysis in Aotearoa/New Zealand. In: Henderson L, Hilton S, Green J, editors. Media analysis and public health: Contemporary issues in critical public health. Routledge; 2019:10 (https://doi.org/10.4324/9780429320743).

28. Barreto M, van Breen J, Victor C, Hammond C, Eccles A, Richins MT et al. Exploring the nature and variation of the stigma associated with loneliness. J Soc Pers Relat. 2022;39(9):2658–79 (https://doi.org/10.1177/02654075221087190).

29. Ending loneliness together in Australia. Pyrmont (NSW): Ending Loneliness Together; 2020 (https://endingloneliness.com.au/wp-content/uploads/2020/11/Ending-Loneliness-Together-in-Australia_Nov20.pdf).

30. GenWell [website]. GenWell; 2025.

31. Mosaic toolkit to end stigma and discrimination in mental health. Copenhagen: WHO Regional Office for Europe; 2024 (https://www.who.int/europe/publications/i/item/9789289061384).

32. Cooke-Jackson. Multicultural campaign. In: Thompson TL, editor. Encyclopedia of health communication. Thousand Oaks (CA): SAGE Publications; 2014:897–900 (https://us.sagepub.com/en-us/nam/encyclopedia-of-health-communication/book239622).

33. Kreuter MW, McClure SM. The role of culture in health communication. Annu Rev Public Health. 2004;25:439–55 (https://doi.org/10.1146/annurev.publhealth.25.101802.123000).

34. Kreuter MW, Lukwago SN, Bucholtz RD, Clark EM, Sanders-Thompson V. Achieving cultural appropriateness in health promotion programs: targeted and tailored approaches. Health Educ Behav. 2003;30(2):133–46 (https://doi.org/10.1177/1090198102251021).

35. Tan NQP, Cho H. Cultural appropriateness in health communication: a review and a revised framework. J Health Commun. 2019;24(5):492–502 (https://doi.org/10.1080/10810730.2019.1620382).

36. Tools to connect and engage [website]. Connecting people with resources that help fight social isolation and loneliness. Washington, DC: Department of Health and Human Services, Commit to Connect; 2025 (https://committoconnect.org/).

37. Act on the advancement of measures to address loneliness and isolation. Tokyo: Ministry of Justice; 2023 (https://www.japaneselawtranslation.go.jp/en/laws/view/4567).

38. Public–private partnership platform for combating loneliness and isolation in Japan [website]. Tokyo: Cabinet Office; 2025 (https://www.cao.go.jp/kodoku_koritsu/torikumi/platform/index.html).

39. Shiffman J, Quissell K, Schmitz HP, Pelletier DL, Smith SL, Berlan D et al. A framework on the emergence and effectiveness of global health networks. Health Policy Plan. 2016;31(Suppl 1):i3–16 (https://doi.org/10.1093/heapol/czu046).

40. Shiffman J. Networks and global health governance: introductory editorial for Health Policy and Planning supplement on the Emergence and Effectiveness of Global Health Networks. Health Policy Plan. 2016;31(Suppl 1):i1–2 (https://doi.org/10.1093/heapol/czw019).

41. Shiffman J. Four challenges that global health networks face. Int J Health Policy Manag. 2017;6(4):183–9 (https://doi.org/10.15171/ijhpm.2017.14).

42. Shiffman J. Agency, structure and the power of global health networks. Int J Health Policy Manag. 2018;7(10):879–84 (https://doi.org/10.15171/ijhpm.2018.71).

Chapter 6

Policies to influence social connection

"[My social isolation was] exacerbated by global problems like the fast pace of life, the cult of success, global crises, and the war in my home country. […] I would like to see more attention paid at the government level to the ideas of sustainable development, which also includes equality."

Polina Abrazhevych, younger refugee living with late-diagnosed ADHD in Poland (Ukraine)
© WHO

Key messages

- Policies have immense potential to influence social connection.

- A global review, commissioned for this report, showed that eight of the 194 WHO Member States – all high-income countries – have policies addressing the issue (Denmark, Finland, Germany, Japan, Netherlands [Kingdom of the], Sweden, United Kingdom [England, Scotland and Wales only] and USA).

- Most address loneliness, which is only one facet of social disconnection.

- Common recommendations in these policies include a whole-of-society approach to address the issue, strengthening knowledge, raising awareness to reduce stigma and fostering cross-sectoral collaboration.

- Most of the documents cite a wide variety of specific interventions.

- As more countries develop policies, it will be important to ensure that they are rigorously evaluated and any lessons learnt are shared.

This chapter presents the findings of a global review of national policy documents (such as policies, strategies, action plans, laws and advisories) that directly address social connection, social isolation and loneliness. The aim of the review is to illustrate how different countries are addressing the issue. The findings are based on the national policy documents reviewed and were not checked or validated by the countries concerned.

Section 6.1 of the chapter lists the WHO Member States that have issued such documents, the nature of the documents and their timelines. Section 6.2 summarizes the main aims and recommendations of the policy documents. Section 6.3 provides an overview of the types of interventions mentioned in the documents, section 6.4 of funding and implementation plans and section 6.5 of plans for monitoring and evaluating the policies, strategies, action plans and advisories.

The review did not consider policy documents that include loneliness, social isolation or social connection in broader policies for specific sectors (e.g. education, labour, information and communication technology, health and social care), population groups or life stages (e.g. children, older adults, people with disabilities), or crosscutting issues such as poverty alleviation and community development. The results are not meant to form a prescriptive blueprint for policy-makers but to inspire them by showing the diverse ways in which this issue is being addressed in specific policies.

Policies can influence social connection. In a review of the 10 great public health achievements of the 20th century (including motor vehicle safety, safer workplaces and tobacco control), policy changes (such as seat-belt laws, regulations governing permissible exposures in workplaces and the WHO Framework Convention on Tobacco Control) were consistently identified as playing a critical role *(1–3)*.

Yet, many challenges stand in the way of realizing the immense potential of policies. These include securing funding and generating the public awareness and political will required for successful implementation of a policy; organized opposition; over-optimistic expectations (e.g. underestimation of complexity, of the robustness of evidence and of costs and timescales); dispersed implementation, particularly in decentralized political systems; insufficient collaboration and coordination among stakeholders; and the vagaries of the political scene, whereby politicians often move on before they can be held accountable for the outcomes of policies *(4, 5)*. Scientific challenges include ensuring that policies are based on solid scientific evidence – the so-called "evidence–policy gap" – and that policies are rigorously evaluated *(1, 6–8)*. Although randomized controlled trials of policies are often not possible for logistical or ethical reasons, it is nonetheless possible to evaluate policies rigorously in other research.

Understanding of the specific challenges of implementing such policies, rigorously evaluating them or seeking to understand why they succeeded or failed is still limited. Instead, this chapter addresses the content of national policy documents that address social connection, social isolation and loneliness – including policies, strategies, action plans, laws and advisories – that had been published by the 194 WHO Member States up to February 2025.

The review is based on comprehensive searches in 18 languages. It addresses only national policies, strategies, action plans, laws or advisories that directly address social connection, social isolation and loneliness. Subnational policy documents and white papers and technical and statistical reports were excluded. The description of a document by the authors was used to identify the type – a policy, strategy, action plan, law or advisory. Documents were excluded if the focus was another topic, such as healthy ageing or mental health and social connection, with social isolation or loneliness mentioned as a secondary topic. Details of the methods and findings of the review are reported elsewhere *(9)*.

Reflections from lived experience: shaping society for social connection

Silfana

Student and migrant woman (Indonesia)

"Loneliness is not just a single mental health issue. When you look at individual, you must see that individuals are part of a bigger system. Therefore, in order to tackle loneliness, instead of seeing it as an individualised medical approach, you must find the systemic issues of what make people feel lonely."

Willow

Neurodiverse younger person living through mental health challenges (USA)

"Universal health care and universal basic income would likely significantly improve the lives of everyone. People would not have to spend so much time in survival mode and may actually be able to pursue care, passions, goals, opportunities, and experiences that feel authentic and fulfilling to them."

Misaq *(Not his real name)*

Young male refugee (Sweden)

Misaq had received two extremely high electric bills when he first moved to his own apartment. Because of this, he tried to get in touch with his social worker to get advice on how to tackle the issue. 'Only if it's acute', she told him, and it was, for Misaq. She didn't want to see him. Still to this day, it is painful for him. He later moved, which meant a new social worker. After a while she called Misaq and asked to see him. He went to her office. She asked him how he got to school. 'I walk', Misaq told her. 'How do you travel to work then?', she replied. 'I take the bus'. 'Then I want you to apply for a bus pass. I will grant you one so that you can get to work and meet your friends'. Misaq looks at me and tells me: 'It made me so happy that I almost started crying'.

Amy

Younger person with experience of discrimination and stigma due to physical and mental illness (USA)

"We need more compassion in society as a whole. Just creating more relationships will not do the trick because we have such rampant fear and distrust in our society of threat that we are easily left more isolated via forced connection. How we connect matters far more. We need the recreation of deep intergenerational bonds, spaces for communal gathering that are maintained, and the retraining of social muscles."

6.1 WHO Member States with relevant policies
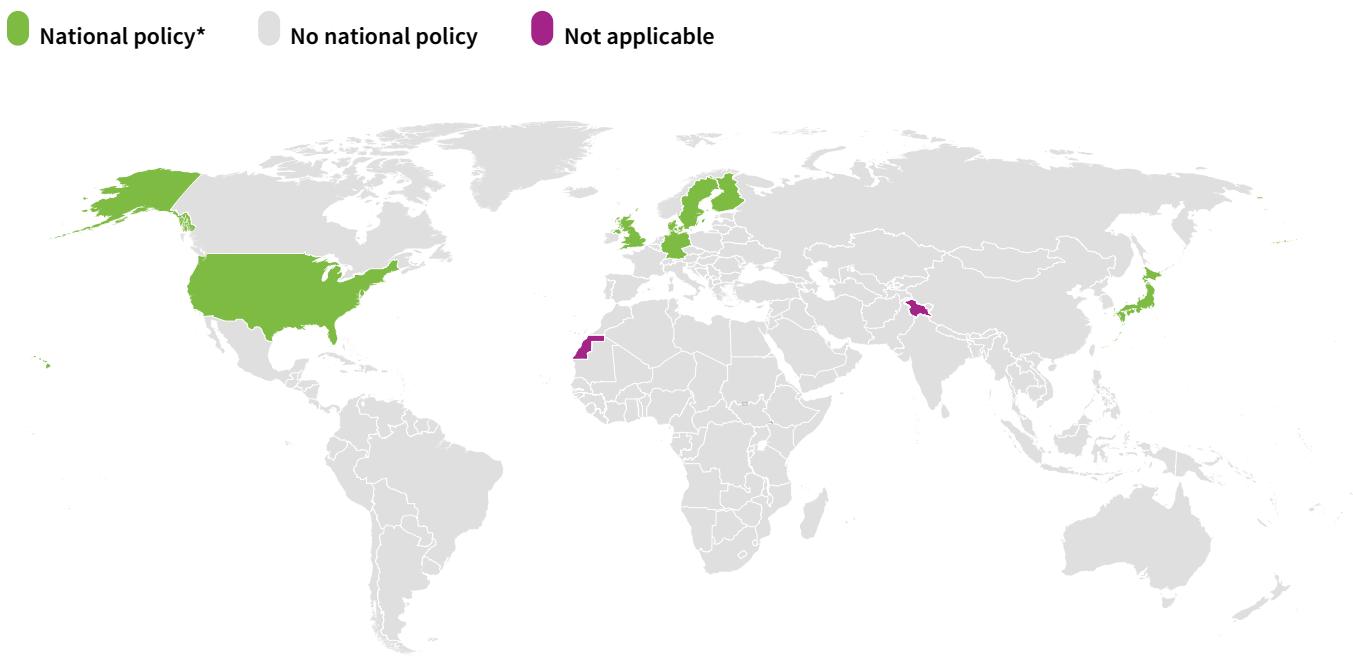
As of November 2024, only eight WHO Member States had a policy, strategy, action plan, law or advisory that directly addresses social connection (Fig. 20; Tables 5 and 6). All are high-income countries:

- **Denmark**: a national strategy and a national action plan *(10, 11)*;

- **Finland**: a national strategy and a national action plan *(12, 13)*;

- **Germany**: a national strategy *(14, 15)*;

- **Japan**: a law entitled "Act on the Advancement of Measures to Address Loneliness and Isolation", a national action plan and appointment of a minister in charge of measures for loneliness *(16, 17)*;

- **Netherlands (Kingdom of the)**: a national action plan *(18)*;

- **Sweden**: a national strategy *(19)*;

- **United Kingdom** (**England**: a national strategy, a national action plan and a minister for loneliness *(20, 21)*; **Scotland**: a national strategy *(22)*, **Wales**: a national strategy *(23);* and

- **USA**: a "Surgeon General's Advisory"[2] *(24)*.

---

[2] "A Surgeon General's Advisory is a public statement that calls the American people's attention to an urgent public health issue and provides recommendations for how it should be addressed. Advisories are reserved for significant public health challenges that require the nation's immediate awareness and action" *(24)*.

Fig. 20.

Map of WHO Member States that had a policy, strategy, action plan, law or advisory that directly addresses social connection as of November 2024

🟢 **National policy***   ⚪ **No national policy**   🟣 **Not applicable**

*In the United Kingdom, only England, Scotland and Wales have policies.

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or areas or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted or dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Table 5.

Documents that directly address social connection available in eight Member States covering 10 countries

Country and references	Title	Type	Government department	Year
Denmark *(10, 11)*	Sammen mod ensomhed. En national 2040 Strategi for nedbringelse af ensomhed i Danmark (Together against loneliness. A national 2040 strategy for reducing loneliness in Denmark)	Strategy	2 NGOs: Ældre Sagen (DaneAge Association), Danish Red Cross on behalf of the national Government	2023
	National handlingsplan mod ensomhed (National action plan against loneliness)	Action plan		
England *(20, 21)*	Emerging Together: The Tackling Loneliness Network Action Plan	Action plan	Department for Digital, Culture, Media and Sport	2021
	A connected society – A strategy for tackling loneliness	Strategy	Department for Digital, Culture, Media and Sport	2018

Country and references	Title	Type	Government department	Year
Finland *(12, 13)*	Osallistujien Suomi: Kansallinen toimenpideohjelma yksinäisyyden vähentämiseksi ja yhteisöllisyyden vahvistamiseksi (Participants' Finland: National action plan for reducing loneliness and strengthening community spirit)	Action plan	Parliament of Finland, Ministry of Education and Culture, Ministry of Social Affairs and Health, Finnish National Agency of Education, Finnish Institute for Health and Welfare, other institutions, associations and universities	2024
	Osallistujien Suomi: Kansallinen strategia yksinäisyyden vähentämiseksi ja yhteisöllisyyden vahvistamiseksi (Participants' Finland: National strategy for reducing loneliness and strengthening community spirit)	Strategy		2025
Germany *(14)*	Strategie der Bundesregierung gegen Einsamkeit (Federal Government strategy to counter loneliness)	Strategy	Federal Ministry for Family Affairs, Senior Citizens, Women and Youth	2023
Japan *(16, 17)*	孤独・孤立対策推進法 (Act on the Advancement of Measures to Address Loneliness and Isolation)	Law	Loneliness and Isolation Measures Headquarters	2023
	孤独・孤立対策に関する施策の推進を図るための重点計画 (Priority plan on measures to address loneliness and isolation)	Priority plan	Loneliness and Isolation Measures Headquarters	2024
Netherlands (Kingdom of the) *(18)*	Eén tegen eenzaamheid. Actieprogramma 2022–2025 (One against loneliness. Action programme 2022–2025)	Action plan	Ministry of Health, Welfare and Sport	2022
Scotland *(22)*	Recovering our Connections 2023–2026. A plan to take forward the delivery of a connected Scotland – our strategy for tackling social isolation and loneliness and building stronger social connections [updated version, 2018]	Strategy	Scottish Government	2023
Sweden *(19)*	Tillsammans för god gemenskap i hela befolkningen. En nationell strategi mot ensamhet (Together for a good community across the population. A national strategy against loneliness)	Strategy	Public Health Agency Sweden on behalf of the Government	2025
USA *(24)*	Our Epidemic of Loneliness and Isolation: The US Surgeon General's Advisory on the Healing Effects of Social Connection and Community	National advisory	US Department of Health and Human Services	2023
Wales *(23)*	Connected Communities. A strategy for tackling loneliness and social isolation and building stronger social connections	Strategy	Welsh Government	2020

Table 6.

Timelines and milestones in development of programmes

Country	Year/month	Milestone
Denmark	2014/09	Formation of "United against loneliness", a cross-sectoral network of organizations, businesses, foundations and municipalities
	2022/05	Formation of a national partnership against loneliness
	2022/09	All-party Parliamentary Group against Loneliness is established
	2023/05	Publication of the Danish strategy and action plan *(10, 11)*
	2023/06	Government funding for United Against Loneliness to monitor progress in achieving the 75 initiatives in the action plan
England	2011	Campaign to End Loneliness established
	2016	Jo Cox Commission on Loneliness, which highlighted the widespread nature of loneliness and its various societal impacts
	2017	Formation of the Loneliness Action Group (network of over 50 organizations led by the British Red Cross)
	2018	All-Party Parliamentary Group on Loneliness and Connected Communities established
	2018/01	Minister for Loneliness appointed
	2018/10	Publication of the national strategy *(20)*
	2021/05	Publication of the action plan *(21)*
Finland	2022/10	Received 6 million-euro research grant to study loneliness among children and adolescents and contacted Parliament as part of outreach Formation of a Parliamentary group to address loneliness and ostracism
	2024/02	Formation of a group to address loneliness that includes members from the ministries of Education and Culture and Social Affairs and Health, the Finnish National Agency of Education, the Finnish Institute for Health and Welfare, the Association of Finnish Municipalities, the Finnish Olympic Committee, ITLA Children's Foundation, NGOs, Church and University of Turku
	2024/09	Publication of action plan and strategy *(12, 13)*
Germany	2022/02	Founding of the Loneliness Network (NGO and Government)
	2022/06	Launch of development of a Federal Government strategy against loneliness
	2023/03	Workshop with cross-sectoral stakeholders to discuss and further develop draft of strategy
	2023/12	Publication of the German strategy *(14)*
Japan	2021/02	Minister in charge of Measures for Loneliness and Isolation appointed Office for Policy on Loneliness and Isolation Measures established in the Cabinet Secretariat
	2021/02	Liberal Democratic Party Special Mission Committee on Loneliness and Isolation established (even before the establishment of the Committee, study sessions had been organized by young members of the LDP) Komeito Headquarters for Prevention of Social Isolation
	2021/12	Publication of the first priority plan

Country	Year/month	Milestone
Japan (cont'd)	2022/02	National public–private partnership against loneliness and social isolation formed (Government-initiated and run; Government ministries, municipalities, NGOs and private businesses: 622 organizations as of 1 February 2025)
	2022/04	Publication of national survey on actual situation of loneliness and isolation
	2023/05	Parliament passes "Act on the Advancement of Measures to Address Loneliness and Isolation" (enacted April 2024)
	2024/06	Priority plan based on the law (decision by the Promotion Headquarters headed by the Prime Minister)
Netherlands (Kingdom of the)	2018/03	Publication of the first action plan (2018–2022)
	2021/12	263 of 342 municipalities (76.9%) took part in the action programme Formation of a national coalition between public sector organizations and private companies to address loneliness (n=166)
	2022/09	Publication of the second action plan (2022–2025) *(18)*
Scotland	2018	Scottish Household Survey includes a question on loneliness
	2018/12	Publication of the first strategy
	2019	National Implementation Group set up (renamed Social Isolation and Loneliness Advisory Group in 2021)
	2023/02	Publication of the second strategy *(22)*
Sweden	2024/03	Publication of first report on prevalence of loneliness and its health consequences
	2025/02	Publication of the strategy *(19)*
USA	2018/08	National coalition of non-profit and for-profit organizations formed to advocate for national policy reforms related to social isolation and loneliness
	2022/05	Experts research review and document drafting, supported by non-profit organizations
	2023/05	Publication of the US advisory *(24)*
Wales	2018	Royal British Legion conducted research on loneliness and social isolation in the Armed Forces community
	2018/10	Government held a 12-week public consultation on how best to tackle loneliness and social isolation in Wales, with over 230 responses from individuals and organizations
	2019/03	Summary report of consultation published as a basis for the strategy
	2020/02	Publication of the strategy *(23)*

NGO: nongovernmental organization.

All the policies have been published since 2018 and most since 2023. Policies to address social connection, social isolation and loneliness are therefore a new phenomenon.

A further seven countries were identified as having policies in which the main focus is on another issue, but which address social connection, social isolation and loneliness secondarily. These are:

- **Albania** (part of an ageing policy) *(25)*;

- **Czechia** (part of a broader social policy) *(26)*;

- **Djibouti** (part of a broader development policy) *(27)*;

- **Ireland** (part of a mental health policy) *(28)*;

- **Malta** (part of both a mental health and an ageing policy) *(29, 30)*;

- **Norway** (part of a public health policy) *(31)*; and

- **Spain** (part of a mental health policy) *(32)*.

Two examples of how loneliness can be addressed within other policies are described below.

- In **Norway**, a 10-page section of a report on public health in 2018 was dedicated to the Government's strategy to prevent loneliness. It states, however, that several other strategies and reports (e.g. on children living in poverty, mental health, voluntary work in the health and care field) include measures against loneliness *(31)*.

- Before the National Priority Plan was issued, **Japan** had introduced national programmes to promote social capital and strengthen community social ties. The initiatives included creation of community integrated care systems and use of an incentive grant system to support and manage the programmes, all as part of a broader effort to improve the health and well-being of older adults *(33)*.

One option for countries and regions that may not have the competence or resources to develop policies expressly addressing social connection, social isolation or loneliness – such as low- and middle-income countries or areas undergoing periods of political uncertainty – is to address community and societal drivers of social connection, social isolation and loneliness (Chapter 3) in other policies. Governments should assess policies that are not expressly directed at social connection to determine whether they could influence it indirectly. Such approaches require collaboration among sectors, such as health, social services, housing and transport, during policy-making. Box 12 outlines an economic development policy that could address social connection, social isolation and loneliness through other structural drivers (Chapter 3).

Box 12.
Djibouti – A case study for indirectly addressing social connection, social isolation and loneliness through economic development

Djibouti's National Development Plan 2020–2024 *(27)* does not explicitly address social connection, social isolation or loneliness; however, it cites inclusion as a key pillar of economic and social development. Social inclusion is advanced by improving access to services and opportunities for people of any gender, age and region, particularly for groups that are disadvantaged. By tackling stigma and investing in human capital, infrastructure and basic services, the plan seeks to prevent entrenched poverty and to improve the quality of life.

Although the approach is framed in the context of economic development, it addresses drivers that contribute to social connection, social isolation and loneliness. By reducing inequalities and improving opportunities for engagement, Djibouti's plan offers insights into how broader development policies can indirectly foster social cohesion and reduce social isolation (Chapter 3).

As of November 2024, 4.1% of WHO Member States had a policy to address social connection, social isolation or loneliness, and 3.6% addressed the issue as part of a policy on another issue. The remainder of this chapter describes the published policies, strategies, action plans, laws or advisories of the eight Member States that directly address the issue.

6.2 Characteristics, aims and recommendations

Most of the policies strongly emphasize loneliness, with the exception of the United States advisory, in which the issue is framed positively, as social connection, defined in the same way as in Chapter 1 of this report. Japan is one of a few countries that addresses both loneliness and social isolation as policy issues, which are explicitly stated in laws and priority plans and programmes to foster connections to prevent loneliness and isolation. Of the 14 policy documents of these eight countries, seven are strategies, five are action plans (or some other plan), one is a law, and one is an advisory (Table 5).

All the national policy documents stress the importance of loneliness as a public health and societal issue. Many recognize that addressing broader societal factors can reduce loneliness and social isolation and foster stronger social connections. Additionally, despite different government structures, all the national policy documents on social connection, social isolation and loneliness call for a whole-of-society approach, such as the national government working with organizations, businesses, institutions and local authorities, and collaboration among different government departments (such as education, health care, economy, spatial planning, culture, housing, transport and social welfare) (Table 7).

Some countries, such as Scotland and Wales, make explicit reference to the types of values they wish to promote to create a connected society. The Dutch action plan focuses on the municipal level, and Japan also promotes initiatives led by local governments, such as establishment of local platforms and councils, based on the legislation. Denmark is the only country that has a specific aim, which is to halve the number of lonely people by 2040. Sweden, recognizing that structural barriers and prejudice in social relationships contribute to loneliness, addresses loneliness as a social problem. The USA is the only country to call for a reform of digital environments.

Table 7.

Aims and key recommendations of policy documents on loneliness

Country	Aims and objectives of document	Key recommendations
Denmark (strategy and action plan) *(10, 11)*	• Reduce loneliness in the Danish population ≥ 16 years by half by 2040 (to 4%). • Reduce loneliness among children (11–15 years) to the same level as in adults. • If data become available, also reduce loneliness among children ≤ 11 years. The strategy sets the focus, and the action plan lists 75 cross-cutting and area-specific initiatives.	Address loneliness in five areas of life: • home and housing; • day care, school and education; • leisure and communities; • working life and employment; and • health and care. The five overarching focus areas are: • strengthening knowledge; • a national conversation about loneliness; • detection of loneliness and offering help that works; • consideration of loneliness in all legislation and policies; and • strengthening cross-cutting cooperation, including locally.
England (action plan) *(21)*	• Support organizations in tackling loneliness. • Supporting individuals in tackling loneliness.	• Bring together funders interested in social connection to share information and seek opportunities to align and combine funding when possible. • Create opportunities for volunteering in building connection, particularly for people experiencing loneliness. • Explore opportunities to reduce digital exclusion.
England (strategy) *(20)*	• Change how loneliness is perceived and acted upon in both Government and society. • Build a more connected, cohesive society by supporting social relationships and addressing loneliness in various interventions and policies.	• Strengthen knowledge and fund research. • Integrate loneliness concerns into all Government policies, acknowledging social factors and promoting well-being. • Build national discussion of loneliness to raise awareness and reduce stigma.

Country	Aims and objectives of document	Key recommendations
Finland (strategy and action plan) *(12, 13)*	• Integrate existing and new strategies and action plans into a coherent, implementable entity with a timeline. • Support decision-making with real-time indicators, research results and budgeting tools. • Develop long-term communication and prevention to change attitudes towards loneliness and sense of community.	Prepare practical tools and materials to enhance prevention, support and intervention in focus areas: • families and close networks • education, teaching, training and youth activities • social and health services and promotion of well-being • hobbies, sport and other clubs, NGOs, churches and parishes and • public administration and decision-makers.
Germany (strategy) *(14)*	• Address loneliness with an intersectional approach. • Address loneliness as a societal challenge. • The strategy represents a further building block in systematic treatment of the topic in Germany.	• Raise public awareness and reduce stigma. • Strengthen knowledge and fund research. • Strengthen social workers. • Collaborate among sectors. • Extend low-threshold, barrier-free access to needs-oriented services.
Japan (act) *(16)*	The Act establishes a foundation for nationwide efforts to address loneliness and isolation by specifying the basic principles and the responsibilities of both national and local governments. The Act sets out the following fundamental principles: • A society-wide response to both loneliness and isolation • Promotion of measures based on the perspectives of those directly affected • Promotion of initiatives that help individuals feel connected to society and experience meaningful interpersonal relationships	Establishes the Headquarters, headed by the Prime Minister, formulates a priority plan. Increase the understanding of policies for loneliness and isolation, and conduct awareness-raising activities that support voluntary efforts by diverse members of society. Promote cooperation among national and local governments, the private sector and non-profit organizations, and support their initiatives. Promote research studies on the actual conditions of persons who are in a state of loneliness and isolation.
Japan (priority plan) *(17)*	Compile specific measures against loneliness for future focus, aiming for the following society: • A society where no one suffering from loneliness and isolation is left behind. • A society where individuals support and connect with each other. Focus on the prevention of loneliness and isolation. Provide the necessary support to people who are lonely and help them in leading smooth daily and social lives by interacting with society and others in accordance with their wishes.	Promote measures to address loneliness and isolation based on the following four basic policies. • Reduce stigma and encourage open communication and seeking help. • Provide tailored support and personalized consultations for individual needs. • Build communities by creating spaces for connection, belonging and professional support. • Ensure cross-sectoral collaboration among the public and the private sectors and non-profit organizations. Establish a platform for public–private partnerships at both national and local levels and lay the foundation for horizontal cooperation between the public and private sectors and non-profit organizations. In addition, the Government is developing a consultation system through telephone calls and chatbots and is offering a training course (Tsunagari Supporter) for supporters on measures to combat loneliness and isolation.
Netherlands (Kingdom of the) (action programme) *(18)*	• Reduce loneliness by ensuring that people participate in society and feel that they matter.	• Increase community awareness of loneliness. • Encourage social initiatives against loneliness. • Ensure a local approach to loneliness in all municipalities to increase the number of local coalitions in municipalities (currently, 260) and strengthen local coalitions to become future-proof (with funding).

Country	Aims and objectives of document	Key recommendations
Scotland (strategy) *(22)*	• Create a Scotland in which individuals and communities are more connected and everyone has the opportunity to develop meaningful relationships, regardless of age, stage, circumstances or identity. • Ensure impact by collating and setting in motion actions and commitments in the Government and beyond to create conditions in which barriers to connection can be broken down.	Four priorities for early actions and to foster progress: • empower communities, and build shared ownership • promote positive attitudes, and tackle stigma • create opportunities for people to connect • support an infrastructure that fosters connections.
Sweden (strategy) *(19)*	The overall goal is a society with equal conditions for social relations. Strong emphasis is placed on equality, as access to social relations and networks is unevenly distributed in Sweden. Three targets: • make social arenas more accessible to all; • reduce barriers to social participation and • ensure that fewer people have long-term loneliness.	Three themes in all targets: • education on loneliness and its effects to increase legitimacy and reduce stigma; • raising awareness to strengthen participation in ordinary activities; and • working together for common solutions. Includes suggestions of the possible contributions that different societal actors, such as Government, other authorities, regions, municipalities, civil society, business, academia and individuals, can make to reduce loneliness.
USA (advisory) *(24)*	• Build more connected lives and a more connected society. • Call attention to the importance of social and community-wide metrics of health and well-being and, conversely, the significant consequences of lack of social connection. • Call for a national strategy.	• Strengthen social infrastructure in local communities. • Enact pro-connection public policies. • Mobilize the health sector. • Reform digital environments. • Deepen knowledge. • Cultivate a culture of connection. Also, make recommendations, according to stakeholder group, to support a whole-of-society approach to advance social connection.
Wales (strategy) *(23)*	• Support development of meaningful connections between people. • Build a supportive Wales in which people recognize triggers for loneliness, protect their well-being and feel empowered to seek help. • Reduce the stigma and shame attached to loneliness.	Four priorities for early action and fostering progress: • increasing opportunities for people to connect • community infrastructure that supports connected communities • cohesive, supportive communities and • building awareness and promoting positive attitudes.

6.3   Interventions cited in policy documents

A wide variety of interventions to promote social connection and tackle social isolation and loneliness are mentioned in these documents. Most mention all the types of interventions described in Chapters 7 and 8, other than societal or systemic interventions, with two exceptions. The first exception is the Dutch action plan, the nature of which is somewhat different from the others, as it is designed to stimulate local coalitions to develop their own interventions at municipal level *(18)*. The other is the United States advisory, which refers to societal or systemic interventions, such as laws and policies, to address macro-level factors that affect broader society.

6.4   Funding and implementation

Funding and implementation plans for these policies, strategies, actions plans and advisories – to the extent that they could be ascertained – vary considerably among the eight Member States *(9)*. The plans of Denmark, England, Netherlands (Kingdom of the), Scotland and Wales explicitly mention the availability of new funding to address loneliness. Some have complex funding structures involving several government departments and organizations.

In contrast, Finland, Germany, Sweden and the USA do not specifically mention in their national policies how much they intend to invest in addressing loneliness, so that the specific source of funding is less clear. Many budgets are allocated outside the context of these policies.

Japan decided to provide 6 billion yen to non-profit and other organizations in 2021, when the Government began implementing measures against loneliness and isolation, and it has continued to provide support at the same scale every year. Additionally, the Government manages the overall budget related to loneliness and isolation, including funding, and posts detailed budget information on its website *(34)*.

6.5   Monitoring and evaluation of policies, strategies, action plans and advisories

England published annual progress reports in which individual Government departments reported on their contributions. Germany plans to use a similar system, with the responsible ministry publishing regular reports of evaluation of individual measures in the overall strategy.

In Japan, measures against loneliness and isolation are discussed every year at the Promotion Headquarters, headed by the Prime Minister. In addition, the Promotion Council under the Headquarters (chaired by the Minister in charge of measures for loneliness and isolation) requests reports on the status of work by relevant ministries and agencies, and the minister in charge of measures against loneliness and isolation gives instructions for further work. Furthermore, the law stipulates that each measure in the Priority Plan must have specific targets and time frames for achieving them and that the Promotion Headquarters must investigate the status of achievement of the targets in a timely manner and publicize the results.

Netherlands (Kingdom of the) has adopted a multifaceted approach in which their national health monitoring system, benchmark research and evaluations of specific initiatives are used to track progress. Additionally, a database is maintained of effective

social interventions and key performance indicators. Denmark monitors progress in the initiatives outlined in its national action plan through a designated secretariat and tracks the prevalence of loneliness in regular national health surveys. Finland monitors the results of practices and changes in loneliness annually from data collected for research projects, national organizations and other participating organizations. A parliamentary group monitors developments and, at least once a year, adjusts the monitoring and evaluation approach used. Because of the nature of an advisory (see footnote 1 in section 6.1), the USA has not outlined any monitoring plan.

None of the policies, strategies, action plans or advisories has thus far been evaluated. Scotland lists primary national indicators in its strategic framework to allow evaluation of the strategy. Wales commissioned an assessment to determine how their national strategy could be evaluated, which offered recommendations on evaluation methods, design and ways to improve evaluability. It concluded that attributing change to a strategy is highly complicated and that data collection infrastructure should be improved *(35)*. Sweden did not describe how they intend to report progress in implementing their policy or whether and how they intend to evaluate it.

Future research directions

- Eight Member States have adopted national policies to address social connection, social isolation and loneliness. More should be encouraged to do so and should ensure that they are adequately funded.

- Member States that develop such policies should learn from those that have led the way in designing and implementing policies in this area. International collaboration can spread best practices and support policy development worldwide.

- Ideally, policies should be developed in collaboration with people with lived experience of the issue and relevant civil society organizations.

- Future policies should consider a broader approach to addressing social connection, rather than focusing on loneliness.

- A priority is establishment of clear guidelines on what interventions work and ensuring that they are aligned with national policies.

- It is important to better understand – and find ways of overcoming – challenges to implementing such policies (e.g. lack of funding, coordination among stakeholders); to evaluate the policies as rigorously as possible; to shed light on why they succeed or fail; to identify the main factors for success; and to share the results widely.
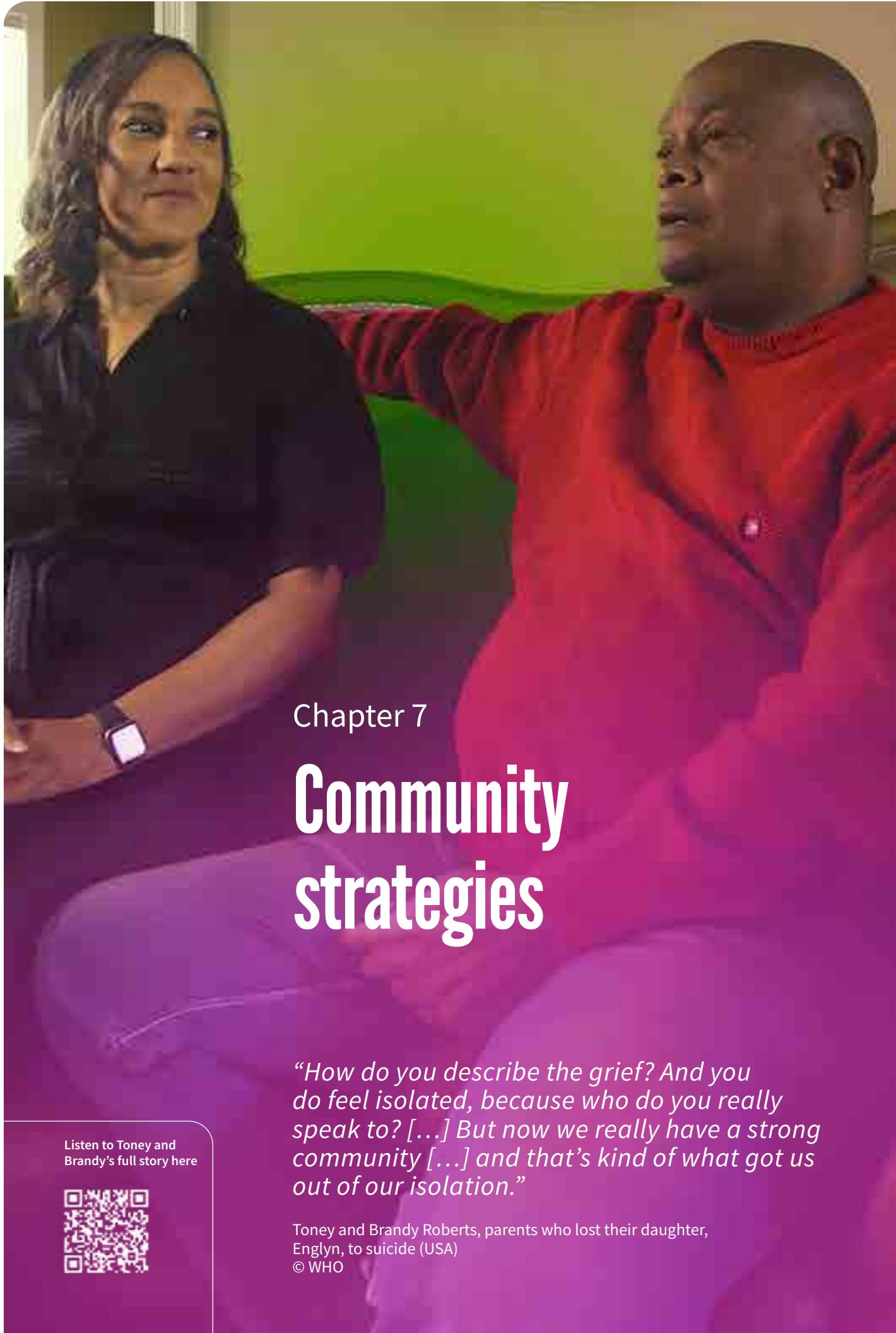
Conclusion

National policies that address social connection, social isolation and loneliness have begun to be adopted – a significant development that reflects growing interest in the issue. Only 4.1% of the 194 WHO Member States have such a policy, however. Other Member States are encouraged to follow suit. We recognize that not all governments are able or willing to support such a policy and suggest that, in such cases, they should review existing policies to determine whether they could be used to address social connectedness, social isolation and loneliness. National policies can influence the issue if they are based on scientific evidence, are resourced and are rigorously evaluated. The policy database created by the Commission on Social Connection and the Policy Lab that it is establishing (see Chapter 9 for details) will be a useful resource for Member States planning to develop policies to address social connection, social isolation and loneliness.

References

1. Brownson RC, Chriqui JF, Stamatakis KA. Understanding evidence-based public health policy. Am J Public Health. 2009;99:1576–83 (https://doi.org/10.2105/AJPH.2008.156224).

2. Centers for Disease Control Prevention. Ten great public health achievements – United States, 1900–1999. Morbid Mortal Wkly Rep. 1999;48:241–3 (https://www.cdc.gov/mmwr/preview/mmwrhtml/00056796.htm).

3. Pollack Porter KM, Rutkow L, McGinty EE. The importance of policy change for addressing public health problems. Public Health Rep. 2018;133:9S–14S (https://doi.org/10.1177/0033354918788880).

4. Hudson B, Hunter D, Peckham S. Policy failure and the policy–implementation gap: can policy support programs help? Policy Design Pract. 2019;2(1):1–14 (https://doi.org/10.1080/25741292.2018.1540378).

5. Schopper D, Lormand JD, Waxweiler R, editors. Developing policies to prevent injuries and violence: guidelines for policy-makers and planners. Geneva: World Health Organization; 2006 (https://iris.who.int/handle/10665/43308).

6. Baicker K, Chandra A. Evidence-based health policy. N Engl J Med. 2017;377:2413–5 (https://doi.org/10.1056/NEJMp1709816).

7. Basu S, Meghani A, Siddiqi A. Evaluating the health impact of large-scale public policy changes: classical and novel approaches. Annu Rev Public Health. 2017;38:351–70 (https://doi.org/10.1146/annurev-publhealth-031816-044208).

8. Cairney P, Oliver K. Evidence-based policymaking is not like evidence-based medicine, so how far should you go to bridge the divide between evidence and policy? Health Res Policy Syst. 2017;15:1–11 (https://doi.org/10.1186/s12961-017-0192-x).

9. Goldman N, Alemdar M, Megges H, Matsumoto N, Eric S, van den Berg P et al. The critical role of national policies to address loneliness: a scoping review of all UN member states. Lancet Glob Health; [in press].

10. National handlingsplan mod ensomhed [National action plan against loneliness (in Danish)]. Copenhagen: Sammen mod ensomhed; 2023 (https://sammenmodensomhed.dk/wp-content/uploads/2023/06/NPE_Handlingsplan.pdf).

11. En national 2040 Strategi for nedbringelse af ensomhed i Danmark [Together Against Loneliness. A national 2040 Strategy for reducing loneliness in Denmark (in Danish)]. Copenhagen: Sammen Mod Ensomhed; 2023 (https://sammenmodensomhed.dk/wp-content/uploads/2023/06/NPE_National-Strategi-mod-Ensomhed.pdf).

12. Osallistujien Suomi: Kansallinen strategia yksinäisyyden vähentämiseksi ja yhteisöllisyyden vahvistamiseksi [Participants' Finland: National strategy for reducing loneliness and strengthening community spirit (in Finnish)]. Helsinki: Ministry of Education and Culture, Ministry for Social Affairs and Health, Finnish National Agency of Education, Finnish Institute for Health and Welfare; 2024 (www.osallistujiensuomi.fi).

13. Osallistujien Suomi: Kansallinen toimenpideohjelma yksinäisyyden vähentämiseksi ja yhteisöllisyyden vahvistamiseksi [Participants' Finland: National action plan for reducing loneliness and strengthening community spirit (in Finnish)]. Helsinki: Ministry of Education and Culture, Ministry for Social Affairs and Health, Finnish National Agency of Education, Finnish Institute for Health and Welfare; 2024 (www.osallistujiensuomi.fi).

14.   Strategie der Bundesregierung gegen Einsamkeit [Federal Government strategy against loneliness (in German)].
      Berlin: Bundesministerium für Familie, Senioren, Frauen und Jugend; 2023 (https://www.bmfsfj.de/bmfsfj/
      service/publikationen/strategie-der-bundesregierung-gegen-einsamkeit-234582).

15.   German Federal Government's strategy to counter loneliness. Berlin: Federal Ministry for Family Affairs,
      Senior Citizens, Women and Youth, Division for Public Relations; 2024 (https://www.bmfsfj.de/resource/
      blob/248208/5c257556f6e203e27e096f46edf3e8ce/strategie-gegen-einsamkeit-englisch-german-federal-
      governments-strategy-to-counter-loneliness-data.pdf).

16.   Act on the Advancement of Measures to Address Loneliness and Isolation (Act No. 45 of 2023). Tokyo:
      Government of Japan; 2023 (https://www.japaneselawtranslation.go.jp/en/laws/view/4567).

17.   孤独・孤立対策の重点計画 [Priority plan to facilitate the promotion of the policies regarding measures to
      address loneliness and isolation, new version (in Japanese)]. Tokyo: Cabinet Office; 2024 (https://www.cao.
      go.jp/kodoku_koritsu/pdf/jutenkeikaku_english.pdf).

18.   Eén tegen eenzaamheid. Actieprogramma 2022–2025 (One against loneliness. Action programme 2022–2025 (in
      Dutch)]. Amsterdam: Ministry of Health, Welfare and Sport; 2022 (https://www.rijksoverheid.nl/documenten/
      rapporten/2022/09/28/een-tegen-eenzaamheid-2022-2025).

19.   Tillsammans för god gemenskap i hela befolkningen. En nationell strategi mot ensamhet (Together for a good
      community across the population. A national strategy against loneliness). Stockholm: Public Health Agency
      of Sweden; 2025 (https://www.folkhalsomyndigheten.se/publikationer-och-material/publikationsarkiv/t/
      tillsammans-for-god-gemenskap-i-hela-befolkningen/).

20.   Policy paper: A connected society. A strategy for tackling loneliness. London: United Kingdom Government; 2018
      (https://www.gov.uk/government/publications/a-connected-society-a-strategy-for-tackling-loneliness).

21.   Emerging together: the tackling loneliness network action plan. London: Department for Digital, Culture, Media
      and Sport; 2021 (https://www.gov.uk/government/publications/emerging-together-the-tackling-loneliness-
      network-action-plan).

22.   Recovering our connections 2023–2026: a plan to take forward the delivery of A Connected Scotland – Our
      strategy for tackling social isolation and loneliness and building stronger social connections. Edinburgh:
      Scottish Government; 2013 (https://impactfundingpartners.com/wp-content/uploads/2023/02/Recovering-Our-
      Connections-2023-2026.pdf).

23.   Connected communities: a strategy for tackling loneliness and social isolation and building stronger social
      connections. Cardiff: Welsh Government; 2020 (https://www.gov.wales/sites/default/files/publications/2020-02/
      connected-communities-strategy-document.pdf).

24.   Our epidemic of loneliness and isolation: The US Surgeon General's Advisory on the Healing Effects of Social
      Connection and Community. Washington DC: Office of the Surgeon General, Department of Health and Human
      Services; 2023 (https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf).

25.   The National Action Plan on Aging 2020–2024. Tirana: Ministry of Health & Social Protection; 2019 (https://acpd.
      org.al/wp-content/uploads/2021/01/PLANI-KOMB%C3%8BTAR-I-VEPRIMIT-MBI-MOSHIMIN-Anglisht.pdf).

26.   Social Inclusion Strategy 2021–2030. Prague: Ministry of Labour & Social Affairs, Czechia; 2019 (https://natlex.ilo.
      org/dyn/natlex2/r/natlex/fe/details?p3_isn=116675).

27.   Plan national de développement 2020–2024. Inclusion – connectivité – institutions (National Development Plan
      2020–2024. Inclusion – connectivity – institutions (in French)]. Djibouti: National Government; 2020 (https://
      economie.gouv.dj/wp-content/uploads/Plan-National-de-Developpement-Version-Fran%C3%A7aise.pdf).

28.   Sharing the vision. A mental health policy for everyone. Dublin: Government of Ireland; 2020 (https://www.
      lenus.ie/handle/10147/633416).

29.   National strategic policy for active ageing 2023–2030. Valletta: Ministry for Active Ageing; 2022 (https://
      activeageing.gov.mt/wp-content/uploads/2023/04/NSPActiveAgeing2023-30.pdf).

30.   A mental health strategy for Malta 2020–2030. Valletta: Ministry for Health, Office of the Deputy Prime Minister;
      2019 (https://health.gov.mt/wp-content/uploads/2023/04/Building_Resilience_Transforming_Services_A_
      Mental_Health_Strategy_for_Malta_2020-2030_EN.pdf).

31.   Folkehelsemeldinga. Gode liv i eit trygt samfunn [The public health declaration. Good lives in a safe society
      (in Norwegian)]. Oslo: Royal Ministry of Health and Care Services. 2019 (https://www.regjeringen.no/no/
      dokumenter/meld.-st.-19-20182019/id2639770/).

32.   Mental Health Strategy of the National Health System 2022–2026. Madrid: Ministry of Health; 2022 (https://www.
      sanidad.gob.es/areas/calidadAsistencial/estrategias/saludMental/docs/EstrategiaSaludMental_ingles.pdf).

33.   Saito J, Haseda M, Amemiya A, Takagi D, Kondo K, Kondo N. Community-based care for healthy ageing: lessons
      from Japan. Bull World Health Organ. 2019;97:570–4 (https://doi.org/10.2471/BLT.18.223057).

34.   孤独・孤立対策関係予算 [Budget related to measures against loneliness and isolation (in Japanese)]. Tokyo:
      Cabinet Office of the Japanese Government; 2024 (https://www.cao.go.jp/kodoku_koritsu/torikumi/yosan.html).

35.   Alma Economics. Evaluability assessment of the Connected Communities Strategy. Cardiff: Welsh Government;
      2023 (78/2023; https://www.gov.wales/connected-communities-evaluability-assessment).

Chapter 7

Community strategies

"How do you describe the grief? And you do feel isolated, because who do you really speak to? […] But now we really have a strong community […] and that's kind of what got us out of our isolation."

Toney and Brandy Roberts, parents who lost their daughter, Englyn, to suicide (USA)
© WHO

Listen to Toney and Brandy's full story here

Key messages

- **Communities are ideal sites for addressing social connection and preventing loneliness and social isolation, as these are where people live, work, learn and play. Community strategies can increase opportunities for social interaction.**

- **Strengthening social infrastructure is one way of increasing social opportunities, even if fostering social connection is often not its primary aim.**

- **Social infrastructure comprises diverse assets, including public resources (e.g. libraries, parks, transport networks) and social policies, rights and services (e.g. those relating to civic and cultural identity, social and health protection and education).**

- **Strengthening social infrastructure includes intentional design for social interaction, equitable accessibility, investment in community programmes to connect people and community involvement in planning.**

- **Related community interventions include modifications to the built environment, community groups and social prescribing (i.e. connecting people to non-clinical community services to improve health and well-being).**

- **Although the evidence for the effectiveness of social infrastructure and related community interventions is increasing, it remains limited. Further high-quality research on these strategies is required.**

This chapter addresses community strategies for promoting social connection and addressing social disconnection. Section 7.1 presents the value of social infrastructure in facilitating social connection and addressing social disconnection and ways in which social infrastructure can be strengthened. Section 7.2 presents evidence on additional community interventions and section 7.3 considers implementation of community strategies and the importance of partnerships.

Characteristics of community environments such as the presence and accessibility of facilities, services and transport systems and the possibility for people to move easily and safely among different areas influence social connection and disconnection by increasing an individual's opportunities for social interaction and the level of support they have available. Implementing strategies that can modify structural factors and improve the possibility of connecting with others should therefore be a consideration. Communities are ideal sites for societies to address social connection and prevent loneliness and social isolation, because they are where people live, work, learn and play. The places, policies, programmes and networks of people that make up towns and cities can all be oriented to increasing and improving relationships.
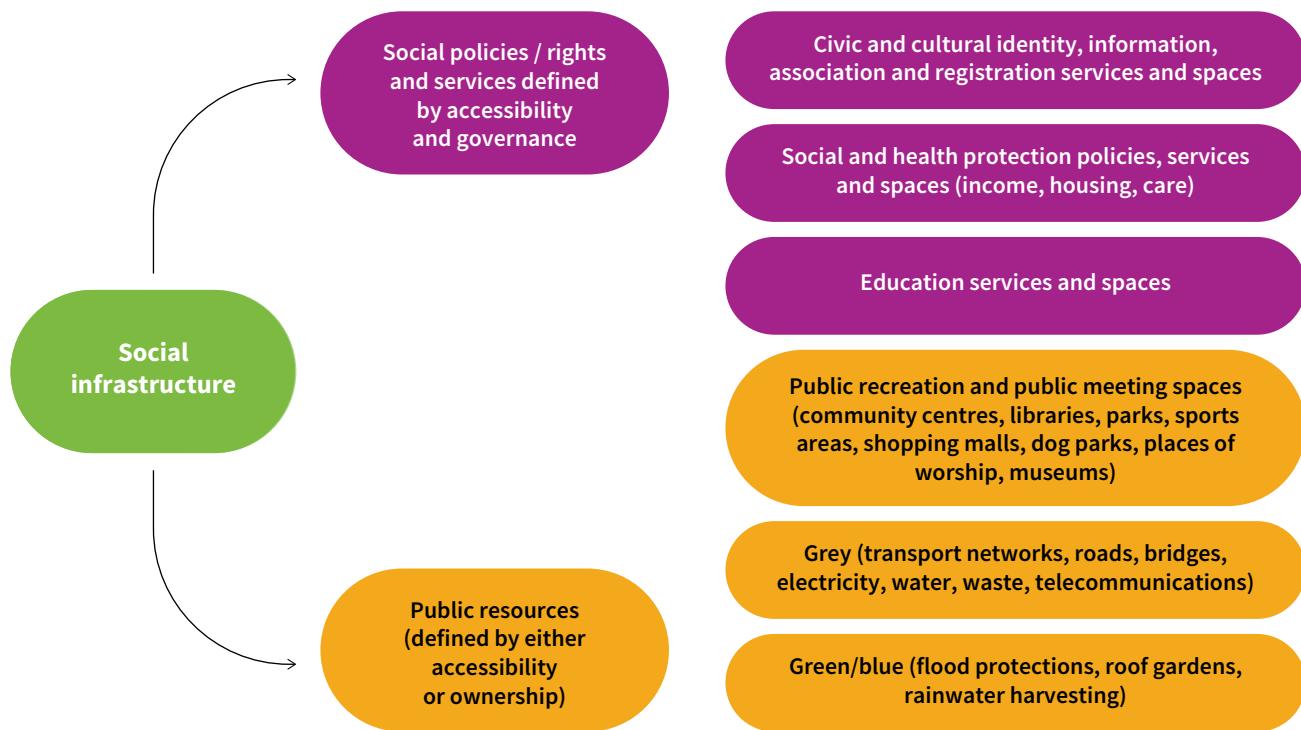
In some countries, community strategies arise from national policies and regulatory frameworks (e.g. urban planning). In others, there may be no overarching national policy with decentralized plans, funding or regulation. The strategies identified in this chapter can be seen as both community and societal means to address social connection.

7.1   Social infrastructure and its role in social connection

The main way to increase opportunities for social connection is by strengthening social infrastructure. The breadth of this concept can vary. Narrow definitions view social infrastructure as the collection of spaces, facilities, institutions and groups in a community that facilitate social connection and allow social capital to develop *(1, 2)*. This report takes a broader perspective, in which social infrastructure is defined as the policies, services, resources and related public spaces that people have access to, which enable them to participate fully in social, civic and economic life without barriers *(3)*. This definition encompasses, first, public resources, including shared public spaces (often referred to as third spaces, such as community centres, parks and libraries), grey infrastructure (engineered assets for basic services such as transport and waste management) and green or blue infrastructure (natural and semi-natural assets such as flood protections and roof gardens) and, second, social policies, rights and services, including those related to civil and cultural identity, social and health protection and education. A typology of social infrastructure is presented in Fig. 21.

Fig. 21.

Typology of social infrastructure

Source: *World report on social determinants of health equity (3).*

While some forms of social infrastructure are designed with the intention of facilitating social interaction, many are developed for reasons other than social connection. For example, libraries are places mainly for obtaining information, and shopping malls are primarily places to shop. Facilitation of social interaction is often an inadvertent feature of how social infrastructure is designed to be used *(2)* or an extension of its primary purpose *(4)*.

Social infrastructure across the globe

The nature of social infrastructure differs by locality, country and culture and is influenced by a country's wealth and policy approaches *(4, 5)*. Certain forms of social infrastructure are unique to a country or culture (e.g. British pubs *(6)*; Asian teahouses *(7)*; New Zealand *marae,* communal and sacred meeting grounds in Māori culture *(8)*) or arise in a way that is unique to a community. For example, in Japan, Osaka's service hub is a connected cluster of non-profit organizations that supports the most vulnerable urban populations (e.g. by offering shelter, food and health check-ups) *(9)*. The nature of social infrastructure may also change over time in a community as places and spaces are repurposed or the composition of the population changes (e.g. different cultural groups move into an area) *(4)*.

At present, measures of social infrastructure that would allow global comparisons are in their infancy, although measures that are being developed with open-source data from Google Places and Open Street Map, for instance, hold promise *(10, 11)*. In a comparison in 2024 of 30 countries on a five-pillar infrastructure "barometer", the "social and community impact" pillar of the barometer included several dimensions of social infrastructure, such as community engagement and support and access to public services and utilities. The average score on this pillar in the 30 countries was 50.3, Canada (75.6), Australia (73.0) and Norway (72.3) scoring the highest and India (34.8), Indonesia (29.5) and Nigeria (16.5) the lowest *(12)*.

The value of social infrastructure in addressing social connection and disconnection

Strong social infrastructure can play a role in fostering social connection and alleviating social disconnection, as it increases the possibility that individuals can participate fully in civic life. The role includes improving opportunities for community members to interact, form networks and encounter people from other sectors of society with whom they would not ordinarily interact (e.g. different generations, ethnic groups or socio-economic groups of society), thereby fostering social capital *(1, 2, 13, 14)*.

Strong social infrastructure is particularly important for populations that are disproportionately affected by social disconnection, such as people with disabilities or mental or physical health conditions and older residents. For these populations, accessible, welcoming social infrastructure can provide the services necessary for a good quality of life and opportunities for interaction that encourage participation and help prevent or manage social disconnection *(14, 15)*. For instance, among older adults, green communal spaces and allotment gardens can contribute to social inclusion and a sense of community *(16)*, and living in close proximity to local resources *(17)* and perceiving local residential areas as having good facilities *(18)* have both been associated with greater social participation. Furthermore, in this age group, accessible local businesses can foster larger or more developed social networks *(19)*. Well-designed social infrastructure can also cater for lonely individuals by providing opportunities to either interact with others or spend time by themselves in social spaces, which can have a positive impact on mental health and alleviate feelings of loneliness *(20–22)*.

Social infrastructure can, however, have negative effects on social connection, such as conflict among users *(13)* or creation of social infrastructure to meet the needs of some population groups at the expense or exclusion of others *(4).*

Reflections from lived experience: third spaces to foster connection

Muhammad

Queer cis-male younger person (Indonesia)

"[…] Living in a big city such as Jakarta is a very lonely experience. However, Jakarta's third space[s] provided me with opportunities to go outside and socialize with new people. Temporarily, forcing myself to socialize is an effective coping mechanism for social isolation for me."

Kayla

Puerto Rican autistic woman with ADHD (USA)

"As an autistic person who can't drive, I have limited transportation options. Where I live, the public transportation system is not accommodating enough. Therefore, I can only socialize on certain days where either my mom or a friend can drive me."

Asa'

Disabled and neurodivergent younger person (USA)

"Being in community in a safe, regulated space gives people a clear idea of what to expect from the experience, and any rules set for the space can help them learn how to navigate connection within safe boundaries. […] And more third spaces, places like parks and libraries that are free for folks to experience and enjoy without the expectation of financial obligation."

Puneet

Younger disabled person
(India)

"Organizing regular community activities such as group walks, gardening, or arts and crafts sessions, providing spaces for social interaction and mutual support [could help address social isolation and loneliness]."

Daw Nway

80-year-old woman who must generate her own income
(Myanmar)

"Older people, when they get old, if they don't have a good place to live or much to eat, they will feel lonelier. When people have a place to live and food, that will reduce their loneliness. …I'm not asking for much. Just enough to live on and eat."

Strengthening social infrastructure

Social infrastructure can be strengthened in many ways *(2, 23–26)*. Much of the current evidence is, however, from developments in urban areas, and more research in rural locations would extend our understanding. Examples of strengthening approaches are described below.
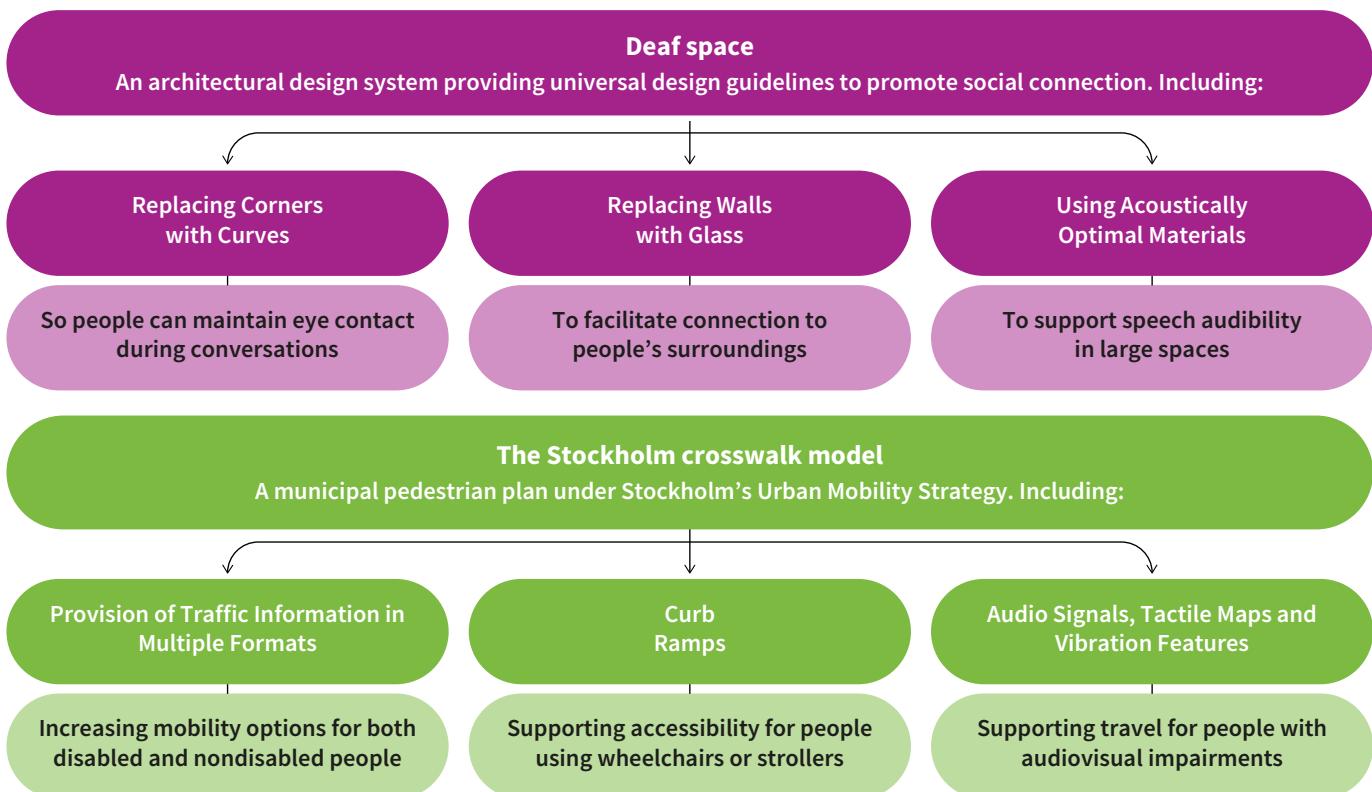
- **Equal provision and accessibility of social infrastructure.** This includes providing equal access to social infrastructure in different neighbourhood areas (e.g. areas of low and high deprivation), addressing barriers to accessing social infrastructure for people disproportionately affected by social disconnection, and addressing stigma and discrimination in communities. For example, development of a network of easy, safe walking routes suitable for individuals with and without disabilities (e.g. the Stockholm crosswalk model, Fig. 22) will increase access to social infrastructure and encourage its use *(26)*, while use of a barrier-free or universal design to create public spaces (e.g. "deaf space", Fig. 22) will allow more population groups to use them.

- **Purposefully designing social infrastructure for social interaction and alleviation of social disconnection.** Features of the built environment that can promote social interaction include social programmes and events for community centres; a diverse range of shops and affordable services that have good acoustics and privacy for local businesses; green areas, well-maintained areas, amenities and safety for green spaces; and seating areas for transition spaces *(19)*. Inclusion

of design elements that allow individuals to either interact with others or spend time by themselves are important, particularly for people experiencing loneliness or mental health conditions who might avoid places with crowds or forced interactions *(26)*. Examples include communal and individual seating, areas that provide privacy and safe, calm areas that allow for observation or reflection *(22)*.

- **Raising awareness of the importance of social connection.** Decision-makers and professionals involved in the provision of services and the design of built and natural environments should be made aware of how social infrastructure can either facilitate or hinder connection.

- **Investing in community programmes that connect people.** These include sports and recreation (see also section 7.2) and volunteering opportunities.

- **Maintaining social infrastructure.** This is important so that spaces remain cared for, safe and appealing to use.

Fig. 22.
Case studies of strengthening social infrastructure

Deaf space
An architectural design system providing universal design guidelines to promote social connection. Including:

Replacing Corners with Curves
So people can maintain eye contact during conversations

Replacing Walls with Glass
To facilitate connection to people's surroundings

Using Acoustically Optimal Materials
To support speech audibility in large spaces

The Stockholm crosswalk model
A municipal pedestrian plan under Stockholm's Urban Mobility Strategy. Including:

Provision of Traffic Information in Multiple Formats
Increasing mobility options for both disabled and nondisabled people

Curb Ramps
Supporting accessibility for people using wheelchairs or strollers

Audio Signals, Tactile Maps and Vibration Features
Supporting travel for people with audiovisual impairments

Source: Gallaudet University *(27)*, Stockholms stad *(28)*.

- **Active involvement of communities in planning and development of social infrastructure.** This should include people experiencing or at risk of social disconnection, who can provide local knowledge of an area and how it is used by residents, help to understand the range of purposes for social infrastructure, ensure that it meets the needs of the local population and reduce the likelihood of any negative social effect, such as meeting the needs of one demographic group at the expense of another.

Work to strengthen social infrastructure can build on and link with agendas such as those creating age-friendly communities and dementia-inclusive societies and encouraging active travel.

7.2 Effectiveness of additional community interventions

Although there is good reason to believe that the creation and strengthening of social infrastructure has significant potential for promoting social connection and reducing social disconnection *(24)*, evidence of its effectiveness is sparse and is derived mainly from high-income countries *(15, 29)*. One reason may be that addressing social connection and disconnection has often not been the primary aim of developing social infrastructure. It may also be because rigorous evaluation of the effectiveness of social infrastructure in increasing social connection is less straightforward than many other interventions. Randomized controlled trials in which one group of people is allocated to a location with, for instance, plentiful social infrastructure and another group to a location with none, are not feasible. However, other novel research designs can be used to rigorously evaluate social infrastructure. It is important that such evaluations be conducted in view of the potential benefits and high costs of social infrastructure *(30, 31)*.

Some community interventions related to social infrastructure have been evaluated in terms of social connection, loneliness or social isolation. These are presented below. Most of the evidence is for social access interventions, to increase individuals' opportunities to engage in social interactions in the community, often focusing on infrastructure. There is less evidence for other types of interventions. There are probably many other approaches related to social infrastructure that have risk and protective factors for social connection and disconnection that are not covered in this chapter, such as provision of universal parenting support in health services and interventions to change school environments to stop bullying. Further exploration of wider approaches would provide a more rounded understanding of potential solutions.

Social access interventions

Modifications to the built environment: opportunities for social interaction can be improved by modifying the built environment to enhance its use to foster social connection. Demonstrating the effect of such interventions may be methodologically challenging, and robust evidence is sparse. A systematic review of such interventions (e.g. improved green infrastructure, urban regeneration, modifications to transport infrastructure) with robust methods *(32)* identified only a few studies with relevant outcomes; and, largely, no effects were reported. In one study, transformation of Norwegian urban residential streets into street parks (including benches, plantings and play equipment) was associated with more supportive acts among neighbours, but there were no effects on social ties or neighbourhood attachment. A review of studies of the effect of community infrastructure interventions (in both quantitative and qualitative evaluations) *(33)* suggested that creation of community hubs, development of safe, comfortable public spaces (e.g. community gardens) and improved green and blue spaces could improve social relations in the community, such as social interactions and social cohesion. Some types of projects, however, had potentially negative impacts (e.g. fewer social interactions or perceived exclusion). The findings for urban regeneration were positive and negative. Although more robust evaluations are clearly necessary, many examples of well designed interventions on the built environment have been reported that encourage social participation and connection *(26).* Formal evaluation of such projects, including in rural areas and low- and middle-income countries, would strengthen the evidence base and the case for future investment.

Community groups and events: purposeful shared activities in community spaces, such as exercise classes, community choirs and social programmes, increase opportunities to connect with others, across ages and cultural groups. Groups and activities could be provided in person (e.g. in local community centres) or online via digital platforms (see also Box 13). Some individuals may require support to attend community groups ("supported socialization"). Such approaches are sometimes referred to as social network interventions. Evidence from systematic reviews of randomized controlled trials suggests that, in general, they are moderately effective in reducing social isolation *(34, 35)*, and the effect on loneliness is less clear, as meta-analyses have found either no or only a small effect *(34)*. For some individuals, social network interventions may influence loneliness only if psychological barriers to the formation of social relationships are also addressed (e.g. in psychological interventions; Chapter 8) *(34)*. There is limited evidence that, among older adults, participation in community groups fosters social connection *(36)*.

Similarly, organization of temporary community events, such as multicultural festivals, pop-up markets, art exhibitions, concerts and community lunches, also presents opportunities for individuals to connect with others, either by attending or volunteering for an event. A review of such events found that they could expand social networks and increase social cohesion and social capital in a community, although potential negative effects were also noted, such as feelings of exclusion when events attracted too much attention from outside the local area *(33).*

Social prescribing and connector services: "social prescribing" covers interventions designed to improve health and well-being by referral of individuals to non-clinical services and activities by a health-care professional or community link worker *(37–39)*. The individuals include those who are lonely or socially isolated. There are various models of social prescribing, such as provision of interventions in primary care, in other care services or in the community (e.g. connector services). The prescribed activities also differ. They may include specific programmes and services or use of existing community activities that can increase social connectedness and integration *(37)*, such as exercise, gardening, nature or art groups. As social prescribing involves several relationships – between the individual and referrers, link workers and activities – it should not be regarded as a standalone intervention *(40)*. Furthermore, social prescribing should be seen as an element of broader integrated health care.

Some evaluations found beneficial effects on loneliness and social isolation; however, reviews of social prescribing indicate that the evidence is not yet robust enough for conclusions to be drawn *(40–44)*. Evaluations are often limited by uncontrolled design, short time frames and small sample sizes, and synthesis of the evidence is limited by the variation among interventions and evaluation methods *(45)*. Furthermore, an individual's desire to engage in prescribed groups (and therefore potentially benefit from the service) may depend on their interest in the activity prescribed, the similarity of their interests with others in a group, relationships with link workers and group dynamics *(37, 46)*. Further high-quality evaluations should be conducted.

Box 13.
Social prescribing for older people in a rural area of the Republic of Korea *(47)*

During the COVID-19 pandemic, many older adults became lonely due to policies designed to slow the spread of infection. In the Republic of Korea, to address the problem, a social prescribing scheme for older adults was pilot-tested in a rural area. Older adults referred by the Administrative and Welfare Office took part in a 10-week programme held in the community library and a communal garden area. The programme consisted of "music storytelling", in which individuals told stories with music therapy techniques, a self-help group and gardening. Although the pilot study was small (involving only 16 older adults), participation in the programme was associated with significant decreases in loneliness and depression. The findings suggest that social prescribing could be feasible for rural community residents.

Other approaches

Evidence for other types of community approaches is currently very limited. There is some evidence that "placemaking", developing functional and meaningful local spaces through collaboration with residents, urban planners and other stakeholders, can improve social interaction and social capital; however, evidence for social cohesion was mixed, with both positive and negative findings *(33)*. Some studies indicate the potential of asset-based community development (a strengths-based approach to community development, which involves mapping and mobilizing community assets and fostering connections among people, local organizations and institutions) to influence social connections and social capital *(48, 49)*. Evidence is, however, lacking, and concern has been raised about the possibility that such approaches neglect power dynamics in the community *(50)*. Although more evidence is required, community approaches to foster the pro-social qualities important to social connection, such as kindness and a willingness to help and care for others, could be a useful complement to work on strengthening social infrastructure. For instance, encouraging small acts of kindness towards neighbours had some effect on reducing social disconnection and promoting neighbourhood relationships (Box 14). This approach is feasible and inexpensive and requires few resources.

Box 14.
The KIND challenge in Australia, the United Kingdom and the USA *(51)*

The KIND challenge was implemented in Australia, the United Kingdom and the USA on an online social networking platform to foster acts of kindness in neighbourhood communities over 4 weeks. Participants were asked to perform activities such as checking up on a neighbour, helping a neighbour or contributing to a neighbourhood activity, such as cleaning. The suggested acts of kindness were positive, engaging, feasible and provided various forms of social support. In comparison with a waiting list control group, those taking part in the challenge were significantly less lonely (in the United Kingdom and USA only) and felt less social isolation (USA). Other benefits included less neighbourhood conflict (USA), more neighbourhood contacts (Australia and USA) and better social relationships (Australia). It was concluded that promoting the provision of social support through small acts of kindness to neighbours could reduce social disconnection and promote neighbourhood relationships.

7.3 Implementing community strategies

Urban planners, local and national governments and other decision-makers play a central role in strengthening social infrastructure in communities through the design of built environments, requirements for design and policies for change (Chapter 6). The wide variety of social infrastructure and related community interventions requires input from a wide range of partners, including in the health, education, social and commercial sectors, with members of the public. Community partnerships that bring different stakeholders together for coordinated action in local areas can therefore be useful, particularly if they combine action at both community level and individual relationship level (Chapter 8), such as complex interventions to address loneliness in the community *(52).*

As these types of interventions and their maintenance often require extensive capital, private–public sector partnerships may be a viable method for funding their creation and ensuring their sustainability *(53)*. Furthermore, as infrastructure is often designed for purposes other than social connection, synergies with other agendas, such as for climate change adaptation or age-friendly cities and communities, may lower costs. For instance, in Rotterdam, Netherlands (Kingdom of the), as part of plans for climate adaptation, a "water square" was built to protect against stormwater, which also provided a socially vibrant space for residents *(54)*. Encouraging community residents to participate in the maintenance of social infrastructure, such as community libraries and communal gardens, not only ensures their longer-term use but also builds community connections.

Future research directions

- Provide further evidence of the impacts of strengthening social infrastructure and other community approaches to social connection, loneliness and social isolation.

- For social infrastructure, this will require better, globally comparable measures of social infrastructure.

- Gain better understanding of the impacts of the different types and subtypes of social infrastructure on social connection and disconnection.

- Explore the different impacts of the type of social infrastructure on different dimensions of social connection (structural, functional and quality) and on different forms of social disconnection, including social isolation and loneliness.

- Better understand how social infrastructure and its use in fostering social connection and reducing social disconnection differ by culture, region, ability and stage of the life course.

- Conduct further research on the unique challenges of and opportunities for fostering social connection in rural communities.

- Better understand, as a priority, the impacts of digital infrastructure on social connection and disconnection (see Box 2).

- Generate more evidence on the cost and cost-effectiveness of strengthening social infrastructure and other community approaches for use in prioritizing strategies.

Conclusion
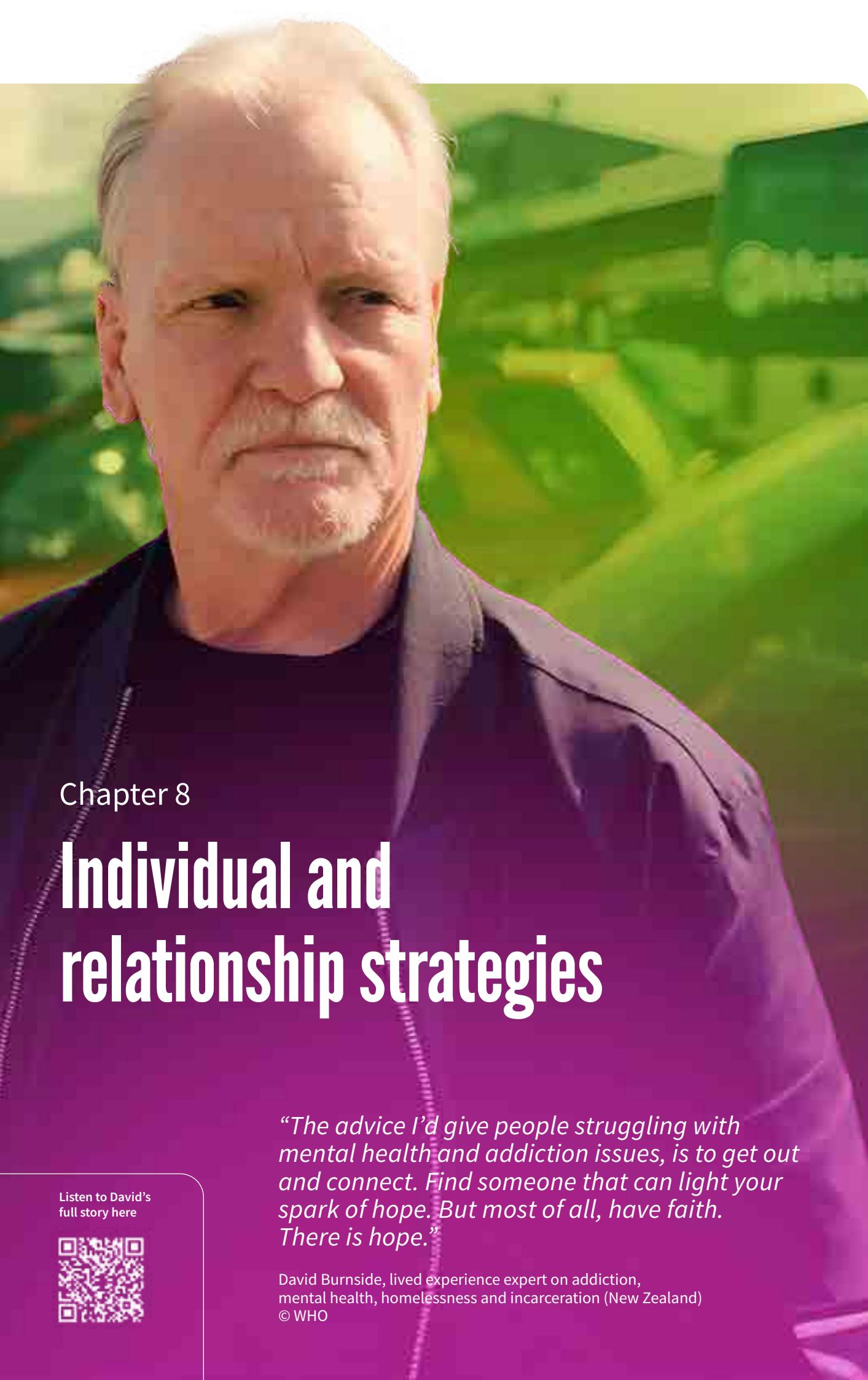
Strengthening social infrastructure is intuitively appealing and is often considered to be a strategy with great promise for promoting social connection and reducing social isolation and loneliness. It is, however, an emerging area of research, and robust evidence of any beneficial effects is currently limited. Improving understanding of the impacts of social infrastructure and related community interventions on aspects of social connection should therefore be a priority.

References

1. Klinenberg E. Palaces for the people. How social infrastructure can help fight inequality, polarization and the decline of civic life. New York: Penguin Random; 2018.

2. Latham A, Layton J. Social infrastructure and the public life of cities: Studying urban sociality and public spaces. Geogr Compass. 2019;13(7):e12444 (https://doi.org/10.1111/gec3.12444).

3. World report on social determinants of health equity. Geneva: World Health Organization 2025 (https://iris.who.int/handle/10665/381152). Licence: CC BY-NC-SA 3.0 IGO.

4. Hollis H, Skropke C, Smith H, Harries R, Garling O. Social infrastructure: international comparative review. Cambridge: Bennett Institute for Public Policy and Institute for Community Studies; 2023 (https://www.bennettinstitute.cam.ac.uk/publications/social-infrastructure-international-comparative-review/).

5. Swader CS, Moraru AV. Social infrastructure and the alleviation of loneliness in Europe. Kölner Z Soz Sozpsychol. 2023:1–28 (https://doi.org/10.1007/s11577-023-00883-6).

6. Muir R. Pubs and places. The social value of community pubs. London: Institute for Public Policy Research; 2012 (https://socialvalueuk.org/reports/pubs-and-places-the-social-value-of-community-pubs/).

7. Levkowitz J. Palaces for the people: scrutinizing social infrastructure in Sulaimani. J Intersectionality. 2018;2(2):24–32 (https://doi.org/10.13169/jinte.2.2.0024).

8. Uekusa S, Wynyard M, Matthewman S. Reinvestigating social vulnerability from the perspective of critical disaster studies (CDS): directions, opportunities and challenges in Aotearoa disaster research. Kōtuitui N Z J Soc Sci Online. 2024:1–18 (https://doi.org/10.1080/1177083x.2024.2305639).

9. DeVerteuil G, Kiener J, Mizuuchi T. The service hub as bypassed social infrastructure: evidence from inner-city Osaka. Urban Geogr. 2022;43(5):669–87 (https://doi.org/10.1080/02723638.2020.1826751).

10. Fraser T, Cherdchaiyapong N, Tekle W, Thomas E, Zayas J, Page-Tan C et al. Trust but verify: validating new measures for mapping social infrastructure in cities. Urban Clim. 2022;46:101287 (https://doi.org/10.1016/j.uclim.2022.101287).

11. Nelson JR, Bienenstock EJ, Palladino A, Barrera E, Grubesic TH. Social infrastructure as a proxy for social capital: a spatial exploration into model specification and measurement impacts in Los Angeles, California. J Urban Aff. 2024;46(9):1856–74 (https://doi.org/10.1080/07352166.2022.2133724).

12. Infrastructure for Good. Building for a better world. 2024. London: Economist Impact; 2024 (https://impact.economist.com/projects/infrastructure-for-good/TEI_Deloitte_Infrastructure_for_Good_Key_Findings_Report.pdf).

13. Enneking G, Custers G, Engbersen G. The rapid rise of social infrastructure: mapping the concept through a systematic scoping review. Cities. 2025;158 (https://doi.org/10.1016/j.cities.2024.105608).

14. Kelsey T, Kenny M. Townscapes: The value of social infrastructure. Cambridge: Bennett Institute for Public Policy; 2021 (https://www.bennettinstitute.cam.ac.uk/publications/social-infrastructure/).

15. Fried LP. Designing a new social infrastructure to combat loneliness in aging adults. Generations J. 2020;44(3): 1–12 (https://www.jstor.org/stable/48631322).

16. Younes SR, Marques B, McIntosh J. Public spaces for older people: a review of the relationship between public space to quality of life. Sustainability. 2024;16(11):4583 (https://doi.org/10.3390/su16114583).

17. Levasseur M, Genereux M, Bruneau JF, Vanasse A, Chabot E, Beaulac C et al. Importance of proximity to resources, social support, transportation and neighborhood security for mobility and social participation in older adults: results from a scoping study. BMC Public Health. 2015;15:503 (https://doi.org/10.1186/s12889-015-1824-0).

18. Bowling A, Stafford M. How do objective and subjective assessments of neighbourhood influence social and physical functioning in older age? Findings from a British survey of ageing. Soc Sci Med. 2007;64(12):2533–49 (https://doi.org/10.1016/j.socscimed.2007.03.009).

19. Sugiyama M, Chau HW, Abe T, Kato Y, Jamei E, Veeroja P et al. Third places for older adults' social engagement: a scoping review and research agenda. Gerontologist. 2023;63(7):1149–61 (https://doi.org/10.1093/geront/gnac180).

20. Jones L, Nguyen T, Thomas V, Weinstein N, Qualter P, Hewings R et al. Positive connections and solitude: contribution to loneliness interventions and policy development (white paper). High Wycombe: Buckinghamshire New University; 2023 (https://bnu.repository.guildhe.ac.uk/id/eprint/18763/1/18763_Sims_Nguyen_Smith_Cesh.pdf).

21. Weinstein N, Vuorre M, Adams M, Nguyen TV. Balance between solitude and socializing: everyday solitude time both benefits and harms well-being. Sci Rep. 2023;13(1):21160 (https://doi.org/10.1038/s41598-023-44507-7).

22. Heu LC, Brennecke T. By yourself, yet not alone: making space for loneliness. Urban Stud. 2023;60(16):3187–97 (https://doi.org/10.1177/00420980231169669).

23. Policy spotlight 1: How social infrastructure improves outcomes. London: Local Trust; 2023 (https://localtrust.org.uk/insights/research/policy-spotlight-how-social-infrastructure-improves-outcomes/).

24. Our epidemic of loneliness and isolation. The US Surgeon General's Advisory on the healing effects of social connection and community. Washington DC: Office of the US Surgeon General; 2023 (https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf).

25. Space for community: Strengthening our social infrastructure. London: The British Academy; 2023 (https://www.thebritishacademy.ac.uk/documents/4536/Space_for_community_strengthening_our_social_infrastructure_vSUYmgW.pdf).

26. MacIntyre H, Hewings R. Tackling loneliness through the built environment. London: Campaign to End Loneliness; 2022 (https://www.campaigntoendloneliness.org/wp-content/uploads/CEL-Tackling-loneliness-through-the-built-environment-Final.pdf).

27. DeafSpace. Campus Design and Facilities. Stockholm: Gallaudet University; 2024 (https://gallaudet.edu/campus-design-facilities/campus-design-and-planning/deafspace/).

28. Stockholms stad. The Stockholm pedestrian plan. Stockholm: Stockholms stad; 2016 (https://start.stockholm/globalassets/start/om-stockholms-stad/politik-och-demokrati/styrdokument/stockholm-pedestrian-plan.pdf).

29. Crowe CL, Liu L, Bagnarol N, Fried LP. Loneliness prevention and the role of the public health system. Perspect Public Health. 2024;144(1):31–8 (https://doi.org/10.1177/17579139221106579).

30. Basu S, Meghani A, Siddiqi A. Evaluating the health impact of large-scale public policy changes: classical and novel approaches. Annu Rev Public Health. 2017;38:351–70 (https://doi.org/10.1146/annurev-publhealth-031816-044208).

31. Schmidt WP. Randomised and non-randomised studies to estimate the effect of community-level public health interventions: definitions and methodological considerations. Emerg Themes Epidemiol. 2017;14:1–11 (https://doi.org/10.1186/s12982-017-0063-5).

32. Moore THM, Kesten JM, Lopez-Lopez JA, Ijaz S, McAleenan A, Richards A et al. The effects of changes to the built environment on the mental health and well-being of adults: systematic review. Health Place. 2018;53:237–57 (https://doi.org/10.1016/j.healthplace.2018.07.012).

33. Bagnall A, Southby K, Jones R, Pennington A, South J, Corcoran R. Systematic review of community infrastructure (place and space) to boost social relations and community well-being. Five year refresh. Technical summary report. London: What Works Centre for Wellbeing; 2023 (https://whatworkswellbeing.org/wp-content/uploads/2023/01/Places-and-Spaces-Review-Refresh-31-Jan-2023-final-with-logos.pdf).

34. Hansen T, Nes RB, Hynek K, Nilsen TS, Reneflot A, Stene-Larsen K et al. Tackling social disconnection: an umbrella review of RCT-based interventions targeting social isolation and loneliness. BMC Public Health. 2024;24(1):1917 (https://doi.org/10.1186/s12889-024-19396-8).

35. Zagic D, Wuthrich VM, Rapee RM, Wolters N. Interventions to improve social connections: a systematic review and meta-analysis. Soc Psychiatry Psychiatr Epidemiol. 2022;57(5):885–906 (https://doi.org/10.1007/s00127-021-02191-w).

36. Suragarn U, Hain D, Pfaff G. Approaches to enhance social connection in older adults: an integrative review of literature. Aging Health Res. 2021;1(2):100029 (https://doi.org/10.1016/j.ahr.2021.100029).

37. Haslam SA, Haslam C, Cruwys T, Sharman LS, Hayes S, Walter Z et al. Tackling loneliness together: a three-tier social identity framework for social prescribing. Group Process Intergroup Relat. 2024;27(5):1128–50 (https://doi.org/10.1177/13684302241242434).

38. Social prescribing around the world. National Academy for Social Prescribing; 2023 (https://socialprescribingacademy.org.uk/media/1yeoktid/social-prescribing-around-the-world.pdf).

39. A toolkit on how to implement social prescribing. Manila: World Health Organization; 2022 (https://iris.who.int/bitstream/handle/10665/354456/9789290619765-eng.pdf?sequence=1).

40. Husk K, Blockley K, Lovell R, Bethel A, Lang I, Byng R et al. What approaches to social prescribing work, for whom and in what circumstances? A realist review. Health Soc Care Community. 2020;28(2):309-24 (https://doi.org/10.1111/hsc.12839).

41. Reinhardt GY, Vidovic D, Hammerton C. Understanding loneliness: a systematic review of the impact of social prescribing initiatives on loneliness. Perspect Public Health. 2021;141(4):204-13 (https://doi.org/10.1177/1757913920967040).

42. Vidovic D, Reinhardt GY, Hammerton C. Can social prescribing foster individual and community well-being? A systematic review of the evidence. Int J Environ Res Public Health. 2021;18(10) (https://doi.org/10.3390/ijerph18105276).

43. Cooper M, Avery L, Scott J, Ashley K, Jordan C, Errington L et al. Effectiveness and active ingredients of social prescribing interventions targeting mental health: a systematic review. BMJ Open. 2022;12(7):e060214 (https://doi.org/10.1136/bmjopen-2021-060214).

44. Napierala H, Kruger K, Kuschick D, Heintze C, Herrmann WJ, Holzinger F. Social prescribing: systematic review of the effectiveness of psychosocial community referral interventions in primary care. Int J Integr Care. 2022;22(3):11 (https://doi.org/10.5334/ijic.6472).

45. Husk K, Elston J, Gradinger F, Callaghan L, Asthana S. Social prescribing: where is the evidence? Br J Gen Pract. 2019;69(678):6-7 (https://doi.org/10.3399/bjgp19X700325).

46. Liebmann M, Pitman A, Hsueh YC, Bertotti M, Pearce E. Do people perceive benefits in the use of social prescribing to address loneliness and/or social isolation? A qualitative meta-synthesis of the literature. BMC Health Serv Res. 2022;22(1):1264 (https://doi.org/10.1186/s12913-022-08656-1).

47. Kim JE, Lee YL, Chung MA, Yoon HJ, Shin DE, Choi JH et al. Effects of social prescribing pilot project for the elderly in rural area of South Korea during COVID-19 pandemic. Health Sci Rep. 2021;4(3):e320 (https://doi.org/10.1002/hsr2.320).

48. Agdal R, Midtgard IH, Meidell V. Can asset-based community development with children and youth enhance the level of participation in health promotion projects? A qualitative meta-synthesis. Int J Environ Res Public Health. 2019;16(19) (https://doi.org/10.3390/ijerph16193778).

49. Thompson C, Halcomb E, Masso M. The contribution of primary care practitioners to interventions reducing loneliness and social isolation in older people-an integrative review. Scand J Caring Sci. 2023;37(3):611-27 (https://doi.org/10.1111/scs.13151).

50. Maclure L. Augmentations to the asset-based community development model to target power systems. Community Development. 2022;54(1):4-17 (https://doi.org/10.1080/15575330.2021.2021964).

51. Lim MH, Hennessey A, Qualter P, Smith BJ, Thurston L, Eres R et al. The KIND Challenge community intervention to reduce loneliness and social isolation, improve mental health and neighbourhood relationships: an international randomized controlled trial. Soc Psychiatry Psychiatr Epidemiol. 2024 (https://doi.org/10.1007/s00127-024-02740-z).

52. Lasgaard M, Bo AF, Nielsen LA, Swane CE, Qualter P, Christiansen J. Reducing loneliness in the community. More Together ('Flere i Faellesskaber')-a complex intervention in Denmark. Health Promot Int. 2023;38(5) (https://doi.org/10.1093/heapro/daad105).

53. Ma L, Hu Y, Zhu L, Ke Y. Are public—private partnerships still an answer for social infrastructure? A systematic literature review. Front Eng Manag. 2023;10(3):467-82 (https://doi.org/10.1007/s42524-023-0249-1).

54. Peinhardt K. Resilience through placemaking: public spaces in Rotterdam's climate adaptation approach. Bonn: German Development Institute; 2021 (https://www.idos-research.de/uploads/media/DP__1.2021.pdf).

Individual and relationship strategies

"The advice I'd give people struggling with mental health and addiction issues, is to get out and connect. Find someone that can light your spark of hope. But most of all, have faith. There is hope."

David Burnside, lived experience expert on addiction, mental health, homelessness and incarceration (New Zealand)
© WHO

Key messages

- **The body of evidence on the effectiveness of interventions that address social isolation and loneliness, many of which address individual and relationship strategies, has been growing rapidly.**

- **Promising individual and relationship strategies have been identified, which generally have small-to-moderate effects on loneliness and social isolation.**

- **Although the most effective interventions overall cannot be identified accurately, psychological interventions hold the most promise for addressing loneliness.**

- **Successful interventions differ by population group, and further research should be conducted on specific populations.**

- **Digital technology can play an important role in the focus or delivery of interventions, but further research should be conducted to determine its effectiveness and potential risks accurately, particularly for new and emerging forms of technology such as AI and virtual reality.**

- **The evidence base has several limitations, including lack of evidence from low- and middle-income countries, low-quality studies and limited evidence for promotion of social connection.**

This chapter presents individual and relationship strategies to address social disconnection. Section 8.1 presents the main strategies that have been developed, with evidence for their effectiveness, while Section 8.2 describes evidence for specific population groups. Section 8.3 examines the role of digital technology in delivering interventions and the associated opportunities and challenges. Section 8.4 examines gaps in the evidence and its limitations and challenges. Section 8.5 briefly considers implementation.

Evidence for the effectiveness of strategies to address loneliness and social isolation has been accumulating rapidly in the past 5 years, particularly since the start of the COVID-19 pandemic (*1, 2)*. Many of the strategies that have been evaluated are individual or relationship interventions, the subject of this chapter. The aim of these strategies is to modify individual and relationship risk and protective factors for social disconnection (Chapter 3). There is less evidence for assessing the effectiveness of strategies to prevent social disconnection or promote social connection. Further research should be conducted in these areas.

8.1　Individual and relationship interventions and their effectiveness

Many systematic reviews, including a number of umbrella reviews *(3–8)*, have been undertaken to assess the large body of evidence on individual and relationship strategies for reducing loneliness and social isolation. The work includes several promising strategies, in the following categories.

- **Skills training**: the aim of training is to teach or improve skills in building or maintaining relationships. Training individuals to make and maintain high-quality relationships and interactions will increase their chances of improving their social contacts, networks and social support. The interventions include training in social skills, Internet or computer training and leisure skills.

- **Social engagement facilitation**: the aim of such strategies is to provide consistent or regular social interactions for individuals at risk of or experiencing loneliness or social isolation. The interventions include provision of social support and of non-human companionship, such as animals and robots. Although such interventions are related to social access interventions (see Chapter 7), social engagement facilitation differs by directly providing social interactions rather than the opportunity for interactions.

- **Therapeutic and psychological interventions**: the aim of these strategies is to help individuals change how they think about social connections (e.g. change negative thoughts about self-worth and how the self is perceived by others), increase self-efficacy and better regulate emotions, thus strengthening their ability to manage relationships and interactions. The interventions can include psychological aid and mindfulness and related approaches such as psychoeducation. They may require changes to infrastructure or capacity-building in primary health care in the community.

Such strategies directly address social isolation and loneliness by influencing the level of social support, social networks and social participation. They can be targeted to people experiencing or likely to experience social disconnection or offered to an entire population by delivering them to all the children in a school (Box 15). They
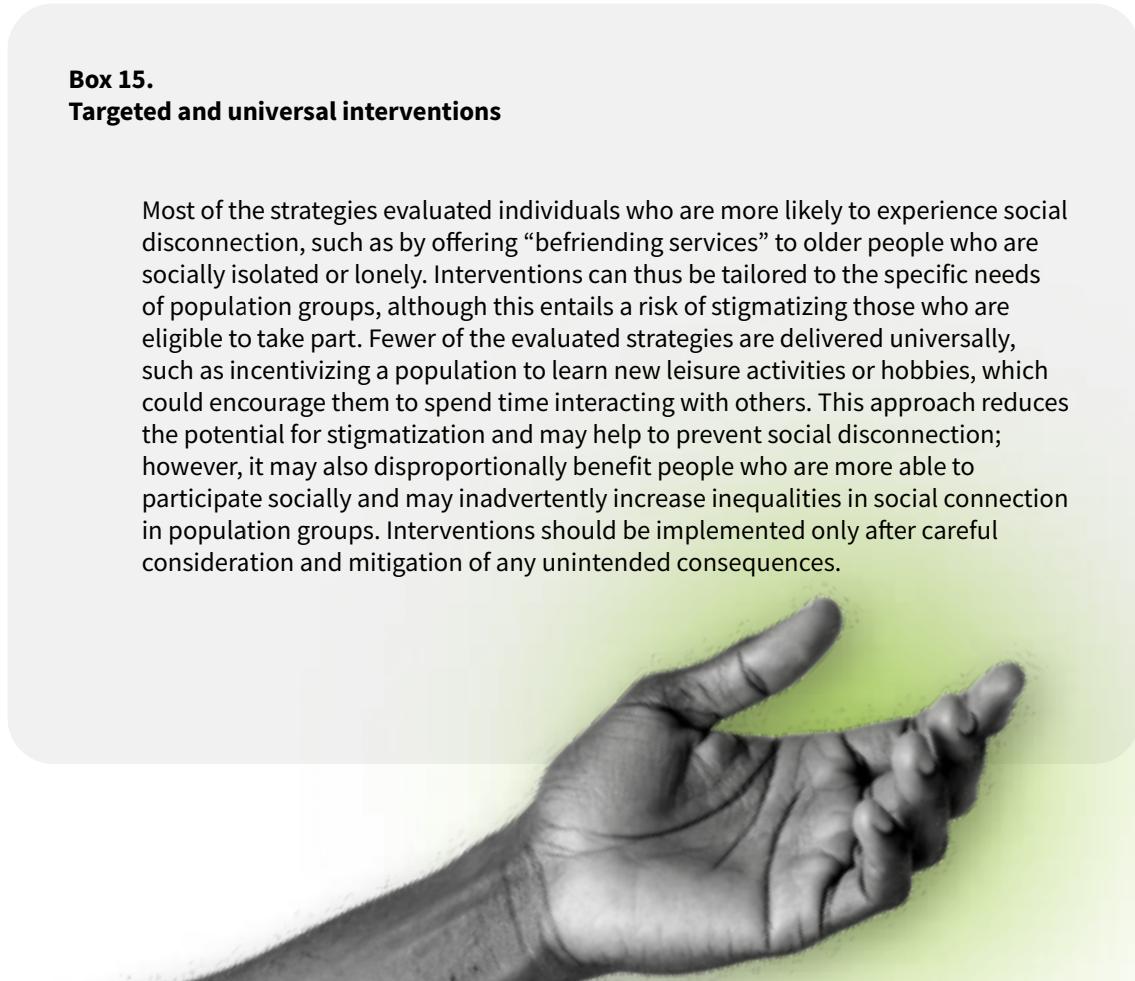
can be delivered in person or by digital technology (section 8.3). While they are usually delivered by a health-care or voluntary worker, they can also be delivered by individuals as part of self-care *(9)*. "Self-care" is defined as the ability of individuals, families and communities to promote and maintain their own health, prevent disease and cope with illness, with or without the support of a health or care worker *(10)*. Self-care interventions are becoming more prevalent globally *(9)*; however, more research should be conducted on their use to address loneliness and social isolation, including how social disconnection affects people's ability to engage in self-care.

Evidence from umbrella reviews suggests that, overall, individual and relationship strategies have a small-to-moderate effect on loneliness and social isolation *(3)*. Evidence for specific intervention types is provided below. Little is known about the outcomes for social connection, such as social support, or whether the interventions affect subsequent health and well-being (Chapter 4). One review found no evidence that such interventions improved social support, although small but significant reductions in depression were reported *(11)*.

Although it is not possible to identify the most effective interventions accurately, reviews of randomized controlled trials (RCTs) indicate that psychological interventions are the most promising for relieving loneliness *(3)*. Other approaches may indirectly address social disconnection or promote social connection by modifying wider risk and protective factors, such as parenting programmes, programmes to prevent bullying and mental health interventions. Their consideration is, however, beyond the scope of this report.

Box 15.
Targeted and universal interventions

Most of the strategies evaluated individuals who are more likely to experience social disconnection, such as by offering "befriending services" to older people who are socially isolated or lonely. Interventions can thus be tailored to the specific needs of population groups, although this entails a risk of stigmatizing those who are eligible to take part. Fewer of the evaluated strategies are delivered universally, such as incentivizing a population to learn new leisure activities or hobbies, which could encourage them to spend time interacting with others. This approach reduces the potential for stigmatization and may help to prevent social disconnection; however, it may also disproportionally benefit people who are more able to participate socially and may inadvertently increase inequalities in social connection in population groups. Interventions should be implemented only after careful consideration and mitigation of any unintended consequences.

Skills training interventions

Training in social skills is a type of educational programme for improving friendships, communication and interpersonal skills *(3)*. The programmes include elements such as role play and training in making conversation and are often delivered to groups *(3)*. For young people, training in social skills can be included in the school curriculum as part of personal and social education (Box 16). Meta-analyses of RCTs suggest that such interventions can have a small-to-moderate effect on loneliness *(3)*, including in young populations *(12)*. Some reviews, however, reported inconclusive evidence or no significant effect *(3, 5)*. The reviews found beneficial or inconclusive findings for social isolation *(3)*. Delivery of social skills training in schools might prevent loneliness and social isolation later in life and may be a useful area for future research.

Internet or computer training provides skills in use of information and communication technology (ICT), including digital communication such as email and social media. The aim of these programmes, which are often targeted at older people, who may have limited computer skills, is to increase the ability and confidence of individuals to connect with others on the Internet and to develop online social networks (see also section 8.3). Further research should be conducted on whether they influence social disconnection and social connection. In terms of loneliness, reviews of RCTs in older populations concluded that there was no effect or uncertain evidence *(7, 14)* or reduced levels of loneliness *(15)*.

Box 16.
Social skills training in schools in Portugal *(13)*

In Portugal, a social and emotional learning programme was tested and evaluated in six middle schools. The programme, "positive attitude", was delivered in 13 sessions, each lasting 45 min. It was integrated into the school curriculum as part of civic education and delivered weekly to all students in grades 7–9 (average age, 13.5 years). The sessions addressed development of social and emotional competence, skills related to self-control, relationship-building and responsible decision-making. They were delivered by a trained psychologist. At the end of the programme, a small, significant reduction in social isolation (e.g. being ignored by others or avoiding social participation) was found for girls but not for boys, as compared with a control group. It is possible that the programme was more appropriate for girls than for boys or that a certain initial competence was required to achieve benefits.

Development of skills for leisure and hobbies (such as gardening, art or physical exercise) encourages individuals to spend time interacting and learning with others in a shared activity. The effectiveness of these interventions is not clear, with inconclusive or null effects in reviews of RCTs *(3)*. Reviews specifically of studies on physical activity programmes came to various conclusions about their effectiveness, some finding reductions in loneliness *(16)* and others suggesting no effect on either loneliness or social isolation *(17, 18)*. An effect might depend on the quality of the relationships formed within the groups, such as the level of support from other participants *(4)*.
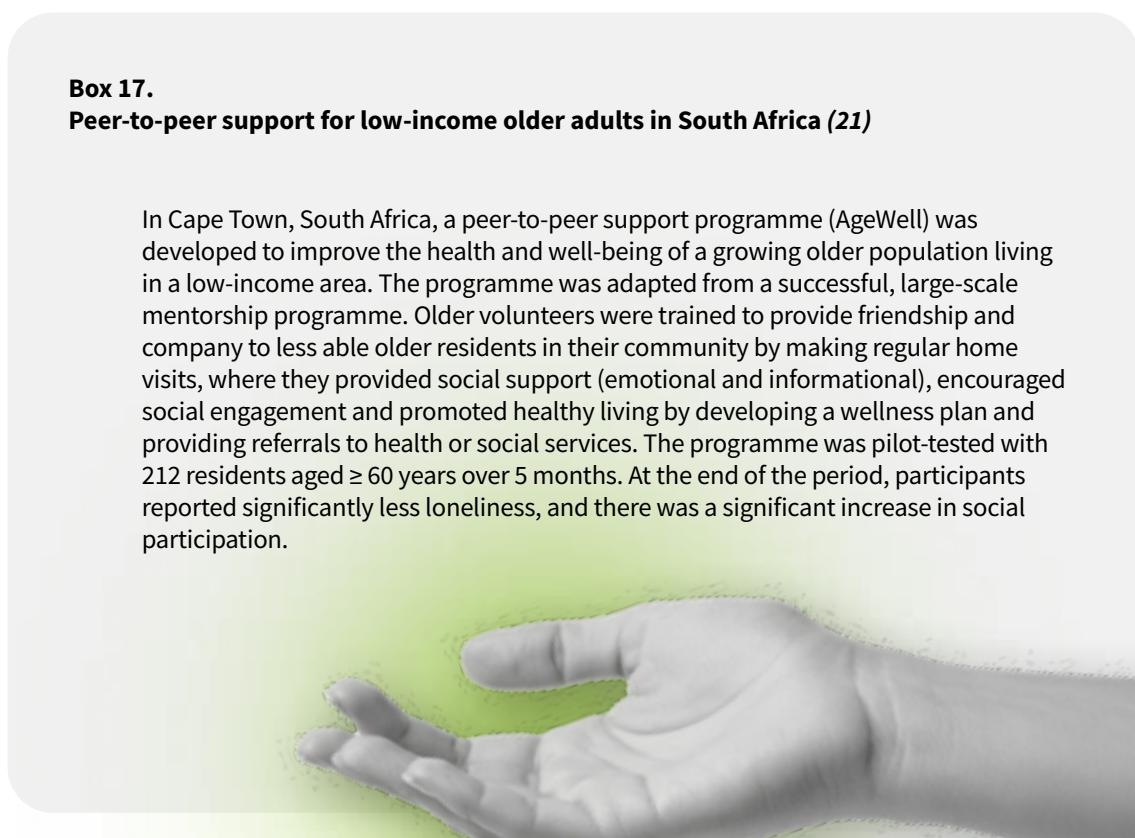
Social engagement facilitation

Social support interventions provide emotional or practical help to individuals through programmes such as befriending services, peer support (see Box 17), home visiting schemes and mentorship programmes. A number of meta-analyses have reported small to moderate beneficial effects of social support on loneliness in mixed or older populations *(3, 5)*; however, other reviews and meta-analyses had inconclusive findings or no effect *(3)*. For some individuals, social support and other social interventions may be more effective for addressing loneliness if they are accompanied by psychological interventions to address the negative social cognitions that hinder relationships. Less evidence is available on other outcomes *(3)*. One meta-analysis of RCTs in mixed population groups reported a small but non-significant effect of social support on social isolation and a small, significant effect on depression *(11)*. Among adults and young people, peer support by individuals with lived experience has been found to be a promising social intervention to help those experiencing social isolation, loneliness and poor mental health, but more, higher-quality research should be conducted *(19, 20)*.

Box 17.
Peer-to-peer support for low-income older adults in South Africa *(21)*

In Cape Town, South Africa, a peer-to-peer support programme (AgeWell) was developed to improve the health and well-being of a growing older population living in a low-income area. The programme was adapted from a successful, large-scale mentorship programme. Older volunteers were trained to provide friendship and company to less able older residents in their community by making regular home visits, where they provided social support (emotional and informational), encouraged social engagement and promoted healthy living by developing a wellness plan and providing referrals to health or social services. The programme was pilot-tested with 212 residents aged ≥ 60 years over 5 months. At the end of the period, participants reported significantly less loneliness, and there was a significant increase in social participation.
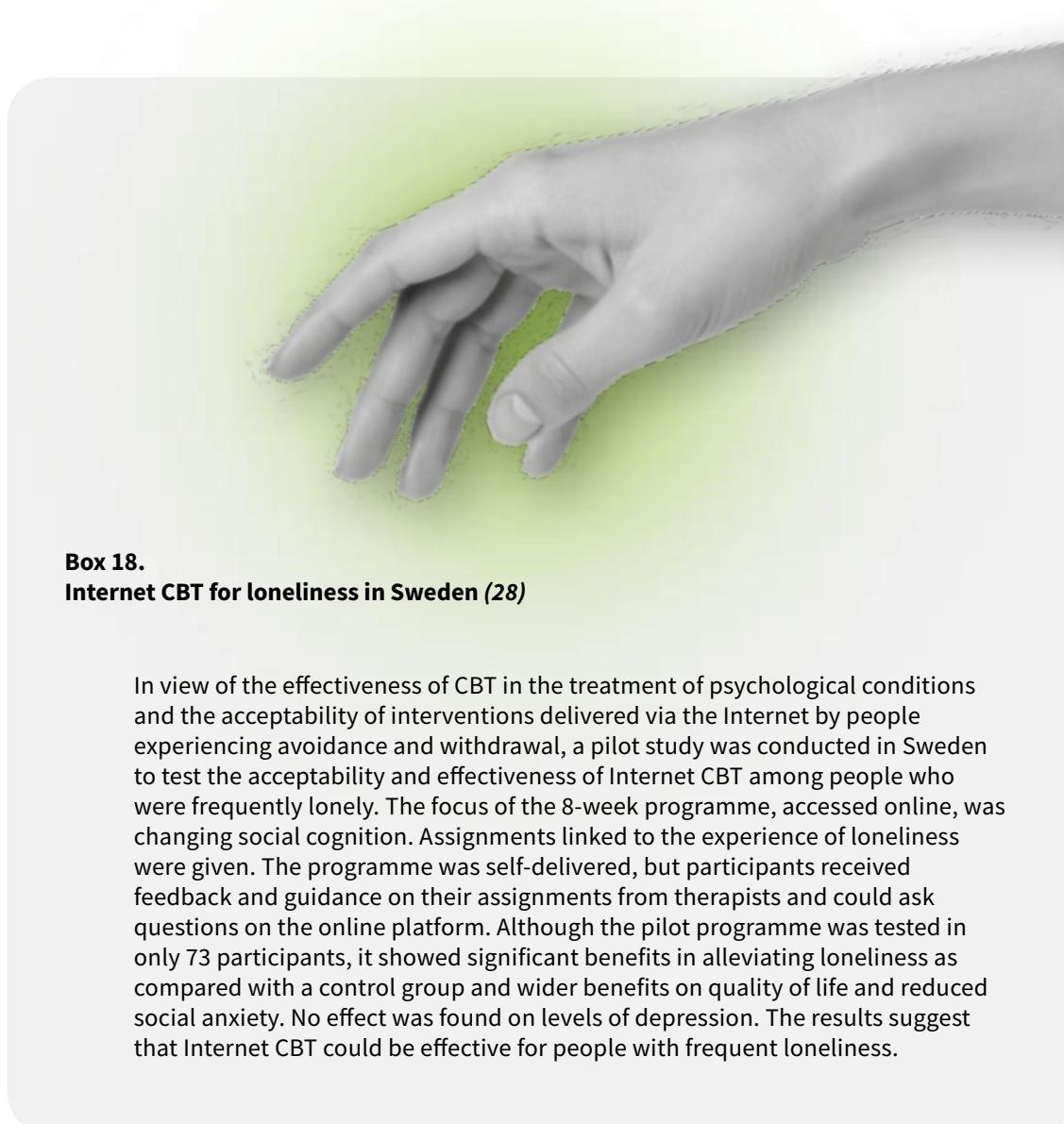
Non-human companionship is an emerging field of social connection interventions. While most interventions to reduce social isolation and loneliness are designed to improve human connections, a growing number use the benefits of non-human companionship in the form of animals, "relational agents" (software agents that build relationships with users through conversation *(22)*) or "social robots" (relational agents with human or animal-like features *(23)*). Non-human companionship can generate feelings of being cared for and provide emotional support that can help people at risk of loneliness. In group settings, such as care homes, animals or social robots can stimulate conversation, facilitating engagement with others *(23, 24)*. The effectiveness of animal companionship has been studied in many reviews, mainly in older age groups, with no clear outcome. While some narrative reviews have found beneficial effects on loneliness, others found no convincing evidence *(4, 25, 26)*. Reviews of the use of social robots *(23)* and relational agents *(22)* suggest that they might be promising for combatting loneliness in older adults and in all age groups, with moderate effects *(22, 23)*. Excessive attachment to a robotic companion has been identified as a potential adverse effect of these interventions *(1)*.

Therapeutic and psychological interventions

Psychological interventions in many forms can be used to change negative social cognition or provide support in coping with distress. They include psychotherapy, cognitive behavioural therapy (CBT) (Box 18), humour therapy, reminiscence therapy (often for older people), animal-assisted therapy and mindfulness-based stress reduction. Evidence from umbrella reviews of the large body of evidence on psychological interventions suggests that they are a promising approach to addressing loneliness *(3–5)* in young populations, older adults and in all age groups, with moderate to large effects *(3)*. Less evidence is available for other outcomes. Systematic reviews gave inconclusive results or no evidence of an effect on social isolation *(3)*, although one review found beneficial effects of social support *(27)*. Psychological interventions for social disconnection may also be beneficial in terms of mental health; one review identified a large, significant reduction in depression after the intervention *(11)*.

Psychoeducation provides structured education on various health and well-being topics. It can be used to educate those experiencing or at risk of social disconnection by providing focused information on loneliness or social isolation, mental health issues and coping strategies. Meta-analyses of RCTs found small (older populations) to large (mixed population groups) effects of psychoeducation on loneliness *(3)*. Reviews of RCTs that included university students, populations with mental health issues and mixed population groups reported mixed or inconsistent findings. Less research is available on social isolation, and the results are inconclusive *(3)*.

Box 18.
Internet CBT for loneliness in Sweden *(28)*

In view of the effectiveness of CBT in the treatment of psychological conditions and the acceptability of interventions delivered via the Internet by people experiencing avoidance and withdrawal, a pilot study was conducted in Sweden to test the acceptability and effectiveness of Internet CBT among people who were frequently lonely. The focus of the 8-week programme, accessed online, was changing social cognition. Assignments linked to the experience of loneliness were given. The programme was self-delivered, but participants received feedback and guidance on their assignments from therapists and could ask questions on the online platform. Although the pilot programme was tested in only 73 participants, it showed significant benefits in alleviating loneliness as compared with a control group and wider benefits on quality of life and reduced social anxiety. No effect was found on levels of depression. The results suggest that Internet CBT could be effective for people with frequent loneliness.

Multi-component interventions

A combination of more than one intervention type to address several risk factors for loneliness and social isolation at the same time is a more holistic, effective solution for addressing social disconnection *(3)*. The intervention may involve, for instance, leisure skills training and CBT or home visits and psychoeducation *(17)*. Data from one meta-analysis suggest that multi-component interventions are effective in older populations, with a small effect on social isolation and a moderate effect on loneliness *(3)*. Furthermore, loneliness interventions with several objectives appear to be more effective than single-objective interventions *(6)*.

8.2   Effectiveness of interventions in different population groups

Understanding which approaches are the most effective in preventing and addressing social disconnection in different population groups is a key consideration for future research.

Older people

Older people are the group that has been studied the most in terms of interventions, particularly in addressing loneliness. An umbrella review of loneliness interventions concluded that, in general, animal interventions, psychological therapy and skills training were more successful than interventions to facilitate social engagement or health promotion (e.g. psychoeducation), although no meta-analysis was conducted of differences in overall effectiveness *(6)*. ICT has been used in interventions for older adults to overcome the barriers to social connection that often arise with ageing, such as less mobility (see section 8.3). Although there are strong links between social disconnection and cognitive decline (see section 4.1), WHO's guidelines for reducing the risks of cognitive decline and dementia note that there is insufficient evidence for promotion of social activity as an intervention for wider health outcomes *(29)*. A full evidence review is being conducted as part of updating those guidelines.

Young people

Interventions for young people have been studied more rarely than those for other age groups, particularly for social isolation. A systematic review of interventions to address loneliness in young people found that, overall, the interventions were successful, with a moderate effect *(12)*. While no significant difference was found between intervention types, those involving social and emotional training had the greatest effect in pre-and-post design studies, while those involving learning a new skill had the greatest effect in RCTs. The review noted that technology is an appropriate delivery format for young people and an effective alternative to in-person interventions.

Other population groups

The effectiveness of interventions for people with mental health conditions is not clear *(30)*. Systematic reviews show, however, that psychological therapy for loneliness *(31)* and supported socialization (social access interventions, see Chapter 7), social skills training and multi-component interventions for social isolation *(30, 31)* are promising approaches.

For migrants and ethnic minorities, approaches to facilitate social engagement such as shared-identity social support groups and befriending have generally had positive impacts on loneliness *(32)*. Intercultural encounters (social interactions among different ethnic, cultural or religious groups in community projects) are another common approach, although more evidence is required to determine their

effectiveness. There is limited evidence that group programmes for older ethnic minority people, such as educational or physical activity programmes, can improve social participation and reduce social isolation and loneliness *(33)*.

There is a lack of evidence on the efficacy of interventions for people with disabilities. A systematic review of loneliness interventions noted that similar approaches had been adopted for people with disabilities as for people without disabilities, and that common strategies varied across the diversity of people with a disability (e.g. social skills training for children and adolescents with learning difficulties and psychological interventions for adults with physical impairments) *(34)*. The authors suggested that specific interventions should be designed for people with disabilities. Digital technology may provide opportunities to increase the social participation of this population group (section 8.3).

Reflections from lived experience: how social connection can be fostered among individuals

Patience

Childhood trauma expert
(Zambia)

"Therapy has been a major contributor to my healing process as it exposed me to wounds I didn't even know existed in me that caused so much loneliness."

Ruth

From Kyondoni Village
(Kenya)

"From my own experience being bullied in school, I believe fostering empathy and understanding among peers is crucial. Schools can implement anti-bullying programmes that promote inclusivity and teach empathy from a young age. Additionally, providing support systems such as peer support groups or counselling services can offer solace to those experiencing loneliness."

Barbara

Older woman with reduced mobility and experience of abuse (United Kingdom)

"I think that keeping a special eye out for those who were independent and in work who then retire and/or for whatever reason become dependent is important. I fell under the radar. Finding people to talk to people like me who are normally very social but who, for whatever reason, are not as mobile or as motivated as before would be important. Create social networks for people who are transitioning into their senior years/final chapters of life."

Jack

Older cancer survivor since June 2019 (USA)

"I realized throughout [my] ongoing cancer journey that cancer and social isolation/loneliness take similar paths. Early diagnosis and treatment of both are very important in developing a roadmap. Having a tight network of friends and professionals to lean on, cry with, vent with, and plan with is vital. Access to mental health professionals and therapists should always be part [of] the discussion since spiralling downward can happen quickly and can cause additional and long-term harm."

8.3   Role of digital technology in delivering interventions

Use of technology to address social isolation and loneliness is a growing area of interest. Advances in new technologies and widespread use and access to technological devices and the Internet in many areas of the world have increased opportunities for the development and use of digital interventions. Digital technology can be the subject of an intervention, such as training in ICT, robotic companionship, AI (section 8.1), multi-player online games on gaming consoles or virtual reality *(35)*. Technology can also be used to deliver interventions that can be provided face to face. These include online social support, psychological interventions, including self-help and help from a professional, and connection with others (e.g. videoconferencing); or it can be used in self-care, such as to find information about social disconnection or to use self-guided digital tools.

Digital interventions can be particularly important in addressing social isolation and loneliness and improving social connection by use of online social networks in population groups with restricted social opportunities, such as older populations or people with a disability or a chronic health condition. Digital interventions can be delivered in the comfort of the home, removing barriers to engagement that require mobility. Although more research should be conducted on the potential risks of AI interventions (e.g. social robots and relational agents), these approaches may offer advantages for individuals who are reluctant to share information with others, for instance due to stigma. Greater willingness to disclose information to a non-human companion can allow users to feel heard and understood, even if AI cannot truly understand *(22)*. Digital interventions may also be useful for engaging with younger populations *(12)* due to the widespread acceptability and use of digital technology in this age group.

Use of digital technology can, however, pose a number of barriers and challenges, including the following *(1, 36)*.

- For older people, lack of digital skills or limited access to technology may limit their ability to engage in interventions, potentially exacerbating their social isolation. For these individuals, training in ICT or access to technology might have to be included in the interventions.

- For individuals with disabilities, issues such as poor vision, difficulties in hearing or motor problems might be barriers to the use of technology.

- For people with low incomes, the cost of technology or wireless Internet connection might limit their engagement in a digital intervention.

- Digital divides in Internet access by geographical area, with more restricted access in rural areas and in lower-income countries, can create inequality in access to digital interventions.

- Use of digital technology to connect with others may reduce face-to-face contact, which offers more beneficial relationships *(37)*. More research should be conducted on how digital technology alters social exchanges and what that means in terms of social connection.

- Use of digital technology may raise issues of privacy and ethics with respect to the protection, storage and transmission of data.

Evidence for the effectiveness of digital technology interventions is uncertain. An umbrella review of RCTs identified nine systematic reviews of digital interventions, eight of which addressed older adults *(3)*. The effects on social isolation were inconclusive, and mixed effects (null, inconclusive or significant) were found for loneliness. It was noted, however, that use of technology had no harmful effects in older adults. However, reviews noted that, for older adults, technology use had no harmful effect, and despite uncertain findings may remain a useful too to facilitate social connections *(14, 38)*. Furthermore,

digital self-help programmes were found to be beneficial for related outcomes, such as depression and anxiety, particularly when delivered with brief support from a trained non-specialist *(39)*. For loneliness, additional reviews covering wide age groups reported that the mode of delivery (technology or face-to-face) did not appear to influence the effectiveness of interventions (i.e. the two types were similarly effective in reducing levels of loneliness *(11, 12, 40)*). Further research should be conducted for clearer understanding of the effectiveness of digital interventions, particularly of newer forms of technology, such as AI and virtual reality *(35)*. The research should include any potential harms of AI-based interventions and how best these can be controlled. With rapid advances in technology, regular assessments should be made of the effectiveness of digital interventions in influencing loneliness, social isolation and social connection.

8.4   Gaps in evidence, limitations and challenges

Two recently published "evidence and gap maps" present the large body of evidence on individual and relationship strategies to reduce social isolation and loneliness, including both in-person and digital interventions *(1, 2)*. The maps illustrate the state and reach of the evidence and indicate the following.

- Most of the evidence is on high-income countries; further research is required in low-and middle-income regions.

- The evidence clusters around specific intervention types or delivery modes, such as therapeutic and psychological interventions (in-person interventions) and those to enhance social engagement (digital interventions). Further research on other intervention types and delivery modes, such as self-care and digital therapeutic and psychological interventions, would balance the evidence base. It should include evidence on interventions that do not require skilled training and can be implemented with few resources.

- Most of the evidence is on interventions for older adults, particularly for digital interventions (the subject of the digital evidence and gap map *(1)*). Further research should be conducted on other age groups, such as children and young adults, and other population groups disproportionately affected by social disconnection.

- More evidence is available on how interventions affect loneliness than on how interventions affect social isolation or forms of social connection. Research should be conducted on these additional outcomes.

- The reviews of the evidence are generally of very low quality. More high-quality reviews, including robust meta-analyses, would clarify the effectiveness of approaches overall, and by intervention type.

Evidence and gap maps tell only part of the story. As most interventions address loneliness and social isolation, they do not cover interventions specifically designed to foster social connections or develop socially cohesive communities, which might also help to prevent future generations from experiencing social disconnection. This is an important gap in the field that requires further work.

Additional limitations include lack of clear theoretical bases for the interventions, lack of evidence on the longer-term effects of action *(3)* and subsequent health and well-being outcomes, and low-quality evidence *(3)*. Although high-quality RCTs indicate effectiveness most accurately, some approaches are difficult to test in an RCT design, partly for ethical reasons. Confidence in drawing conclusions on the overall effectiveness of interventions is also limited by the numerous ways in which interventions have been grouped and analysed in the academic literature, including their delivery, aims, outcomes and operational mechanisms. This suggests that a standardized classification system should be developed and promoted in different academic fields.

With a rapidly growing body of evidence on the effectiveness of interventions, much of which has been generated over the past 5 years *(1, 2)*, a future challenge is managing and synthesizing the large volume of new evidence to increase overall understanding of what works in a timely way. Although evidence-based tools such as evidence and gap maps will be useful, they must be updated and maintained over time.

8.5 Implementing individual and relationship strategies

The health sector has a central role to play in implementation of individual and relationship strategies, both in delivering interventions and in identifying and referring people in need of support to community services (see also social prescribing in Chapter 7). Other sectors, such as education, social care and "the third sector" (not-for-profit and nongovernmental organizations), also have important roles to play in delivering interventions, and coordinated work in partnerships will be essential.

Implementation of some interventions (e.g. therapeutic and psychological interventions) will probably require infrastructural or system changes. Integration of interventions into health, social and education services is one feasible way of scaling up effective action *(41)*. Many countries are already using some of the strategies, at national, local or organizational level. Clear understanding of current action and capacity to build on current infrastructure will be useful for progressing individual and relationship strategies at minimal cost. For instance, routine visits by health professionals to new mothers can be used to promote social connection, connect individuals to community groups and networks and provide support and referral for social disconnection.

While the strategies outlined in this chapter show promise for relieving social disconnection, the choice of interventions and how they are delivered depend on the population, the feasibility of delivery, the capacity of different sectors, current actions and the cost of implementation. Ensuring that the interventions address the chosen outcome (e.g. loneliness, social isolation, social connection) is important, as is adapting effective solutions to the culture of the target population.

Future research directions

- More evidence for low- and middle-income countries is essential, particularly for low-income countries for which there is no evidence.

- As most of the evidence addresses older people, evaluation of interventions for younger age groups and other population groups disproportionately affected by social disconnection is important.

- High-quality syntheses of the evidence are necessary for drawing conclusions on effectiveness confidently from the body of evidence.

- More use of standard categories in synthesizing evidence is critical to reach firmer conclusions about effective interventions. A new classification system for interventions may be necessary to standardize future research in this area.

- Guidelines on choosing, adapting and scaling up successful interventions will advance action at national levels.

Conclusion

This chapter describes the large, rapidly growing body of evidence on individual and relationship interventions to prevent and respond to social isolation and loneliness. Although there are some obvious limitations, the large volume of evidence provides information about effective strategies that can be put in place to address social isolation and loneliness. Further research is necessary to advance understanding of how to promote social connection. Use of interventions to both prevent and respond to cases of social isolation and loneliness and interventions to foster social connection and positive interactions in communities is a valuable strategy to be considered. Guidelines that synthesize the large, growing evidence for social connection and disconnection and derive clear recommendations should be developed for policy-makers, decision-makers and practitioners.

References

1. Welch V, Ghogomu ET, Barbeau VI, Dowling S, Doyle R, Beveridge E et al. Digital interventions to reduce social isolation and loneliness in older adults: an evidence and gap map. Campbell Syst Rev. 2023;19(4):e1369 (https://doi.org/10.1002/cl2.1369).

2. Welch V, Ghogomu ET, Dowling S, Barbeau VI, Al-Zubaidi AAA, Beveridge E et al. In-person interventions to reduce social isolation and loneliness: an evidence and gap map. Campbell Syst Rev. 2024;20(2):e1408 (https://doi.org/10.1002/cl2.1408).

3. Hansen T, Nes RB, Hynek K, Nilsen TS, Reneflot A, Stene-Larsen K et al. Tackling social disconnection: an umbrella review of RCT-based interventions targeting social isolation and loneliness. BMC Public Health. 2024;24(1):1917 (https://doi.org/10.1186/s12889-024-19396-8).

4. Beckers A, Buecker S, Casabianca EJ, Nurminen M. Effectiveness of interventions tackling loneliness. Ispra: European Commission Joint Research Centre; 2022 (https://doi.org/10.2760/277109).

5. Veronese N, Galvano D, D'Antiga F, Vecchiato C, Furegon E, Allocco R et al. Interventions for reducing loneliness: an umbrella review of intervention studies. Health Soc Care Community. 2021;29(5):e89–96 (https://doi.org/10.1111/hsc.13248).

6. Patil U, Braun KL. Interventions for loneliness in older adults: a systematic review of reviews. Front Public Health. 2024;12:1427605 (https://doi.org/10.3389/fpubh.2024.1427605).

7. Chipps J, Jarvis MA, Ramlall S. The effectiveness of e-interventions on reducing social isolation in older persons: a systematic review of systematic reviews. J Telemed Telecare. 2017;23(10):817–27 (https://doi.org/10.1177/1357633X17733773).

8. Boulton E, Kneale D, Stansfield C, Heron P, Sutcliffe K, Hayanga B et al. Rapid systematic review of systematic reviews: what befriending, social support and low intensity psychosocial interventions, delivered remotely, are effective in reducing social isolation and loneliness among older adults? How do they work? F1000Research. 2021;9:1368 (https://doi.org/10.12688/f1000research.27076.1).

9. WHO guideline on self-care interventions for health and well-being. Geneva: World Health Organization; 2022 (https://iris.who.int/handle/10665/342741. Licence: CC BY-NC-SA 3.0 IGO).

10. Self-care for health and well-being [website]. World Health Organization; 2024 (https://www.who.int/news-room/fact-sheets/detail/self-care-health-interventions).

11. Zagic D, Wuthrich VM, Rapee RM, Wolters N. Interventions to improve social connections: a systematic review and meta-analysis. Soc Psychiatry Psychiatr Epidemiol. 2022;57(5):885–906 (https://doi.org/10.1007/s00127-021-02191-w).

12. Eccles AM, Qualter P. Review: Alleviating loneliness in young people – a meta-analysis of interventions. Child Adolesc Ment Health. 2021;26(1):17–33 (https://doi.org/10.1111/camh.12389).

13. Coelho V, Sousa V, Raimundo R, Figueira A. The impact of a Portuguese middle school social-emotional learning program. Health Promot Int. 2017;32(2):292–300 (https://doi.org/10.1093/heapro/dav064).

14. Jin W, Liu Y, Yuan S, Bai R, Li X, Bai Z. The effectiveness of technology-based interventions for reducing loneliness in older adults: a systematic review and meta-analysis of randomized controlled trials. Front Psychol. 2021;12:711030 (https://doi.org/10.3389/fpsyg.2021.711030).

15. Shekelle PG, Miake-Lye IM, Begashaw MM, Booth MS, Myers B, Lowery N et al. Interventions to reduce loneliness in community-living older adults: a systematic review and meta-analysis. J Gen Intern Med. 2024;39(6):1015–28 (https://doi.org/10.1007/s11606-023-08517-5).

16. Pels F, Kleinert J. Loneliness and physical activity: a systematic review. Int Rev Sport Exerc Psychol. 2016;9(1):231–60 (https://doi.org/10.1080/1750984x.2016.1177849).

17. Hoang P, King JA, Moore S, Moore K, Reich K, Sidhu H et al. Interventions associated with reduced loneliness and social isolation in older adults: a systematic review and meta-analysis. JAMA Netw Open. 2022;5(10):e2236676 (https://doi.org/10.1001/jamanetworkopen.2022.36676).

18. Shvedko A, Whittaker AC, Thompson JL, Greig CA. Physical activity interventions for treatment of social isolation, loneliness or low social support in older adults: a systematic review and meta-analysis of randomised controlled trials. Psychol Sport Exerc. 2018;34:128–37 (https://doi.org/10.1016/j.psychsport.2017.10.003).

19. Mahon D. Scoping review of peer support for adults and young people experiencing loneliness and social isolation. Ment Health Soc Incl. 2024;28(6):979–92 (https://doi.org/10.1108/MHSI-11-2023-0129).

20. Richard J, Rebinsky R, Suresh R, Kubic S, Carter A, Cunningham JEA et al. Scoping review to evaluate the effects of peer support on the mental health of young adults. BMJ Open. 2022;12(8):e061336 (https://doi.org/10.1136/bmjopen-2022-061336).

21. Geffen LN, Kelly G, Morris JN, Howard EP. Peer-to-peer support model to improve quality of life among highly vulnerable, low-income older adults in Cape Town, South Africa. BMC Geriatr. 2019;19(1):279 (https://doi.org/10.1186/s12877-019-1310-0).

22. Sha S, Loveys K, Qualter P, Shi H, Krpan D, Galizzi M. Efficacy of relational agents for loneliness across age groups: a systematic review and meta-analysis. BMC Public Health. 2024;24(1):1802 (https://doi.org/10.1186/s12889-024-19153-x).

23. Pu L, Moyle W, Jones C, Todorovic M. The effectiveness of social robots for older adults: a systematic review and meta-analysis of randomized controlled studies. Gerontologist. 2019;59(1):e37–51 (https://doi.org/10.1093/geront/gny046).

24. Jain B, Syed S, Hafford-Letchfield T, O'Farrell-Pearce S. Dog-assisted interventions and outcomes for older adults in residential long-term care facilities: a systematic review and meta-analysis. Int J Older People Nurs. 2020;15(3):e12320 (https://doi.org/10.1111/opn.12320).

25. Gilbey A, Tani K. Companion animals and loneliness: a systematic review of quantitative studies. Anthrozoös. 2015;28(2):181–97 (https://doi.org/10.1080/08927936.2015.11435396).

26. Gee NR, Mueller MK. A systematic review of research on pet ownership and animal interactions among older adults. Anthrozoös. 2019;32(2):183–207 (https://doi.org/10.1080/08927936.2019.1569903).

27. Williams CYK, Townson AT, Kapur M, Ferreira AF, Nunn R, Galante J et al. Interventions to reduce social isolation and loneliness during COVID-19 physical distancing measures: a rapid systematic review. PLoS One. 2021;16(2):e0247139 (https://doi.org/10.1371/journal.pone.0247139).

28. Käll A, Jägholm S, Hesser H, Andersson F, Mathaldi A, Norkvist BT et al. Internet-based cognitive behavior therapy for loneliness: a pilot randomized controlled trial. Behav Ther. 2020;51(1):54–68 (https://doi.org/10.1016/j.beth.2019.05.001).

29. Risk reduction of cognitive decline and dementia. WHO guidelines. Geneva: World Health Organization; 2019 (https://iris.who.int/handle/10665/312180). Licence: CC BY-NC-SA 3.0 IGO.

30. Barnett P, Steare T, Dedat Z, Pilling S, McCrone P, Knapp M et al. Interventions to improve social circumstances of people with mental health conditions: a rapid evidence synthesis. BMC Psychiatry. 2022;22(1):302 (https://doi.org/10.1186/s12888-022-03864-9).

31. Ma R, Mann F, Wang J, Lloyd-Evans B, Terhune J, Al-Shihabi A et al. The effectiveness of interventions for reducing subjective and objective social isolation among people with mental health problems: a systematic review. Soc Psychiatry Psychiatr Epidemiol. 2020;55(7):839–76 (https://doi.org/10.1007/s00127-019-01800-z).

32. Salway S, Such E, Preston L, Booth A, Zubair M, Victor C et al. Reducing loneliness among migrant and ethnic minority people: a participatory evidence synthesis. Public Health Res. 2020;8(10) (https://doi.org/10.3310/phr08100).

33. Pool MS, Agyemang CO, Smalbrugge M. Interventions to improve social determinants of health among elderly ethnic minority groups: a review. Eur J Public Health. 2017;27(6):1048–54 (https://doi.org/10.1093/eurpub/ckx178).

34. Gomez-Zuniga B, Pousaded M, Armayones M. Loneliness and disability: a systematic review of loneliness conceptualization and intervention strategies. Front Psychol. 2023;13:1040651 (https://doi.org/10.3389/fpsyg.2022.1040651).

35. Gunnes M, Loe IC, Kalseth J. Exploring the impact of information and communication technologies on loneliness and social isolation in community-dwelling older adults: a scoping review of reviews. BMC Geriatr. 2024;24(1):215 (https://doi.org/10.1186/s12877-024-04837-1).

36. Social isolation and loneliness in older adults: opportunities for the health care system. Washington, DC: National Academies of Sciences Engineering and Medicine; 2020 (https://doi.org/10.17226/25663).

37. Hawkley LC, Finch LE, Kotwal AA, Waite LJ. Can remote social contact replace in-person contact to protect mental health among older adults? J Am Geriatr Soc. 2021;69(11):3063–5 (https://doi.org/10.1111/jgs.17405).

38. Shah SGS, Nogueras D, van Woerden HC, Kiparoglou V. Evaluation of the effectiveness of digital technology interventions to reduce loneliness in older adults: systematic review and meta-analysis. J Med Internet Res. 2021;23(6):e24712 (https://doi.org/10.2196/24712).

39. Mental Health Gap Action Programme (mhGAP) guideline for mental, neurological and substance use disorders. Geneva: World Health Organization; 2023 (https://iris.who.int/handle/10665/374250). Licence: CC BY-NC-SA 3.0 IGO.

40. Masi CM, Chen H-Y, Hawkley LC, Cacioppo JT. A meta-analysis of interventions to reduce loneliness. Pers Soc Psychol Rev. 2010;15(3):219–66 (https://doi.org/10.1177/1088868310377394).

41. Psychological interventions implementation manual: integrating evidence-based psychological interventions into existing services. Geneva: World Health Organization; 2024 (https://iris.who.int/handle/10665/376208). Licence: CC BY-NC-SA 3.0 IGO.

Chapter 9

The way forward –
five strategic areas

"I live in the here and now with faith, hope that at some point […] we, as a community, will take the initiative and be concerned that […] we need to address that loneliness."

Julio Hernandez, gay older man (Costa Rica)
© WHO

Key messages

The way forward proposed by the WHO Commission on Social Connection consists of five strategic areas: policy, research, interventions, measurement and data, and engagement. Each strategic area includes three actions.

Policy

Governments should develop, adopt, fund, implement and monitor a national policy, strategy or framework to promote social connection in which all sectors, including digital technology are involved.

Strengthen policy leadership.

Facilitate knowledge exchange.

Research

Build global and national research capacity.

Identify and fund research priorities.

Launch a Grand Challenge initiative.

Interventions

Develop guidance.

Launch an "intervention accelerator".

Support implementation.

Measurement and data

Strengthen national monitoring systems.

Develop a global index of social connection.

Collect data from as many countries as possible during the next decade.

Engagement

Ensure that social connection is placed higher on global policy and political agendas, and build a coalition of governments and public champions.

Increase public awareness in coordinated campaigns and a unified global narrative.

Build a sustainable movement through multi-sectoral collaboration and dedicated funding.

This report brings together the best scientific information about social connection and two forms of disconnection – social isolation and loneliness – that are widespread and have severe and under-recognized health, social and economic consequences. Building on the evidence presented in the preceding chapters, this chapter proposes a path forward with five strategic areas.

Effective implementation of these strategies will require collaboration among various sectors and actors, including WHO. Central to these efforts are people who have experienced loneliness and social isolation. Key stakeholders include health and social care, education, work and employment, technology, media sectors, as well as governments, civil society organizations, United Nations agencies, development organizations, academic and research institutes, businesses and individuals of all ages. In a coordinated, multipronged approach, WHO, with these partners, can drive transformative change.

Policy

Policies to promote community involvement, strengthen interpersonal connections and create supportive environments are essential for mitigating and preventing loneliness and social isolation. With the exponential growth of digital technologies, including social media and AI, policies to promote safe digital environments are a particular priority. These challenges are not only individual concerns; they are societal issues that demand collective action and commitment at all levels of society. Policy solutions should address the following three actions, taking into account each country's unique context and priorities.

1. Governments will develop, adopt, fund, implement and monitor a national policy, strategy or framework to promote social connection in which all sectors and all administrative levels are engaged to ensure that people experience social health and well-being.

WHO and other entities should encourage governments by providing technical assistance and support to create national policies to address social isolation and loneliness and to foster social connection as public health and development priorities. A "social connection-in-all policies" approach should be promoted to ensure that both current and new policies include fostering of social connection and minimizing social disconnection. These issues can be addressed in either standalone or integrated policies.

Standalone policies are dedicated national or local policies and/or strategies that specifically target loneliness, social isolation and social connection to ensure comprehensive attention to these issues.

Integrated approaches include measures to address loneliness and social isolation and promote social connection at individual, community and societal levels, including the creation and strengthening of social infrastructure in communities, within broader national or local policies. These include policies on public health (e.g. universal health coverage and primary health care), education, housing, labour, urban planning, technology and policies on the social determinants of health and other drivers of disconnection. Policies to address digital technology that cover both its risks and its benefits, including as a tool for intervention, should be a priority.

The policies should be costed and budgeted and be developed with the participation of relevant sectors and actors, including experts with lived experience.

2. Strengthen policy leadership. Fostering social connection and reducing inequity require strong, effective governance and leadership. Governments, WHO and other United Nations agencies, academic and research institutes, donors, civil society organizations and advocates should collaborate to advance social connection by organizing subnational, national, regional and international meetings for dialogue and learning among policy champions. The events should allow leaders to share successful strategies, facilitate cross-sectoral and cross-country collaboration and mobilize political will. Over time, a cohort of cross-regional policy champions could be identified and supported in promoting an aligned agenda for action on social connection.

3. Facilitate knowledge exchange. Establish a collaborative online platform and global repository for the development, delivery and evaluation of policies for social connection. The platform should serve as a central hub for accessing national (standalone and integrated) and local policy documents, sharing evidence-based tools and showcasing successful policy processes and products in all regions.

Research

Research on loneliness, social isolation and social connection must address both current needs and future challenges and also be responsive to gaps in the evidence. For example, more research is required on the impact of digital technology, on all aspects of social connection, including the impacts of remote work, social media and AI on social disconnection and subsequent health outcomes. Research should also be conducted on other drivers of social disconnection.

Studies should be conducted on improving health equity, thus ensuring that innovations are not only relevant but can also make a tangible difference to people's lives. While environmental factors, and specifically social infrastructure, in fostering connection and reducing loneliness hold promise, further investigation is necessary to understand the extent to which public and shared spaces and other types of social infrastructure can effectively protect against social isolation and loneliness.

Every country can contribute to and learn from extending the knowledge base. Promoting and supporting research and disseminating findings are fundamental. WHO and other United Nations agencies, governments, academic and research institutes and civil society organizations should collaborate on the following actions.

1. Build global and national research capacity. Devise and deliver national and international programmes to enhance research capacity and exchange of data through coordinated workshops, training programmes and research networks. These initiatives should strengthen national research infrastructure and, when possible, foster cross-border collaboration to ensure a continuous stream of evidence on social connection through research networks and grants to ensure inclusive participation in global research.

2. Identify and fund research priorities. Identify global research priorities in social connection every 5 years. Box 19 presents the findings of such an exercise, conducted in 2024. This should ensure that research remains aligned with emerging trends and challenges, as in other areas of public health research. Then, the priorities identified should be prominent in national and international calls for health funding. Funds for research on social connection should be earmarked in collaboration with international and national funding bodies. To demonstrate that a government has prioritized social connection for public health, it should be encouraged to establish dedicated research grants on the issue.

3. Launch a Grand Challenges initiative. Promote innovation and collaboration through a Grand Challenge initiative on social connection to encourage multi-sectoral partnerships and cross-disciplinary research. Researchers in various sectors, including health, social welfare, education, labour, urban planning and technology, should be invited to participate, with funding and support provided to the most promising research initiatives.

Box 19.
An exercise in setting priorities for research and action on social connection

To identify priorities in research, policy, funding and advocacy in the field of social connection, an exercise in priority-setting was commissioned for this report.[3]

A three-round Delphi method was used, in which controlled feedback is used to help experts reach consensus. In the first round, 411 participants identified 1511 challenges. In the second round, 195 participants selected the top 20. In the final round, 182 participants ranked the 20 challenges according to two criteria: "answerability" or feasibility and impact. The results are shown in Table 8. The highest ranked 15 challenges are in two broad categories. Nine challenges (numbers 1, 3, 8–13 and 15) were on improving access to evidence-based strategies to address social connection. The remaining six (numbers 2, 4, 5–7 and 14) addressed improving knowledge and understanding of social connection. The respondents noted that the challenges were often interrelated. While the priorities identified are closely aligned with those discussed in this report, two issues are missing: first, the influence of digital technology on social connection, a growing concern; and, secondly, the importance of advocacy, coalitions and networks as strategies for driving systemic change.

Table 8.

The 15 challenges with the highest ranking

Rank	Challenge	Average score
1	To test and implement scalable strategies to address social connection that target individuals, families, communities and the workplace	2.596
2	To understand the relation between mental health and social connection and integrate mental health support into broader action on social connection	2.495
3	To prioritize prevention, early identification and intervention for people with little social connection	2.492
4	To identify risk and protective factors for social isolation, including individual, sociocultural, community, environmental and structural factors that significantly influence how loneliness and social connection are experienced, and differences among societies.	2.478
5	To better understand the association between social connection and health	2.456

3   Tomlinson M, Bradshaw M, Holt-Lunstad J, IJzerman HR, Michelle L, Silan M, Alejandro et al. Grand challenges in social connection: a research and action priority-setting exercise. Submitted for publication.

Rank	Challenge	Average score
6	To develop robust measurement tools to assess social connection accurately	2.452
7	To promote social connection as a health indicator that is monitored by routine screening in primary health care	2.408
8	To develop cost-effective interventions and programmes to address social connection	2.404
9	To provide education about social isolation, address loneliness early and develop intervention strategies in schools to mitigate these issues	2.401
10	To support and strengthen community involvement and infrastructure to combat social disconnection	2.376
11	To develop comprehensive intervention strategies to address structural, economic and social factors that cause social connection	2.375
12	To ensure that programming and research, specifically measurement, are culturally and contextually sensitive	2.367
13	To develop targeted intervention strategies that offer support to minority communities	2.328
14	To develop an accurate, comprehensive definition of social connection	2.310
15	To organize cross-sector collaboration to ensure that social connection interventions are effective and sustainable	2.299

Light green: challenges 1, 3, 8, 9, 10, 11, 12, 13 and 15, which address improving access to evidence-based strategies to study social connection.
Dark green: challenges 2, 4, 5, 6, 7 and 14, which address improving knowledge and understanding of social connection.

Interventions

Governments, civil society organizations, United Nations agencies, development organizations, experts in lived experience and other stakeholders can use the evidence-based solutions presented in this report. As the science is evolving rapidly, however, a dynamic ecosystem of evidence consisting of systematic reviews, evidence maps and guidelines is necessary to ensure that interventions for social connection are effective, scalable and impactful. This would result in creation of a strategic, systematic approach to centralize scientific evidence for developing community, individual and relationship interventions, accelerate the creation, scaling-up and adoption of evidence-based solutions to address social isolation and loneliness and foster social connection. WHO, with other international and multilateral agencies, academic and research institutes, civil society organizations and development organizations, should consider the following actions.

1. Develop guidance. Create and disseminate evidence-based guidelines for the development, implementation and evaluation of interventions for social connection. They should include digital interventions for social connection, such as digitally delivered psychological interventions, chat bots and AI agents. The guidelines should be based on the best available evidence, with consideration of equity, human rights, gender, culture and the social determinants of health, and be backed up with tools and technical assistance for effective implementation in all regions, levels of government and populations.

2. Launch an "intervention accelerator". Establish and fund a network of intervention developers, evaluators and implementers to identify, adapt, strengthen and test, first at a single site and then in multi-country trials, interventions to foster social connection and reduce social isolation and loneliness, prioritizing underserved areas and populations. The accelerator should connect high-potential interventions with international, national and local development partners to demonstrate their impact, scalability and cost-effectiveness.

3. Support implementation. Drawing on the best evidence identified in the guidelines and the intervention accelerator, support countries in implementing and scaling up interventions. The interventions should range from strengthening social infrastructure and other community interventions to individual and relationship interventions to promote social connection and reduce social isolation and loneliness. This will require building both the requisite infrastructure and the capacity of health and care providers and other sectors.

These actions, together, will enhance the use and scaling-up of evidence-informed interventions, driving meaningful progress in fostering social connection worldwide.

Measurement and data

Successful interventions to address loneliness, social isolation and social connection require deeper understanding of these issues, through collection of more and better data, especially in low- and middle-income countries. Understanding the prevalence and distribution of social disconnection is crucial to addressing its impacts on individuals and society. To tackle social disconnection effectively, the underlying risk and protective factors must be identified, including the role of digital technology, as well as whether or not they are causal and differences among countries and cultures. Regular monitoring and standardized metrics for measuring loneliness, social isolation and social connection, including in longitudinal studies, are essential for tracking progress. WHO, in collaboration with governments, academic and research institutes and other entities with expertise in analysis should address the three following actions.

1. Strengthen national monitoring systems. Encourage and support governments in improving regular collection of valid, reliable data on loneliness, social isolation and social connection, disaggregated by sex, age, disability and other relevant factors, to monitor national trends, track progress over time and better assess the impact of social disconnection on public health outcomes. This activity should include data on digital technology to better establish its impact on social connection.

2. Develop a global index of social connection. Establish a global index of social connection that includes measures of social isolation, loneliness and connectedness. This novel index should be developed in collaboration with international statistical

agencies. It would facilitate monitoring and identifying trends and will allow countries to benchmark their work against global standards, as well as supporting policy prioritization.

3. Collect data from as many countries as possible during the next decade.
Launch a decade-long initiative to collect data from all WHO Member States with the global index, to create a robust evidence base for global trends and local interventions. Three waves of data collection during the coming 10 years would ensure strong demographic and geographical representation. This activity would represent an ambitious attempt to compile and communicate longitudinal data on social connection.

Engagement

Success in addressing social isolation and loneliness and fostering social connection will require a comprehensive, coordinated approach in which social connection is identified as a priority for global health and development, while ensuring that the actions resonate with diverse audiences and address specific local challenges. To drive systemic change, it is essential to engage a wide range of stakeholders, including governments, civil society organizations, the private sector and international agencies, in concerted advocacy for policies, raise public awareness and build a sustainable movement. WHO, in collaboration with governments, development organizations, donors and other partners, should address the following three actions.

1. Ensure that social connection is placed higher on policy and political agendas, and build a coalition of governments and public champions.

Establish a "Friends of Social Connection" network to support political leaders in advocating for social connection in national and international forums. The United Nations could provide tailored support and resources and publicize individual and collective leadership. Invite government champions to promote resolutions and policy endorsements on platforms such as the World Health Assembly and the United Nations General Assembly. Further, create a programme to support development of powerful advocates, including people with lived experience, to drive the movement. With these champions and advocates, push for the inclusion of social connection in major international fora, and drive political momentum at high-profile global meetings, such as a United Nations high-level meeting on social connection.

2. Increase public awareness in coordinated campaigns with a unified global narrative.

Develop a cohesive global narrative that frames social connection as an urgent, solvable public health and development issue, ensuring consistent messaging among sectors and its integration into broader health and development agendas.

Conduct coordinated global, national and local campaigns to raise awareness based on public health evidence. Campaigns should have clear objectives, be culturally relevant, employ use of first-person narratives to reduce stigma and use multi-channel strategies.

3. Build a sustainable movement through multi-sectoral collaboration and dedicated funding.

Strengthen and extend existing networks, bringing together leaders in health, education, employment, technology and other sectors, and civil society to drive coordinated action with shared goals, use of evidence-based strategies and access to sustained funding.

Reflections from lived experience: a more connected world is possible

David

Lived experience expert on addiction, mental health, homelessness and incarceration (New Zealand)

"I would say that the answer to unhappiness is connection, to groups, activities, to nature, to things and people that give us a sense of fulfilment and reward. I believe in the power of peer support, drawing on the lived experience of people who have found a new sense of self, who have reimagined a social identity and brought [it] into being."

Crystal

Military spouse and doctoral student in social work (USA)

"I believe that we all have the capacity to eradicate isolation and loneliness. […] To achieve this, we must cultivate curiosity, ask questions, and challenge our perceptions. By becoming more mindful and observant, we can support one another more effectively. It is crucial that we strive to be better citizens of the world, pausing to genuinely connect and uplift those around us."

Scott

Member of the disability community (United Kingdom)

"I was getting used to society as a new wheelchair user but had no one to ask questions. My mental health was deteriorating. I closed off from the world. I wanted to die. I now run a not for profit supporting disabled people with loneliness and social isolation. People join worldwide and we have been told by people if they didn't find us when they did, they may not be here today."

Ruth

From Kyondoni Village (Kenya)

"Navigating through the maze of social isolation and bullying left deep scars, shaping how I saw myself and others. Every interaction felt like walking on thin ice, fearing ridicule. Despite the struggle, moments of kindness and therapy were lifelines. Overcoming loneliness wasn't easy, but with time and patience, I found my tribe – those who accepted me for who I am."

Imad

Engineer and originally from Syria (Austria)

"So if I travel to the past dark moments where I felt really lonely and down, I would give my past self the message that, with a connection, with a community, with the help of the people around us that really love us, it would get better."

Annex 1. Estimation of the global prevalence of loneliness

Loneliness is a rising global health concern, yet there is currently no consistent, systematic monitoring of its prevalence and impact. The absence of standardized data collection and analysis precludes full understanding of the scope of the issue and development of effective interventions. This gap must be addressed to ensure comprehensive public health strategies to mitigate the effects of loneliness on individuals and communities worldwide.

In the absence of direct, regular measurement of loneliness, statistical models can be used, with information from comparable countries and predictive covariates and accounting for uncertainty. Models have been used to estimate important health and socioeconomic indicators such as mortality of children < 5 *(1)*, depressive and anxiety disorders *(2)*, insufficient physical activity *(3)*, unsafe abortion *(4)*, rates of children out of school *(5)* and many others.

This annex outlines the method used to estimate the global prevalence of loneliness. Population data on adolescents and adults were collated and fit with a Bayesian hierarchical statistical model. The model provided estimates of the average prevalence of loneliness between 2014 and 2023 by sex and by broad age group.

Data

The paucity of data on loneliness and the lack of standardization in measurement instruments have been documented *(6)*. Loneliness is usually assessed with single-item or scale–based measurement instruments in population surveys. Single-item instruments may record an individual's general level of loneliness or loneliness over a specific time, such as the past year. For example, the Global School-based Student Health Survey *(7)* includes the question "During the past 12 months, how often have you felt lonely?", while in scale-based instruments such as the UCLA *(8)* and De Jong–Gierveld *(9)* scales, a series of questions is used to measure loneliness.

Because of the scarcity of data and diversity of instruments for measuring loneliness, it is difficult to select a single definition. We use a broad definition – the percentage of people who feel very lonely – thus excluding transient feelings of loneliness. This approach is aligned with the European Commission's Joint Research Centre (JRC) loneliness survey *(10)*, which is the first EU-wide survey of loneliness measured on established multi-item scales, such as the UCLA and De Jong–Gierveld scale instruments, and also a single-item question with a recall period of 4 weeks. The JRC classified people who scored 8 or 9 out of 9 on the UCLA scale and those who scored 6 out of 6 on the De Jong–Gierveld scale as very lonely. Respondents to the single-item question who reported feeling lonely "all of the time" or "most of the time" in the past 4 weeks were also classified as very lonely.

We used mainly microdata from seven survey series and 16 national surveys to measure the prevalence of people feeling very lonely, using the same cutoffs as in the EU JRC loneliness survey. Table A1.1 lists the surveys, with the date ranges, the measurement instruments used (when several were used, only the item listed first was included in the model) and the age groups for which prevalence was calculated. To account for complex survey designs, survey weights and, when applicable, information on survey stratification and clustering were used to calculate means and variance estimates for each survey–country–year–sex–age group combination with the 'srvyr' R package *(11, 12)*.

Data sources were aligned as closely as possible with the EU JRC definitions of people who feel very lonely, but remaining systematic differences between overlapping sources in the same country were identified. We used data for 142 WHO Member States by Meta–Gallup; for 69 Member States, this was the only data source available. Figs A1.1 and A1.2 show differences in the prevalence of loneliness as measured by Meta–Gallup (x axis) and other sources in the same country (y axis). In the Meta–Gallup survey, respondents were asked "In general, how lonely do you feel?". We compared classification of "very lonely" + "fairly lonely" responses (Fig. A1.1) with only "very lonely" responses (Fig. A1.2) as lonely by our broad definition and found that the "very" + "fairly" lonely classifications were better aligned with more robust scales and measurement instruments with a single-item and a defined recall period.

Additional terms were included in the data model described below to account for the average differences between the scale measurement instruments (UCLA and De Jong–Gierveld) and the less robust single-item measurement instruments. The single-item instruments were also split into those with specific recall ranges (1 week, 4 weeks, 1 year) and single-item questions with an unspecified recall range (Meta–Gallup). Figs A1.3–A1.5 show pairwise comparisons between survey data on loneliness collected with each of these three types of measurement instrument. As the paired data sources were collected in the same country but usually in separate surveys in separate years, the difference in the prevalence of loneliness cannot be attributed entirely to differences in the measurement instrument used.
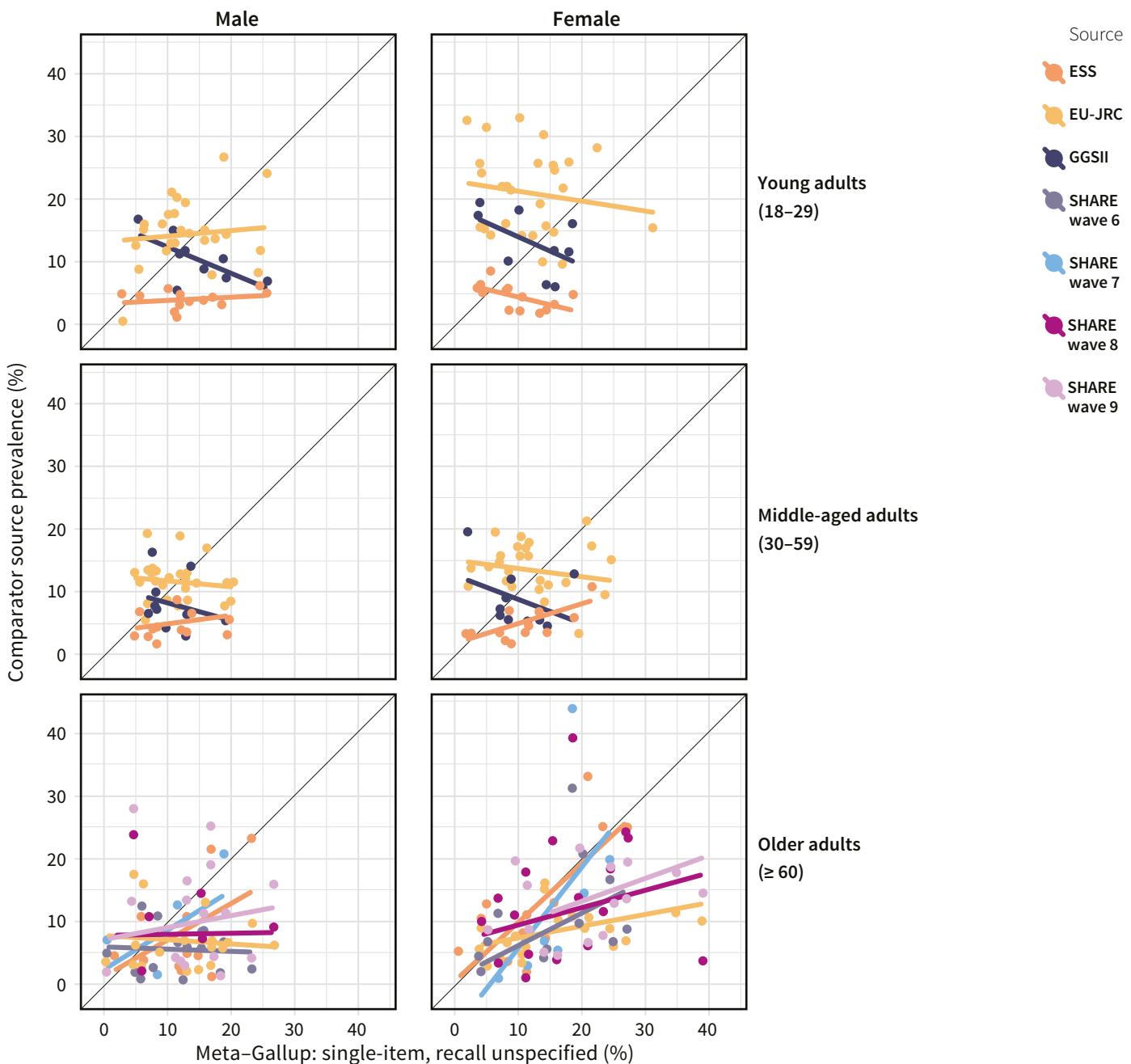
Table A1.1.

Survey series included in the analysis

Survey	Date range	Measurement instrument	Operational definition of loneliness/scores	Age group (years)
Multi–country studies				
Global School-based Student Health Survey (7)	2014–2019, 2021	1) Single-item measure in past year	1) "Always", "Most of the time"	13–17
Health Behaviour in School-aged Children (HBSC) (13)	2017–2018	1) Single-item measure in past week	1) Depending on the country: • "Always", "Very often" • "All the time", "Often" • "Yes, very often", "Yes, quite often" • "All of the time (5–7 days)", "Occasionally or a moderate amount of time (3–4 days)"	13–17[a]
European Commission JRC (10)	2022	1) 3-item UCLA scale 2) De Jong–Gierveld scale 3) Single-item measure in past 4 weeks	1) 8+ out of 9 2) 6 out of 6 3) "All the time", "Most of the time"	18–29, 30–59, ≥ 60
Meta–Gallup Social Connections Survey (14)	2022–2023	1) Single-item measure, recall unspecified	1) "Very lonely", "fairly lonely"	18–29, 30–59, ≥ 60
European Social Survey Round 11 (15)	2023	1) Single-item measure in past week	1) "All or almost all the time", "Most of the time"	18–29, 30–59, ≥ 60
Survey of Health, Ageing and Retirement in Europe (SHARE) waves 6–9 (16)	2015, 2017, 2019–2020, 2021–2022	1) 3-item UCLA scale 2) Single-item measure, recall unspecified	1) 8+ out of 9 2) "Often"	≥ 60
Generations and Gender Survey Round 2 (GGS-II) (17, 18)	2020–2023	1) De Jong–Gierveld scale	1) 6 out of 6	18–29, 30–59
Single country studies				
Aging, Health, Psychological Well–being and Health Seeking – Ghana (19)	2016	1) 3-item UCLA scale	1) 6+ out of 9	≥ 50
Canadian Health Survey on Seniors – Canada (20)	2019	1) 3-item UCLA scale	1) 5+ out of 9	≥ 65
Canadian Longitudinal Study on Aging – Canada (21)	2012	1) Single-item measure in past week	1) "Very lonely"	45–85
Chinese Longitudinal Healthy Longevity Study – China (22)	2018	1) Single-item measure, recall unspecified	1) "Very lonely"	≥ 60
English Longitudinal Study of Ageing – United Kingdom (23)	2016	1) Single-item measure, recall unspecified	1) "Very lonely"	≥ 50

Survey	Date range	Measurement instrument	Operational definition of loneliness/scores	Age group (years)
Brazilian Longitudinal Study of Aging – Brazil (24)	2020	1) Single-item measure in last month	1) "Very lonely"	≥ 50
Japan COVID–19 and Society Internet Survey– Japan (25)	2020–2021	1) 3-item UCLA scale	1) "Often lonely" + "Always lonely"	15–79
Korean Youth Health Behavior Survey (16th–17th) – Republic of Korea (26)	2020–2021	1) Single-item measure in past year	1) "Very lonely"	12–18
National Health and Morbidity Survey – Malaysia (27)	2017	1) Single-item measure in past year	1) "Very lonely"	13–17
National Survey of School Health – Brazil (28)	2015	1) Single-item measure in past year	1) "Always", "Most of the time"	11–15
Portuguese Elderly Nutritional Status Surveillance System – Portugal (29)	2015	1) 20-item UCLA scale	1) 32+ out of 80	≥ 65
PolSenior2 study – Poland (30)	2018	1) Single-item measure, recall unspecified	1) "Often lonely" + "Always lonely"	≥ 60
Study on global AGEing and adult health – Ghana (31)	2014	1) Single-item measure in past week	1) 'Yes"	≥ 50
Ungdata – Norway (32)	2018	1) Single-item measure in past week	1) "Very lonely"	13–19
Young Australian Loneliness Survey – Australia (33)	2019	1) 20-item UCLA scale 2) Single-item measure in past week	1) 52+ out of 80 2) "Three or more times a week"	12–25
Young–HUNT Study – Norway (34)	2017	1) Single-item measure, recall unspecified	1) "Often lonely" + "Very often lonely"	13–19

ᵃ   As the HBSC survey is not designed to include 16–17-year olds, we assumed that the prevalence in children aged 13–15 years was representative of those aged 13–17 years.

Fig. A1.1.
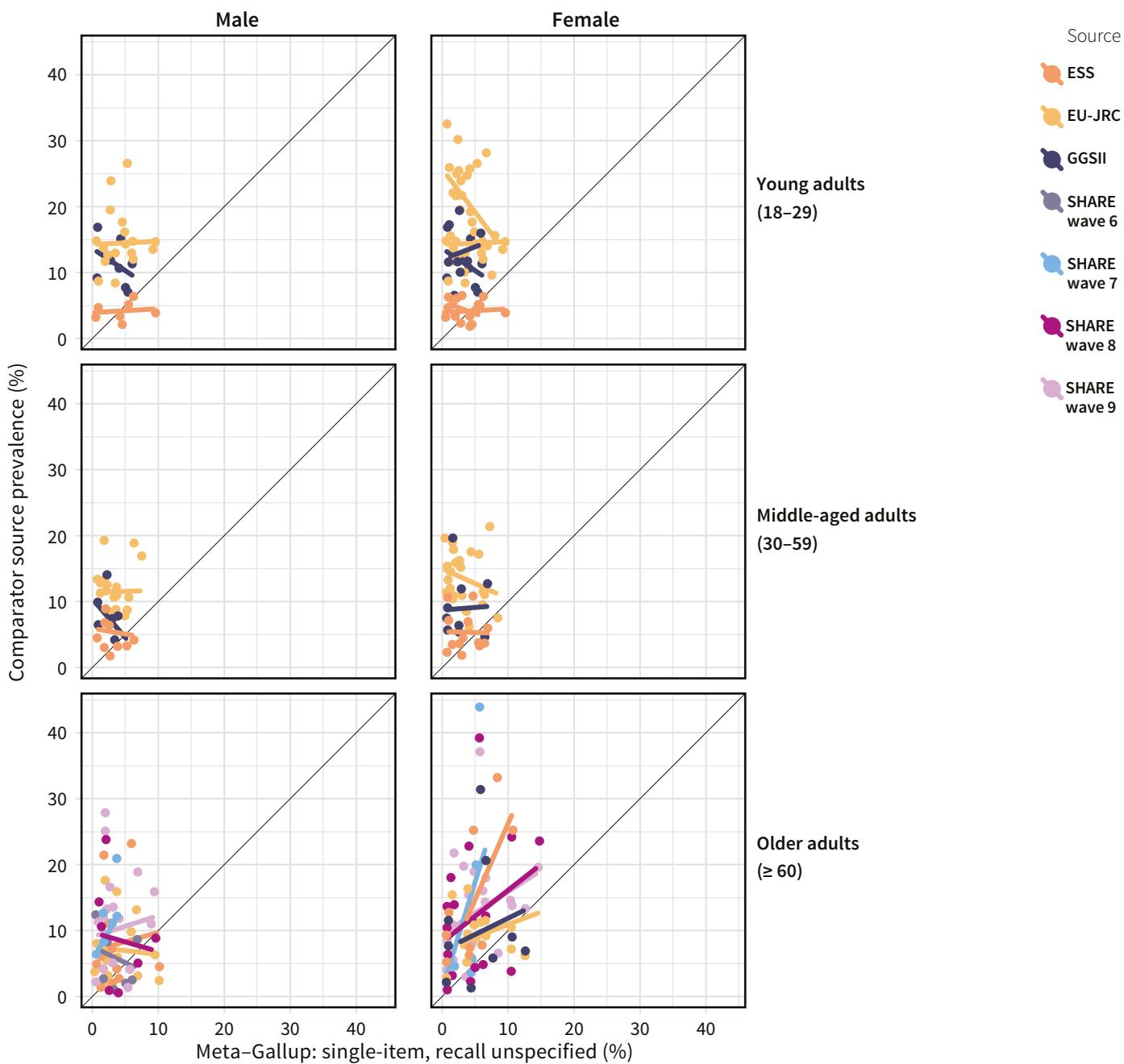
Comparison of Meta–Gallup prevalence estimates (x axis) with overlapping prevalence estimates from comparator sources such as ESS, EU-JRC, GGSII, SHARE (y axis)

From Meta–Gallup, the "very" and "fairly" lonely responses were classified as lonely. These are the prevalence data from Meta–Gallup used in the model, because they are more consistent with comparative data sources (see Fig. A1.2).

Fig. A1.2.
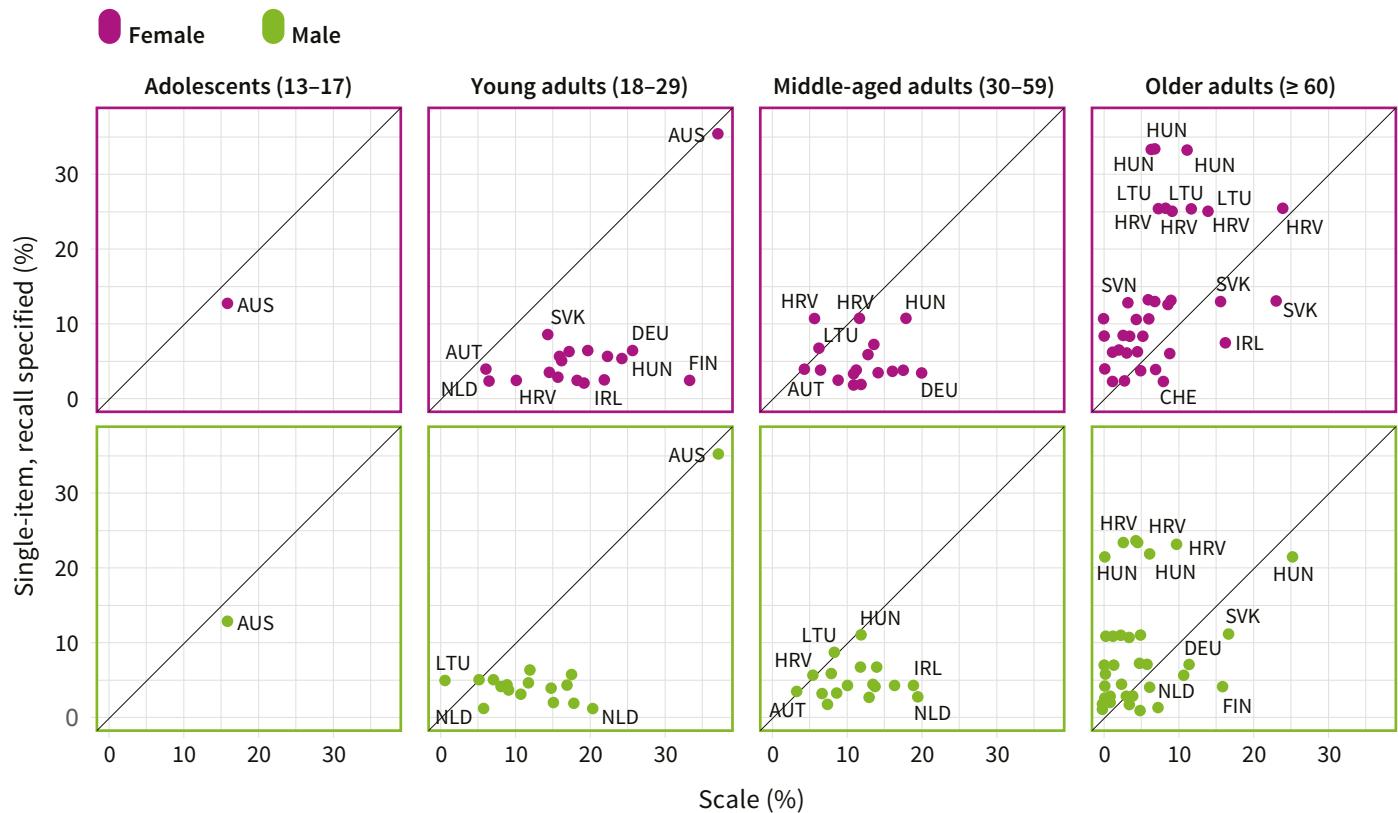
A comparison of the Meta–Gallup prevalence estimates (x axis) with overlapping prevalence estimates from comparator sources such as ESS, EU-JRC, GGSII, SHARE (y axis)

From Meta–Gallup, the "very" lonely responses were classified as lonely. These were not used in the model because they were more discrepant from other data sources when compared with classifying "very" and "fairly" lonely responses (see Fig. A1.1).

Fig. A1.3.
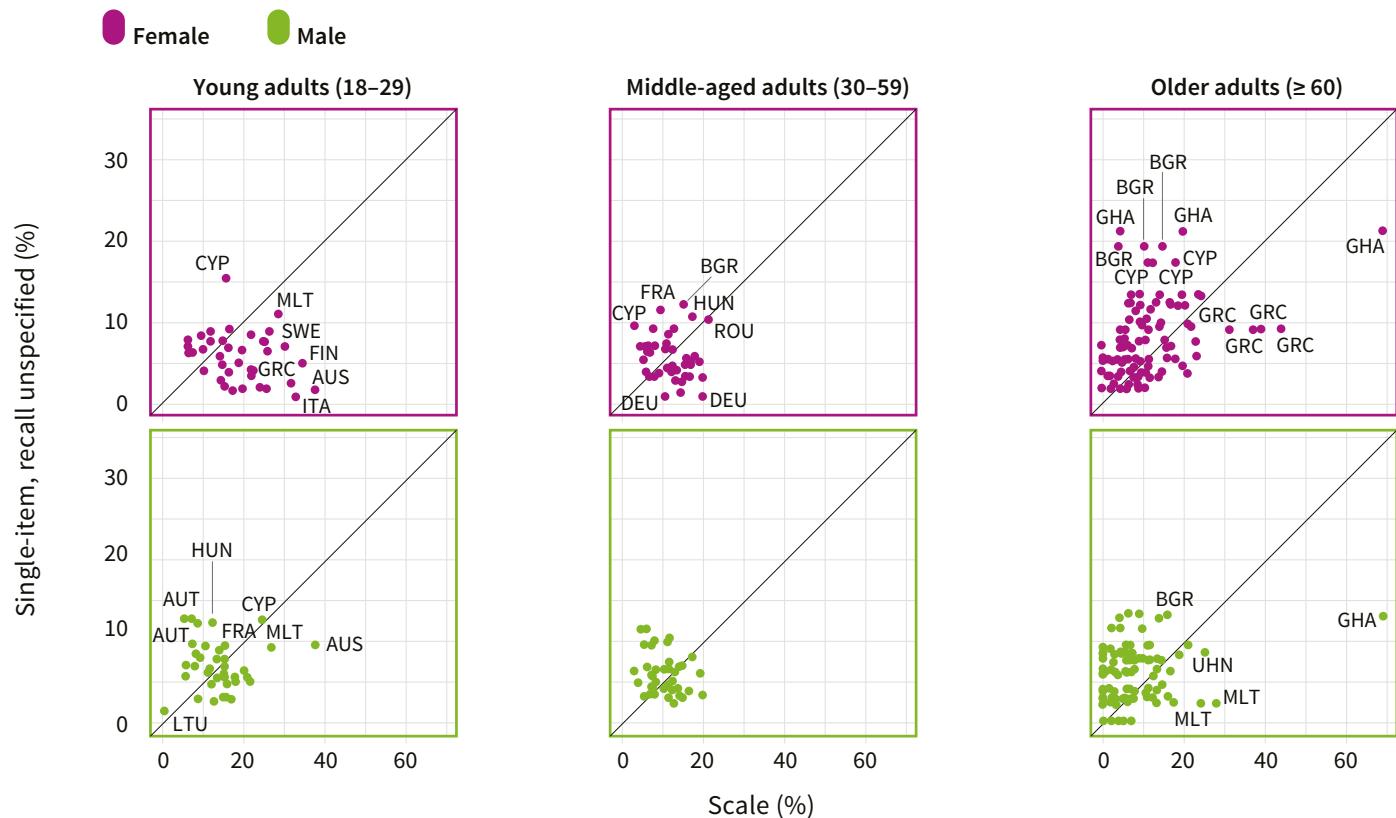
Comparison of data from surveys on the prevalence of loneliness collected in countries with scale measurement instruments (UCLA and De Jong–Gierveld) and single-item instruments with a specified recall period (such as 1 week, 4 weeks, 1 year)

As most of the comparison data were collected in separate surveys, the differences in prevalence may not be attributable solely to differences in the measurement instrument.

Fig. A1.4.
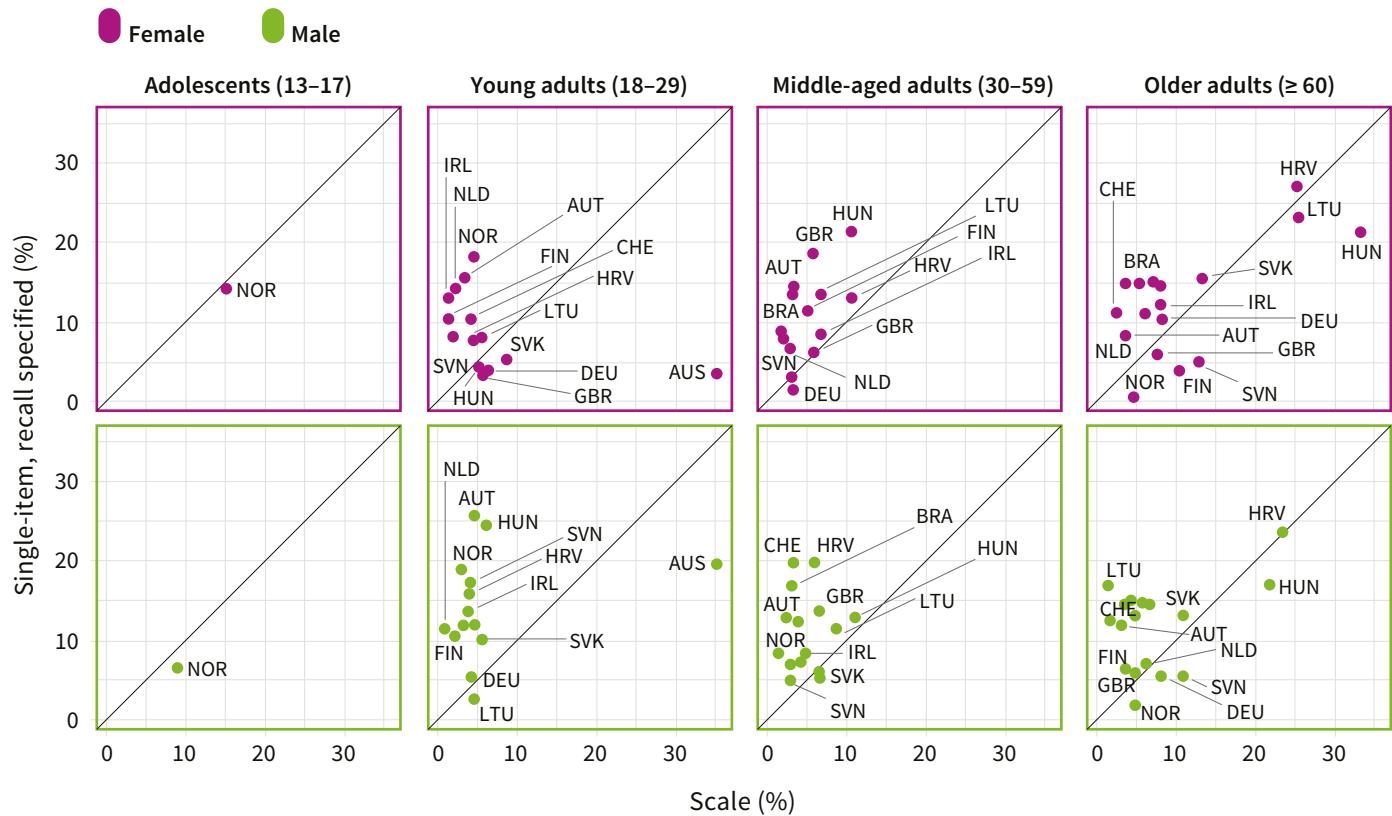
Comparison of survey data on the prevalence of loneliness collected in countries with scale measurement instruments (UCLA and De Jong–Gierveld) and single-item instruments with an unspecified recall period (includes the Meta–Gallup data source)

As most of the comparison data were collected in separate surveys, the differences in prevalence may not be attributable solely to differences in the measurement instrument.

Fig. A1.5.

Comparison of data on the prevalence of loneliness collected in countries with single-item instruments with a specified recall period (e.g. 1 week, 4 weeks, 1 year) and single-item instruments with an unspecified recall period (includes the Meta–Gallup data source)

As most of the comparison data were collected in separate surveys, the differences in prevalence may not be attributable solely to differences in the measurement instrument.

Model

Trends in the prevalence of loneliness by age, sex and location over time could not be estimated due to the lack of detailed annual data. Further data are necessary from more countries, especially lower- and middle–income countries, at more frequent and regular intervals, e.g. annual surveillance and monitoring. Furthermore, standardized measurement instruments would allow better comparison among age groups and by sex and location.

We modelled the prevalence of loneliness in the following broad age groups: adolescents (13–17 years), young adults (18–29 years), middle-aged adults (30–59) and older adults (≥ 60). These categories were chosen as they are best aligned with the large multinational datasets used in modelling. Moreover, because of the paucity of data elsewhere than in Europe, comprehensive temporal trends could not be estimated. We therefore estimated the average prevalence of loneliness over a 10-year period, between 2014 and 2023.

Data model (likelihood)

From each data point i in each surveyed country c, we calculated the prevalence of loneliness $\widehat{p}_i$ and the associated design variance $\widehat{V}_i$ (converted to the logit scale by delta transformation) for each sex s, age group a and source group g. The logit transformed prevalence observation $\text{logit}(\widehat{p}_i)$ is modelled as normally distributed around the underlying true prevalence $\eta_{c[i],s[i],a[i]}$ in logit space plus an offset according to the source group g.

$$
\begin{aligned}
\text{logit}(\widehat{p}_i) \quad &\sim \text{Normal}\big(\mu_i, \widehat{V}_i + \sigma^2\big) \\
\mu_i \quad &= \eta_{c[i],s[i],a[i]} + \big({}_1\kappa_{g[i]} \times I(g \in \text{recall-specified})\big) + \big({}_2\kappa_{g[i]} \times I(g \in \text{recall-un-specified})\big)
\end{aligned}
$$

${}_1\kappa_{g[i]}$ represents the bias–term for sources using single-item measurement instruments with a specified recall period (e.g. 1 week, 4 weeks, 1 year.). ${}_2\kappa_{g[i]}$ represents the bias term for sources that used single-item measurement instruments with an unspecified recall period.

The total variance is equal to the observed design-based variance estimate of $\widehat{p}_i$ on the logit scale $\widehat{V}_i$ plus additional unexplained variance σ^2. This additional variation represents unmodelled differences between loneliness measurement instruments, changes over time and non-sampling survey errors.

Process model

$\eta_{c,s,a}$ is the estimated true average prevalence of loneliness in country c, sex s and age group a between 2014 and 2023 in logit space. We modelled $\eta_{c,s,a}$ as a function of three components: a global age–sex pattern, country random effects nested within regional random effects and a covariate component. This specification is especially important for estimating the prevalence in groups for which there are few data.

$$\eta_{c,s,a} = \alpha_a + \delta_a \times I(s \in \text{male}) + \beta X_{c,s,a} + \gamma_c$$
$$\gamma_c \sim \text{Normal}(\gamma_{r[c]}, \sigma_c^2)$$
$$\gamma_r \sim \text{Normal}(0, \sigma_r^2)$$

The global age–sex pattern of loneliness is modelled with an intercept term α_a for each broad age group (adolescents, young adults, middle-aged adults and older adults) plus the difference between the male and female age pattern δ_a for each broad age group. $I(s \in \text{male})$ is an indicator variable equal to 1 for males and 0 for females.

To account for differences in the overall degree of loneliness among regions and countries, nested random effects were used. γ_c represents a country random intercept. γ_c are assumed to be normally distributed around the regional level random intercept γ_r. For this analysis, we used the 21 regions defined by the Institute for Health Metrics and Evaluation (IHME) Global Burden of Disease (GBD) Study *(35,36)* . σ_c^2 and σ_r^2 represent the variation of country random intercepts within each region and the between-region variation, respectively.

In view of the paucity of direct measures of loneliness, covariates that have been shown to be associated with loneliness were used to derive and improve predictions of loneliness, especially in locations for which there were no or limited data. $X_{c,s,a}$ is the covariate matrix that includes values from the list of covariates presented in Table A1.2. When possible, year-, sex- and age-specific values were used for covariates, such as the prevalence of depression. For other covariates, such as life expectancy at birth and gross national income per capita, values were available only for each sex or for the total population. All covariates were centred and scaled. Non-zero effect covariates were included in the final model.

To prevent over-fitting and to select the covariates to be included in the model, the "horseshoe prior" was initially used. Covariates with non-zero beta parameter estimates with the horseshoe prior were included in the final model, in which default "flat priors" were used.

Table A1.2.
Covariates tested for inclusion in the Bayesian hierarchical model, with horseshoe prior used to encourage sparsity

Description	Included	Source
Healthy life expectancy at birth (years)	No	IHME GBD Study 2021 *(36, 37)*
Life expectancy at birth (years)	No	IHME GBD Study 2021 *(35, 37)*
Gross national income per capita	Yes	National Accounts Section, United Nations Statistics Division *(38)*
Mean length of schooling (years)	Yes	United Nations Development Programme (UNDP) Human Development Report Office Human Development Index *(39)*
Expected length of schooling (years)	No	UNDP Human Development Report Office Human Development Index *(39)*

Description	Included	Source
Percentage of women of reproductive age who are married or in a union	Yes	United Nations Department of Economic and Social Affairs Population Division, Fertility and Family Planning Section 2020 Revision *(40)*
Proportion of children who are not enrolled in school (all education levels)	No	United Nations Educational, Scientific and Cultural Organization, Institute for Statistics *(41)*
Prevalence of depressive disorders in broad age groups and by sex	Yes	IHME GBD Study 2021 *(36, 37)*
Prevalence of anxiety disorders in broad age groups and by sex	Yes	IHME GBD Study 2021 *(36, 37)*
Prevalence of substance-use disorders in broad age groups and by sex	No	IHME GBD Study 2021 *(36, 37)*

Estimation

The R package brms *(42, 43)* and the underlying tool Stan *(44)* were used to fit the Bayesian hierarchical model (Table A1.3).

Table A1.3.

Fitted model parameter mean estimates and 95% uncertainty intervals

Variable	Value
Intercept	−1.3 (−1.6 to −0.89)
Age group effect: middle-aged adults	−1.1 (−1.4 to −0.73)
Age group effect: older adults	−1.2 (−1.5 to −0.81)
Age group effect: young adults	−0.88 (−1.2 to −0.53)
Source group effect: single item with specified recall	−0.13 (−0.34 to 0.092)
Source group effect: single item with unspecified recall	0.59 (0.45 to 0.74)
Male effect: adolescents	−0.2 (−0.5 to 0.1)
Male effect: middle–aged adults	0.52 (0.29 to 0.74)
Male effect: older adults	0.084 (−0.13 to 0.29)
Male effect: young adults	0.47 (0.23 to 0.71)
Covariate effect (centred and scaled): Gross national income per capita	−0.31 (−0.46 to −0.17)
Covariate effect (centred and scaled): Percentage of women who are married	−0.02 (−0.11 to 0.071)

Variable	Value
Covariate effect (centred and scaled): Mean years of schooling	−0.097 (−0.23 to 0.044)
Covariate effect (centred and scaled): Prevalence of anxiety disorders	0.17 (0.054 to 0.29)
Covariate effect (centred and scaled): Prevalence of depressive disorders	0.29 (0.19 to 0.39)
Random effect sigma: WHO region	0.36 (0.21 to 0.56)
Random effect sigma: country in WHO region	0.34 (0.27 to 0.42)
sigma	0.83 (0.8 to 0.87)

The default brms priors are used for all parameters.

$$\alpha_a \sim \text{Uniform}(-\infty, \infty)$$
$$\delta_a \sim \text{Uniform}(-\infty, \infty)$$
$$\beta \sim \text{Uniform}(-\infty, \infty)$$
$$\sigma_c \sim \text{half-StudentT}(3,0.2.5)$$
$$\sigma_r \sim \text{half-StudentT}(3,0.2.5)$$
$$\sigma \sim \text{half-StudentT}(3,0.2.5)$$

Four chains and 2000 iterations for each chain were used to fit the model, giving 4000 draws for each estimated parameter. The average covariate values for 2014–2023 were used with the estimated parameters to generate 4000 predictions of the prevalence of loneliness for each country, sex and age group. Population values from the World Population Prospects 2024 release *(45)* were used to create aggregates of both sexes combined, all–age (≥ 13), global and WHO regional.

To validate the model fit, both in–sample and out–of–sample model fits were examined. Out–of–sample model validation was used to test how well the model predicts the prevalence of loneliness in countries with no observed data. The out-of-sample validation was performed with observed data for 152 countries divided into 10 groups, and the model was refitted 10 times, each time for one group of countries. Predictions were then made for each set of held-out data. The root mean squared error (RMSE), mean average error (MAE), mean error (ME) and coverage of the 95% uncertainty interval (UI COVERAGE) were then calculated. For ease of interpretation, the errors are reported in prevalence space (0–100), rather than logit–transformed scale (Table A1.4).

Table A1.4.

In sample and out of sample model validation statistics

Sample	ME	MAE	RMSE	UI COVERAGE	R SQUARED
In sample	1.1	5.9	7.9	97.1	0.521 (0.492–0.548)
Out of sample	1.5	7.3	9.6	96.7	

Limitations

Because of the limited data, many assumptions and simplifications were made. Data on loneliness have mainly been available for Europe and other high-income countries. Recent surveys, such as the Meta–Gallup loneliness survey, have provided much-needed information on the general level of loneliness around the world; however, there are still few repeated measurements for estimating time trends. Lack of routine monitoring limits the possibility of quantifying the global impact of the COVID-19 pandemic on loneliness. In this analysis, we collated data to estimate the average level of loneliness over 10 years, between 2014 and 2023. We acknowledge, however, that the prevalence may have differed before, during and after the pandemic period *(46)*.

The datasets used in modelling were identified from a systematic review on the global prevalence of loneliness *(6)* and supplemented with a literature search conducted with the same search strategy. Although we attempted to access and include as many of the datasets identified as possible, some were not included because of problems in access and methods. Further, as we modelled only for prevalence reported between 2014 and 2023, all of the data in longitudinal or repeated studies and surveys included in the report may not have been included in the modelling if the data collected for some countries or waves fell outside this period. Furthermore, the period for data inclusion covered the COVID-19 pandemic, which may temporarily have inflated experiences of loneliness in studies and surveys conducted during the pandemic period (2020–2023) *(47)*.

The Meta–Gallup Global State of Social Connections survey provided data on the prevalence of loneliness in 142 countries. For 69 of the 153 countries included in this report, that survey was the only available data source. Thus, certain estimates for countries and regions and the overall estimates might be biased towards the findings of that survey. We adjusted for this potential bias (see Data, above). In the Global State of Social Connections survey, a mixture of interviewing modes was used (phone and face-to-face) *(48)*, which might have introduced some measurement errors. For instance, individuals who respond to phone interviews may be more cautious than face-to-face respondents and may be more likely to present themselves in a "socially desirable" manner ("social desirability bias" *(49)*) which may be more pronounced for sensitive topics. Despite these limitations, the Global State of Social Connections survey was included in current estimates to maximize the coverage of countries, particularly of those for which there are limited data on loneliness. Further measurement and surveillance should be conducted for countries for which there were no other datasets to triangulate estimates to improve the accuracy of estimates.

Another limitation of this analysis is the use of different measurement instruments in different surveys. To maximize the available data sources, we included both scale and single-item instruments, with differences in the recall period for single-item instruments such as the past week, past year, past 4 weeks or no defined period. Ideally, to ensure data consistency, a "gold-standard" instrument would have been used in the majority of data sources. Current approaches to assessing loneliness

are heterogeneous among surveys and countries, and we adjusted only for average differences in the three main source types (scale, single-item with defined recall period and single-item with unspecified recall period). Further, the surveys generally did not distinguish between transient and chronic loneliness (Chapter 1), partly because of lack of consensus on when transient loneliness become chronic and lack of longitudinal or repeated cohort studies. As loneliness continues to increase as a global health concern, measurement approaches should be standardized to ensure the consistency and robustness of data for systematic monitoring.

Because of the small samples in the surveys, we chose to model four broad age groups (adolescents, young adults, middle-aged adults and older adults). More detailed data may reveal additional information about how loneliness differs by age, particularly among older old groups aged ≥ 80 years, among whom loneliness may become more prevalent. Future analyses could be conducted of different parameterizations to estimate differences in the age–sex pattern by region or country. The models could be refined further as more data become available.

In view of these considerations, the model-based estimates should be interpreted as guides to priority setting and understanding of the probable burden of loneliness in a country and not as exact estimates.

Acknowledgements

References

1. Sharrow D, Hug L, You D, Alkema L, Black R, Cousens S et al. Global, regional, and national trends in under-5 mortality between 1990 and 2019 with scenario-based projections until 2030: a systematic analysis by the UN Inter-agency Group for Child Mortality Estimation. Lancet Glob Health. 2022;10:e195–206 (https://doi.org/10.1016/s2214-109x(21)00515-5).

2. Santomauro DF, Mantilla Herrera AM, Shadid J, Zheng P, Ashbaugh C, Pigott DM et al. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. Lancet. 2021;398:1700–12 (https://doi.org/10.1016/S0140-6736(21)02143-7).

3. Strain T, Flaxman S, Guthold R, Semenova E, Cowan M, Riley LM et al. National, regional, and global trends in insufficient physical activity among adults from 2000 to 2022: a pooled analysis of 507 population-based surveys with 5.7 million participants. Lancet Glob Health. 2024;12:e1232–e43 (https://doi.org/10.1016/S2214-109X(24)00150-5).

4. Ganatra B, Gerdts C, Rossier C, Johnson BR Jr, Tunçalp Ö, Assifi A et al. Global, regional, and subregional classification of abortions by safety, 2010-14: estimates from a Bayesian hierarchical model. Lancet. 2017;390:2372–81 (https://doi.org/10.1016/S0140-6736(17)31794-4).

5. Dharamshi A, Barakat B, Alkema L, Antoninis M. A Bayesian model for estimating Sustainable Development Goal indicator 4.1.2: school completion rates. J R Stat Soc Ser C: Appl Stat. 2022;71:1822–64 (https://doi.org/10.1111/rssc.12595).

6. Surkalim DL, Luo M, Eres R, Gebel K, van Buskirk J, Bauman A, Ding D. The prevalence of loneliness across 113 countries: systematic review and meta-analysis. BMJ. 2022;376:e067068 (https://doi.org/10.1136/bmj-2021-067068).

7. Global school-based student health survey [online database]. Geneva: World Health Organization; 2024 (https://www.who.int/teams/noncommunicable-diseases/surveillance/systems-tools/global-school-based-student-health-survey).

8. Hughes ME, Waite LJ, Hawkley LC, Cacioppo JT. A short scale for measuring loneliness in large surveys: results from two population-based studies. Res Aging. 2004;26:655–72 (https://doi.org/10.1177/0164027504268574).

9. De Jong Gierveld J, Van Tilburg T. The De Jong Gierveld short scales for emotional and social loneliness: tested on data from 7 countries in the UN generations and gender surveys. Eur J Ageing. 2010;7:121–30 (https://doi.org/10.1007/s10433-010-0144-6).

10. Berlingieri F, Colagrossi M, Mauri C. Loneliness and social connectedness: insights from a new EU-wide survey. Brussels: European Commission; 2023 (https://publications.jrc.ec.europa.eu/repository/handle/JRC133351).

11. Ellis GF, Lumley T, Żółtak T, Schneider B, Krivitsky PN. Srvyr: 'dplyr'–like syntax for summary statistics of survey data [Internet]. 2024 (https://cran.r-project.org/web/packages/srvyr/index.html).

12. Lumley T. Analysis of complex survey samples. J Stat Softw. 2004;9:1–19 (https://doi.org/10.18637/jss.v009.i08).

13. Health Behaviour in School-aged Children. Geneva: World Health Organization; 2024 (https://hbsc.org/).

14. Meta-Gallup. The global state of social connections. Washington, DC: Gallup; 2023 (https://www.gallup.com/analytics/509675/state-of-social-connections.aspx).

15. European Social Survey European Research Infrastructure Consortium. European Social Survey [online database]. London: University of London; 2025 (https://www.europeansocialsurvey.org/).

16. Börsch–Supan A, Brandt M, Hunkler C, Kneip T, Korbmacher J, Malter F et al. Data resource profile: the Survey of Health, Ageing and Retirement in Europe (SHARE). Int J Epidemiol. 2013;42:992–1001 (https://doi.org/10.1093/ije/dyt088).

17. Gauthier AH, Cabaço SLF, Emery T. Generations and Gender Survey study profile. Longitud Life Course Stud. 2018;9:456–65 (https://doi.org/10.14301/llcs.v9i4.500).

18. Generations and Gender Programme. Generations and Gender Survey (GGS) – wave 2 [online database]. DANS Data Station Social Sciences and Humanities; 2019 (https://ssh.datastations.nl/citation?persistentId=doi:10.17026/dans-xm6-a262).

19. Gyasi RM. Ageing, health and health-seeking behaviour in Ghana (Doctoral thesis). Hong Kong: Lingnan University; 2018 (https://commons.ln.edu.hk/otd/41/).

20. Canadian Health Survey on Seniors (CHSS). Ottawa: Statistics Canada; 2025 (https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5267).

21. Canadian Longitudinal Study on Aging (onlline). Ottawa: Canadian Institutes of Health Research; 2024 (https://www.clsa-elcv.ca/).

22. Chinese Longitudinal Healthy Longevity Survey (CLHLS) community datasets (1998–2014). Beijing: Peking University, Center for Healthy Aging and Development Studies.; 2025 (https://www.icpsr.umich.edu/web/NACDA/series/487).

23. English Longitudinal Study of Ageing. London: University College London, Research Department of Behavioural Science and Health; 2024 (https://www.elsa-project.ac.uk/).

24. Lima-Costa MF, de Melo Mambrini JV, Bof de Andrade F, de Souza PRB Jr, de Vasconcellos MTL, Neri AL et al. Cohort profile: the Brazilian Longitudinal Study of Ageing (ELSI-Brazil). Int J Epidemiol. 2023;52:e57–65 (https://doi.org/10.1093/ije/dyac132).

25.   The Japan COVID-19 and Society Internet Survey [online database]. 2021 (https://jacsis-study.jp/).

26.   Kim Y, Choi S, Chun C, Park S, Khang YH, Oh K. Data resource profile: The Korea Youth Risk Behavior Web–based Survey (KYRBS). Int J Epidemiol. 2016;45:1076 (https://doi.org/10.1093/ije/dyw070).

27.   Welcome to NHMS. Ministry of Health Malaysia, Institute for Public Health; 2023 (https://iku.gov.my/nhms).

28.   PeNSE – National Survey of School Health. Rio de Janeiro: Brazilian Institute of Geography and Statistics; 2015 (https://www.ibge.gov.br/en/statistics/social/health/16837-national-survey-of-school-health-editions.html?edicao=16842).

29.   Madeira T, Peixoto-Plácido C, Goulão B, Mendonça N, Alarcão V, Santos N et al. National survey of the Portuguese elderly nutritional status: study protocol. BMC Geriatr. 2016;16:139 (https://doi.org/10.1186/s12877-016-0299-x).

30.   Health status and its socio-economic covariates in the older population in Poland – The PolSenior 2 study. Gdańsk: Medical University of Gdańsk; 2025 (https://polsenior2.mug.edu.pl/).

31.   Kowal P, Chatterji S, Naidoo N, Biritwum R, Fan W, Lopez Ridaura R et al. Data resource profile: The World Health Organization Study on global AGEing and adult health (SAGE). Int J Epidemiol. 2012;41:1639–49 (https://doi.org/10.1093/ije/dys210).

32.   Homepage - Ungdata [online database]. Oslo: OsloMet; 2024 (https://www.ungdata.no/).

33.   Lim MH, Eres R, Peck C. The young Australian loneliness survey: Understanding loneliness in adolescence and young adulthood. Melbourne: Swinburn University of Technology; 2019 (https://www.vichealth.vic.gov.au/sites/default/files/The-young-Australian-loneliness-survey-Report.pdf).

34.   Rangul V, Holmen TL, Langhammer A, Ingul JM, Pape K, Fenstad JS, Kvaløy K. Cohort profile update: The Young–HUNT Study, Norway. Int J Epidemiol. 2024;53:dyae013 (https://doi.org/10.1093/ije/dyae013).

35.   GBD 2021 Causes of Death Collaborators. Global burden of 288 causes of death and life expectancy decomposition in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. Lancet. 2024;403:2100–32 (https://doi.org/10.1016/s0140-6736(24)00367-2).

36.   Ferrari AJ, Santomauro DF, Aali A, Abate YH, Abbafati C, Abbastabar H et al. Global incidence, prevalence, years lived with disability (YLDs), disability-adjusted life-years (DALYs), and healthy life expectancy (HALE) for 371 diseases and injuries in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. Lancet. 2024;403:2133–61 (https://doi.org/10.1016/S0140-6736(24)00757-8).

37.   GBD results [online database]. Seattle (WA): University of Washington, Institute for Health Metrics and Evaluation; 2024 (https://www.healthdata.org/data-tools-practices/interactive-visuals/gbd-results).

38.   National accounts statistics: Main aggregates and detailed tables, 2022. New York: United Nations, Department of Economic and Social Affairs; 2023 (https://unstats.un.org/unsd/nationalaccount/sdpubs/MADT-2022.pdf).

39.   Human Development Report 2023–24: Breaking the gridlock: reimagining cooperation in a polarized world. Vienna: United Nations Development Programme; 2024 (https://hdr.undp.org/content/human-development-report-2023-24).

40.   Estimates and projections of women of reproductive age who are married or in a union: 2020 revision [online database]. New York: United Nations, Department of Economic and Social Affair; 2020 (https://www.un.org/development/desa/pd/file/9053).

41.   Global education monitoring report, 2023: technology in education: a tool on whose terms? Paris: United Nations Educational, Scientific and Cultural Organization; 2023. https://doi.org/10.54676/UZQV8501.

42.   Bürkner PC. brms: an R package for Bayesian multilevel models using Stan. J Stat Softw. 2017;80:1–28 (https://doi.org/10.18637/jss.v080.i01).

43.   Bürkner PC. Advanced Bayesian multilevel modeling with the R package brms. R J. 2018;10:395–411 (https://doi.org/10.32614/RJ-2018-017).

44.   RStan: The r interface to stan [website]. Stan Development Team; 2024 (https://mc-stan.org/).

45.   World Population Prospects 2024. Geneva: United Nations, Department of Economic and Social Affairs; 2024 (https://population.un.org/wpp/).

46.   Buecker S, Mund M, Chwastek S, Sostmann M, Luhmann M. Is loneliness in emerging adults increasing over time? A preregistered cross-temporal meta-analysis and systematic review. Psychol Bull. 2021;147:787–805 (https://doi.org/10.1037/bul0000332).

47.   Ernst M, Niederer D, Werner AM, Czaja SJ, Mikton C, Ong AD et al. Loneliness before and during the COVID–19 pandemic: a systematic review with meta-analysis. Am Psychol. 2022;77:660–77 (https://doi.org/10.1037/amp0001005).

48.   The state of social connections methodology report. Washington, DC: Gallup; 2022 (https://socialmediaarchive.org/record/47/files/methodology.pdf).

49.   Vogel DL, Wester SR, Hammer JH, Downing-Matibag TM. Referring men to seek help: the influence of gender role conflict and stigma. Psychol Men Masculinities. 2014;15:60 (https://doi.org/10.1037/a0031761).

Annex 2. Estimation of global mortality due to loneliness

Loneliness can have negative impacts on physical and mental health and also on various social and economic outcomes (Chapter 4). It has been estimated that loneliness can increase the risk of all-cause mortality by 9–22% (section 4.1). The main three pathways that have been proposed to explain how social disconnection gets "under the skin" and becomes biologically embedded, resulting in increased risk for physical health and all-cause mortality, are shown in Box 6.

This annex outlines the method used to estimate global mortality associated with loneliness, with population attributable fractions (PAFs). Global and regional mortality rates were calculated for adolescents up to older adulthood with the WHO global health estimates (GHE) *(1)* for the same age groups used in the prevalence estimates presented in Chapter 2 and Annex 1.

Data

The number of deaths attributable to loneliness was calculated by applying the PAF for loneliness for broad age groups and WHO regions to figures for all-cause mortality for each population. The age groups used to estimate the prevalence of loneliness were the same as those used to calculate attributable deaths: adolescents (13–17 years), young adults (18–29 years), middle-aged adults (30–59 years) and older adults (≥ 60 years). The estimates for each age group and WHO region calculated in Chapter 2 and Annex 1 were used as the proportion of the population exposed to loneliness in each respective subgroup.

A hazard ratio of 1.14 (95% CI: 1.08; 1.20; P < 0.001) from a recent comprehensive meta-analysis of 45 studies *(2)* was used to estimate the excess risk for loneliness-related mortality. That study was chosen as it includes people aged ≥ 18 years, which is a wider age range than in other studies which addressed only one age group, mainly older adults. Additionally, of all the meta-analyses of all-cause mortality due to loneliness, this one included the largest number of primary studies (n=90) and

participants (n=1 209 207) and controlled for most of the main confounding variables for loneliness-related mortality.

Population-level data for annual population mortality estimates for each age group were taken from the WHO's GHE *(1)*. Although ideally we would have used data for the same period as those used to estimate prevalence (Chapter 2), the COVID-19 pandemic disproportionately inflated excess deaths. Thus, only GHE mortality data for 2014–2019 were used to calculate average regional mortality rates (Table A2.1).

Table A2.1.

Average estimated annual GHE mortality by region and age group (2014–2019)

WHO Region	Mortality rate
African Region	
Adolescents	157 697.2
Young adults	490 722.8
Middle-aged adults	1 827 228.1
Older adults	2 406 345.4
Region of the Americas	
Adolescents	42 401.5
Young adults	243 060.9
Middle-aged adults	1 298 193.8
Older adults	4 915 174.2
South-East Asia Region	
Adolescents	138 174.5
Young adults	505 247.4
Middle-aged adults	3 348 834.3
Older adults	7 686 205.6
European Region	
Adolescents	15 383.7
Young adults	103 609.0
Middle-aged adults	1 365 911.4
Older adults	7 622 565.3

WHO Region	Mortality rate
Eastern Mediterranean Region	
Adolescents	89 442.4
Young adults	298 159.4
Middle-aged adults	866 589.9
Older adults	1 812 332.3
Western Pacific Region	
Adolescents	41 029.1
Young adults	226 119.8
Middle-aged adults	2 332 269.4
Older adults	11 035 534.7

Model

PAFs were calculated from Levin's formula *(3)*:

$$PAF = \frac{P_E(RR - 1)}{1 + P_E(RR - 1)}$$

where P_E represents the proportion of the population exposed to loneliness and RR represents the change in risk for all-cause mortality due to exposure to loneliness (relative risk) in comparison with those not exposed to loneliness. Attributable burden was calculated by applying the PAF to estimated mortality figures for each group. Total mortality for each region was taken to be the sum of the attributable burden for each age group in that region. The estimated global mortality due to loneliness was taken to be the sum of the total mortality for each region (Table A2.2).

Table A2.2.

Total numbers of deaths related to loneliness by region and age group (2014–2019)[a]

WHO Region	P_E	PAF (%)	Attributable burden	Total attributable deaths[b]
African Region				**155 052.4**
Adolescents	0.265767	3.6	5 657.0	
Young adults	0.242489	3.3	16 112.3	
Middle-aged adults	0.233839	3.2	57 922.6	
Older adults	0.230928	3.1	75 360.6	
Region of the Americas				**87 279.3**
Adolescents	0.175953	2.4	1 019.4	
Young adults	0.154459	2.1	5 144.7	
Middle-aged adults	0.136507	1.9	24 344.5	
Older adults	0.083465	1.2	56 770.7	
South-East Asia Region				**270 484.1**
Adolescents	0.204969	2.8	3 854.4	157 697.2
Young adults	0.180748	2.5	12 469.6	490 722.8
Middle-aged adults	0.174253	2.4	79 750.9	1 827 228.1
Older adults	0.165843	2.3	174 409.3	2 406 345.4
European Region				**102 232.0**
Adolescents	0.147786	2.0	311.8	
Young adults	0.115047	1.6	1 642.3	
Middle-aged adults	0.101026	1.4	19 049.6	
Older adults	0.076936	1.1	81 228.2	
Eastern Mediterranean Region				**76 511.1**
Adolescents	0.247897	3.4	3 000.0	
Young adults	0.215510	2.9	8 732.4	
Middle-aged adults	0.200657	2.7	23 679.1	
Older adults	0.165742	2.3	41 099.5	
Western Pacific Region				**179 727.2**
Adolescents	0.155907	2.1	876.4	
Young adults	0.112405	1.5	3 503.2	
Middle-aged adults	0.097909	1.4	31 536.9	
Older adults	0.094312	1.3	143 810.7	
Global				**871 286.2**

[a]   With a hazard ratio of 1.14 *(2)*
[b]   Totals may not add up due to rounding

Globally, between 2014 and 2019, approximately 871 286 deaths were due to loneliness each year. The estimate does not include children < 13 years because of lack of data.

Limitations

As the PAF was calculated from the estimates for the prevalence of loneliness calculated in Chapter 2, the limitations to the data and to the modelling of these figures are carried over to the estimates in this section (see Annex 1).

One hazard ratio for all-cause mortality due to loneliness was applied to all age groups and regions in calculating PAF. This ratio was from the most comprehensive study on the topic, which included a lifespan approach *(2)*. It is noted, however, that experiences of loneliness differ among and within age and cultural groups (chapters 2 and 3); therefore, measures of association specific to each should ideally be used in calculations. The GHE estimates used to calculate the average rate of mortality in each region and age group were based only on data up to 2019, whereas data up to 2023 were available for the estimates of the prevalence of loneliness. Therefore, the periods compared for average annual mortality rates (2014–2019) and prevalence of loneliness (2014–2023) are not exactly the same. This may skew calculations of attributable deaths, especially as the COVID-19 pandemic began in March 2020 and ended in May 2023 *(4)*. The effect of the pandemic on the prevalence of loneliness were not, however, large enough to change the modelling outcomes significantly *(5)*.
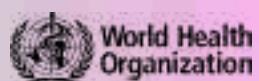
Data on this topic are currently lacking. Generation of such data would require greater investment in monitoring and surveillance and provide more accurate estimates.

References

1. Global health estimates: life expectancy and leading causes of death and disability. Geneva: World Health Organization; 2024 (https://www.who.int/data/global-health-estimates).

2. Wang F, Gao Y, Han Z, Yu Y, Long Z, Jiang X et al. A systematic review and meta-analysis of 90 cohort studies of social isolation, loneliness and mortality. Nat Hum Behav. 2023;7:1307–19 (https://doi.org/10.1038/s41562-023-01617-6).

3. Levin ML. The occurrence of lung cancer in man. Acta Unio Int Contra Cancrum. 1953;9:531–941 (https://cir.nii.ac.jp/crid/1573387451189265664).

4. Coronavirus disease (COVID-19) pandemic [website]. Copenhagen: World Health Organization Regional Office for Europe; 2024 (https://www.who.int/europe/emergencies/situations/covid-19).

5. Ernst M, Niederer D, Werner AM, Czaja SJ, Mikton C, Ong AD et al. Loneliness before and during the COVID-19 pandemic: a systematic review with meta-analysis. Am Psychol. 2022;77:660–77 (https://doi.org/10.1037/amp0001005).

Harness the #PowerOfConnection

World Health Organization | WHO Commission on Social Connection