

Population Economics

Sylke V. Schnepf · Béatrice d'Hombres ·  
Caterina Mauri *Editors*

# Loneliness in Europe

Determinants, Risks and Interventions

Written by scientific  
staff of the



OPEN ACCESS

 Springer

# Population Economics

## **Editor-in-Chief**

Klaus F. Zimmermann, UNU-MERIT, Maastricht University, Maastricht,  
The Netherlands

## **Series Editors**

Michaella Vanore, Maastricht Graduate School of Governance/UNU-MERIT,  
Maastricht University, Maastricht, The Netherlands

Madeline Zavodny, Coggin College of Business, University of North Florida,  
Jacksonville, USA

Alessandro Cigno, University of Florence, Florence, Italy

Shuaizhang Feng, Institute for Economic and Social Research, Jinan University,  
Guangzhou, China

Oded Galor, Brown University, Providence, USA

Junsen Zhang, Chinese University of Hong Kong, Shatin, Hong Kong

Bengt-Arne Wickström, Humboldt-Universität Berlin, Berlin, Germany

John Ermisch, ISER, University of Essex, Colchester, Essex, UK

Research on population economics deals with some of the most pertinent issues of our time and, as such, is of interest to academics and policymakers alike. Like the Journal of Population Economics, the book series “Population Economics” addresses a wide range of theoretical and empirical topics related to all areas of the economics of population, household, and human resources. Books in the series comprise work that closely examines special topics related to population economics, incorporating the most recent developments in the field and the latest research methodologies. Micro-level investigations include topics related to individual, household or family behavior, such as migration, aging, household formation, marriage, divorce, fertility choices, labor supply, health, and risky behavior. Macro-level inquiries examine topics such as economic growth with exogenous or endogenous population evolution, population policy, savings and pensions, social security, housing, and healthcare. These and other topics related to the relationship between population dynamics and public choice, economic approaches to human biology, and the impact of population on income and wealth distributions have important individual, social, and institutional consequences, and their scientific examination informs both economic theory and public policy.

All books in this series are peer-reviewed.

Sylke V. Schnepf · Béatrice d'Hombres ·  
Caterina Mauri  
Editors

# Loneliness in Europe

Determinants, Risks and Interventions

 Springer

*Editors*

Sylke V. Schnepf  
Joint Research Centre (JRC)  
European Commission  
Ispra, Italy

Béatrice d'Hombres  
Joint Research Centre (JRC)  
European Commission  
Ispra, Italy

Caterina Mauri  
Brussels Institute for Social and Population  
Studies (BRISPO)  
Vrije Universiteit Brussel  
Elsene, Belgium



ISSN 1431-6978

Population Economics

ISBN 978-3-031-66581-3

ISBN 978-3-031-66582-0 (eBook)

<https://doi.org/10.1007/978-3-031-66582-0>

© The European Union, represented by the European Commission 2024. This book is an open access publication.

**Open Access** This book is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this book are included in the book's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the book's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG  
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

If disposing of this product, please recycle the paper.

*This book is dedicated to the policymakers, stakeholders and individuals who have committed themselves to give voice to the problem of loneliness, to help those feeling lonely and to evaluate the effectiveness of loneliness interventions thereby improving the physical and mental well-being of people and fostering social cohesion and democratic processes in societies around the world.*

# Foreword by Evelyn Regner

Let me start by telling you a little story: a true story. Like many of you, I went to school six days a week. Just as many workers today still work six or even more days, despite laws and directives to the contrary. When I was a child in Austria, a colleague of mine was a child in Germany. Her grandfather, a grim-looking Opa, very caring for his family and working hard in the metal industry, also worked six days a week. Imagine his granddaughter's surprise when she came home one day to see this rock of a man with his face covered in tears.

Why was he crying? This Opa was so happy about the news of a five-day workweek that he could not hold back his tears. He explained that now he would finally have the energy to spend quality time with his granddaughter. That he could finally do something other than work, sleep and eat. He missed a social environment beyond work—something we might define today as 'loneliness'.

The matters of loneliness, mental strain and unpaid work of all kinds have come to our attention in recent years, and with all that is happening they will become even more urgent in the coming years—you, as a reader, have recognised this. And so have my fellow Members of the European Parliament who, with me, initiated the pilot project in 2020 commencing years of research, assessment and reflection, culminating in this book thanks to the excellent work of the Joint Research Centre. A big thank you to all the people making this project a reality for talking about what brings us together and for doing such great work!

Why we wanted to start this project was also closely linked to the experience of COVID-19, but as my initial story might suggest, not only. Loneliness is a widespread phenomenon in the EU, despite, or perhaps because of, the way we live. However, we know very little about its extent, and we have yet to develop EU-wide policies that address its effects as well as its causes.

Academic evidence from around the world shows that loneliness is complex. It can be a lack of support networks or communication skills, with health (physical and mental) and social consequences at an individual level, as well as an economic impact on people's ability to work and on the interconnectedness of society. Loneliness has many symptoms (e.g. depression), which are sometimes treated medically, while the root causes of the problem remain unresolved. The impact of loneliness was

highlighted on a large scale during the COVID-19 crisis, demonstrating the negative effects of isolation on social cohesion and mental health. It has a major impact on the demography of Europe, not only in terms of health and social connectedness, but also on the economy through productivity.

In a fast-moving and changing world, with more virtual than physical contact, with ageing and culturally diverse populations, with wars, rising prices and uncertainty, with complex demands on workers' skills, more and more people feel left behind. The glue that binds us together as a society is crumbling—disintegrating. More and more people live in fear. The individuality of society is eroding into isolation and accumulating into loneliness.

We usually perceive loneliness as an intrinsic, subjective feeling, but the overall circumstances of life play an important role. We also define happiness as an individual goal—especially in the capitalist structures we live in; we are often told that we can simply buy happiness. However, this is not true. Mental health, good friendships and happiness cannot be bought—and young people in particular often do not (yet) know this. And when they fail to achieve their goals, the pressure mounts.

On top of that, the cost of living has risen even more: if you want to meet someone and have a meaningful relationship, the cost of public transport or buying a cup of coffee can be enough of a hurdle to keep you at home—alone. Also, because there are far too few public spaces where you do not have to consume. And fighting loneliness through a screen is not the same as a hug from a friend.

Therefore, we need to read the research results in this book very carefully. Understand and listen as well as address the symptoms and root causes. Having more data and information about the prevalence of loneliness, its factors and effects will help us to tackle its symptoms. However, we are not studying loneliness to treat it as just another disease or pandemic, but rather to deepen our knowledge of how to give everyone the opportunity to live a meaningful life—a good life. We need to put people's happiness and well-being at the heart of what we do. Measuring how society is doing is crucial to adapting to current circumstances, because it helps us understand where the shortcomings of our policies lie. Meaningful connections and meaningful work are what make us human.

Like for the Opa I mentioned at the beginning, we have to create the society and the conditions for people to have a fulfilled and meaningful life through the work we do, but also through the quality relationships we have.

Thank you very much for engaging in this topic and making a difference!

Strasbourg, France

Evelyn Regner  
Vice-President of the European Parliament



# Foreword by Dubravka Šuica

Loneliness. It is a heavy word, carrying a weight that many of us have felt at one time or another, perhaps more often than we care to admit. It is a silent epidemic that permeates our societies, touching the lives of millions across our continent. Yet, it is a topic that is often overlooked or dismissed as a personal issue, something to be dealt with behind closed doors.

But what if we were to confront loneliness head-on, not as individuals, but as a society? What if we were to acknowledge the profound impact that social isolation has on our collective well-being? On our economic performance? These are some of the questions that have guided my journey as European Commission Vice President for Democracy and Demography, leading me to explore the depths of this complex and often misunderstood phenomenon.

In recent years, addressing loneliness has gained traction globally, prompting action at various levels. The European Commission has spearheaded efforts to address the issue. Loneliness was recognised as a health priority under the Swedish presidency of the Council of the EU, and in June 2023, the European Commission unveiled a strategy to tackle increasing mental health problems across the EU, highlighting the challenges linked to growing loneliness. A joint project of the European Commission and the European Parliament on loneliness was launched in 2021. This project aimed to gather comprehensive data and insights on loneliness across Europe, facilitating informed policy decisions. These endeavours represent crucial steps towards combating loneliness on a societal scale.

Through this book, which unveils the findings of the joint project, we embark on a journey exploring loneliness and social isolation in the European Union. Through the insights of experts from the European Commission's Joint Research Centre who have studied the causes and effects of loneliness, and through their reflections on both the progress made and the obstacles that persist in addressing it, we gain a deeper understanding of the challenges that are being faced and the opportunities that lie ahead.

But this book is more than just a collection of words on a page. It is a call to action and a reminder that loneliness is not inevitable and that it is not an individual, but rather a societal issue that demands our attention and our resolve. As you read

these pages, I urge you to consider your own role in combating loneliness in your community and beyond. Whether through simple acts of kindness or through larger-scale initiatives, each of us has the power to make a difference.

Together, let us embark on this endeavour with unwavering dedication and a steadfast commitment to crafting policies that alleviate loneliness, ensuring that future generations experience robust social bonds and meaningful connections.

Thank you for joining us on this crucial journey.

Brussels, Belgium

Dubravka Šuica  
Vice-President for Democracy  
and Demography  
European Commission

# Acknowledgements

This volume would not have been possible without the support of the European Parliament and the European Commission Directorate-General for Employment, Social Affairs and Inclusion as well as teammates from the Survey Methods and Analysis Centre (SMAC) of the European Commission's Joint Research Centre (JRC) who designed the EU Loneliness Survey and supervised the data collection. We also want to thank everybody in the JRC who helped us during the process of writing and publishing this volume, especially Michaela Saisana, Head of the Science for Modelling, Monitoring and Evaluation Unit, and Jolita Butkeviciene, Director for Innovation in Science and Policymaking. Thanks go also to Steve Whitehouse for meticulously reviewing and careful editing of parts of the volume.

# Disclaimer

This volume is a publication by the Joint Research Centre (JRC), the European Commission's science and knowledge service. It aims to provide evidence-based scientific support to the European policymaking process. The contents of this publication do not necessarily reflect the position or opinion of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of this publication. For information on the methodology and quality underlying the data used in this publication for which the source is neither Eurostat nor other Commission services, users should contact the referenced source. The designations employed and the presentation of material on the maps do not imply the expression of any opinion whatsoever on the part of the European Union concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Science for policy

The Joint Research Centre (JRC) provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society



**EU Science Hub**  
[joint-research-centre.ec.europa.eu](https://joint-research-centre.ec.europa.eu)

# Contents

## Part I Introduction

- 1 Loneliness: An Underestimated Public Health Threat** ..... 3  
Béatrice d’Hombres, Caterina Mauri, and Sylke V. Schnepf
- 2 Measuring Loneliness: The European Union Loneliness Survey  
Covering 27 European Countries** ..... 13  
Caterina Mauri, Martina Barjaková, and Francesco Berlingieri

## Part II Loneliness and Its Associates

- 3 Who Feels Lonely in the European Union?** ..... 43  
Francesco Berlingieri, Martina Barjaková, Andrea Garnero,  
and Caterina Mauri
- 4 Childhood Experiences, Health and Loneliness** ..... 71  
Matija Kovacic, Sylke V. Schnepf, and Zsuzsa Blaskó
- 5 Social Media Use and Loneliness** ..... 93  
Béatrice d’Hombres and Chiara Gentile
- 6 Loneliness, Societal Preferences and Political Attitudes** ..... 117  
Alexander Langenkamp and Elena Stepanova

## Part III Loneliness Interventions and Conclusions

- 7 Counteracting the Effects of Loneliness: Empirical Research  
and Policy Interventions** ..... 139  
Elizabeth J. Casabianca and Minna Nurminen
- 8 Taking Stock of Loneliness in the European Union: A Future  
Pathway** ..... 167  
Sylke V. Schnepf, Caterina Mauri, and Béatrice d’Hombres

# Editors and Contributors

## About the Editors

**Sylke V. Schnepf** (Ph.D.) is a senior policy advisor in the Science for Modelling, Monitoring and Evaluation Unit of the European Commission's Joint Research Centre (JRC) in Ispra, Italy. She is part of the Survey Methods and Analysis Centre (SMAC) team conducting research on survey design, fairness and loneliness. She also contributes to the Competence Centre on Microeconomic Evaluation through research, teaching and advisory activities on quantitative education policy evaluation. Before joining the JRC in 2014, she was an associate professor in social statistics at the University of Southampton, UK. Dr. Schnepf has a long publication record on patterns of cross-national educational inequalities and counterfactual impact evaluation of policies aimed at mitigating these inequalities. She is also a member of the Scientific Committee of the JRC and a research fellow of the IZA Institute of Labor Economics in Bonn, Germany.

**Béatrice d'Hombres** (Ph.D.) leads the Survey Methods and Analysis Centre (SMAC) within the Science for Modelling, Monitoring and Evaluation Unit at the Joint Research Centre (JRC) of the European Commission. She is the coordinator for the European Parliament Pilot Project on Loneliness at the JRC. With over 17 years of experience as a researcher and policy analyst at the JRC, Dr. d'Hombres has worked in various fields, including labour economics, health economics and education economics, using applied econometric statistics and survey data analysis methodologies. Her research has been published in international journals such as the *European Economic Review*, *Health Economics*, *Social Science and Medicine*, the *B.E. Journal of Economic Analysis and Policy* and *Social Indicators Research*.

**Caterina Mauri** (Ph.D.) is a post-doctoral researcher at the Brussels Institute for Social and Population Studies (BRISPO), Vrije Universiteit Brussel, contributing to the IneqKill project—an interdisciplinary research initiative focusing on the long-term evolution of mortality inequalities from 1800 to the present day. Dr. Mauri holds

a Ph.D. in economics from the University of Southern Denmark and has previously worked at the Survey Methods and Analysis Centre of the European Commission's Joint Research Centre. Her research interests include loneliness and mental well-being, fairness and inequality perceptions, regional and urban economics, the labour market for artists and creatives, art consumption and innovation and technology in history.

## Contributors

**Martina Barjaková** University of Milano-Bicocca, Milan, Italy

**Francesco Berlingieri** European Commission, Joint Research Centre (JRC), Ispra, Italy

**Zsuzsa Blaskó** Independent Researcher, Brussels, Belgium

**Elizabeth J. Casabianca** European Commission, Joint Research Centre (JRC), Ispra, Italy

**Béatrice d'Hombres** European Commission, Joint Research Centre (JRC), Ispra, Italy

**Andrea Garnero** OECD, Paris, France;  
IZA, Bonn, Germany

**Chiara Gentile** European Commission, Joint Research Centre (JRC), Ispra, Italy

**Matija Kovacic** European Commission, Joint Research Centre (JRC), Ispra, Italy;  
Ca' Foscari University of Venice, Venice, Italy;  
IZA, Bonn, Germany

**Alexander Langenkamp** Goethe University Frankfurt, Frankfurt am Main, Germany

**Caterina Mauri** Vrije Universiteit Brussel, Elsene, Belgium

**Minna Nurminen** European Commission, Joint Research Centre (JRC), Ispra, Italy

**Sylke V. Schnepf** European Commission, Joint Research Centre (JRC), Ispra, Italy;  
IZA, Bonn, Germany

**Elena Stepanova** European Commission, Joint Research Centre (JRC), Ispra, Italy

**Part I**  
**Introduction**



# Chapter 1

## Loneliness: An Underestimated Public Health Threat



Béatrice d’Hombres, Caterina Mauri, and Sylke V. Schnepf

**Abstract** Loneliness has emerged as a prominent concern in recent years, leading to it being described as the ‘epidemic’ of the twenty-first century. The COVID-19 pandemic, coupled with the distancing measures implemented to curb its spread, further heightened those worries. This introductory chapter explores the growing emphasis on loneliness in both public discourse and the political arena and discusses the underlying reasons for this increased public attention. It then presents the recent joint project of the European Commission and the European Parliament aimed at generating additional scientific insights into the risk factors and consequences of loneliness, as well as the effectiveness of loneliness interventions in the European Union. Lastly, the chapter explains the structure and organisation of this volume.

### 1.1 Introduction

Throughout our lives, we all experience moments of loneliness, a distressing sense of mismatch between current and desired levels of social connection. Yet when this feeling persists, loneliness can become chronic and impact individuals and society as a whole.

Population ageing, rising numbers of people living alone and the advent of new technologies together have the potential to exacerbate feelings of loneliness within

---

B. d’Hombres (✉) · S. V. Schnepf  
European Commission, Joint Research Centre (JRC), Ispra, Italy  
e-mail: [Beatrice.dHombres@ec.europa.eu](mailto:Beatrice.dHombres@ec.europa.eu)

S. V. Schnepf  
e-mail: [Sylke.Schnepf@ec.europa.eu](mailto:Sylke.Schnepf@ec.europa.eu)

S. V. Schnepf  
IZA, Bonn, Germany

C. Mauri  
Brussels Institute for Social and Population Studies (BRISPO), Vrije Universiteit Brussel, Elsene, Belgium  
e-mail: [Caterina.Mauri@vub.be](mailto:Caterina.Mauri@vub.be)

society. As older people make up a growing proportion of the population, individuals may face challenges such as a loss of companionship and reduced social interactions. Simultaneously, the increasing prevalence of one-person households—whether due to lifestyle preferences, changes in societal norms or economic factors—can mean that many people do not benefit from the traditional support networks that often come from living with other people. Additionally, while technology has undoubtedly enhanced communication on a global scale, it has also altered the nature of interpersonal relationships. Much of the recent increase in concerns about loneliness relates to the role of communication technology.

The COVID-19 pandemic heightened fears that loneliness was becoming more widespread. Statistics seem to substantiate these fears, at least in the short term. While in 2016 approximately 12% of people in the European Union experienced frequent feelings of loneliness, this figure rose to 25% in the early months of the pandemic (Baarck et al., 2022). Loneliness is likely to have increased as a result of lockdowns (Brodeur et al., 2021) and restrictions on social and public gatherings implemented throughout the EU to stop the spread of the virus. The resulting decline in face-to-face encounters sparked a new round of debates in the media and in the public domain about the importance of social connections. It became evident that loneliness was not solely an issue for the elderly, a group already identified as vulnerable before the pandemic. Since then, loneliness has regularly featured as a topic of discussion in newspapers. In 2022 and 2023, for instance, *The New York Times* ran pieces entitled ‘How loneliness is damaging our health’ and ‘There’s no shame in feeling lonely’.<sup>1</sup> The number of scientific publications and citations related to articles on loneliness has also surged in recent times (Banerjee et al., 2023).

The increasing attention being paid to loneliness is justified given its potential effects on individual health, public expenditure and social cohesion. Acknowledgement of loneliness as a public health concern has led to policy initiatives at national, European and international levels. One such initiative is a collaboration between the European Commission and the European Parliament (the EC-EP project) aimed at generating additional scientific insights into the causes and consequences of loneliness, and also into the effectiveness of loneliness interventions in Europe.

## 1.2 The Link Between Loneliness, Health and Societal Cohesion

There are good reasons to be worried about loneliness. There is mounting evidence on the detrimental effect of loneliness on health (Casabianca & Kovacic, 2022). According to Holt-Lunstad et al. (2015) loneliness is associated with a higher risk of premature mortality than obesity and physical inactivity combined. It is as lethal

---

<sup>1</sup> See <https://www.nytimes.com/2022/04/20/nyregion/loneliness-epidemic.html> and <https://www.nytimes.com/2023/12/18/well/mind/loneliness-connection.html>. *The Guardian*, *The Economist*, *Corriere della Sera* and many other newspapers have also published articles on the topic.

as smoking 15 cigarettes per day. Adults who experience loneliness typically exhibit elevated levels of cortisol (the ‘stress hormone’), increased blood pressure, more disrupted sleep and greater cardiovascular problems than non-lonely people, both under stress and at rest (Hertz, 2021; Hawkley et al., 2010). Over time, this leads to increased rates of illness and mortality. Loneliness is also linked to depression and unhealthy behaviours such as poor diet, smoking and lack of physical exercise (Cacioppo et al., 2006). Therefore, rising loneliness is likely to not only lead to worse health for individuals but also impose greater strain and higher costs on the healthcare system.

While no figures are available for the European Union as a whole, country-specific studies suggest that the costs of loneliness to the public health service are high. In Spain, the *Observatorio Estatal de la Soledad No Deseada* (State Loneliness Observatory) concludes that these costs amount to as much as €14 billion per year nationally.<sup>2</sup> Fulton and Jupp (2015) estimate the costs of being lonely at £11,725 per person over the medium term in the United Kingdom, while Meisters et al. (2021) conclude that loneliness accounts for more than 10% of annual expenditure on mental healthcare in the Netherlands.<sup>3</sup> Correspondingly, Burlina and Rodríguez-Pose (2023) find that EU regions with a higher share of disconnected people experience lower economic growth.

Loneliness is not just a health or economic threat. As described in Cuccu and Stepanova (2021), loneliness is also linked to lower interpersonal trust and may in the end lead to lower societal cohesion. Individuals suffering from loneliness and social isolation tend to display lower levels of empathy and feel more threatened by unexpected life situations compared with their non-lonely counterparts. As argued by Hertz (2021), this translates into higher levels of distrust and intolerance towards others. Ultimately, lonely individuals may align with more extreme political views that pose a risk to societal cohesion.

### 1.3 From Public Attention to Political Action

While loneliness may appear at first sight to only be a matter of concern for the individuals affected, it has become increasingly evident that it represents a societal problem that calls for concerted action at local, national and international levels. Already in 2018 the UK announced a national loneliness plan and created a ministerial-level office to address loneliness, and there are now numerous national and local programmes to combat loneliness in EU member states. These range from broad national loneliness strategies to specific local interventions, targeting people affected by loneliness across all age groups (Nurminen et al., 2023). Outside of Europe, Japan’s government appointed a minister to tackle loneliness and social isolation in 2021. In the United States, Surgeon General Vivek Murthy issued a

---

<sup>2</sup> See <https://www.soledades.es/>.

<sup>3</sup> See Mihalopoulos et al. (2019) for a review of the economic cost of loneliness.

report calling for action to combat the ‘epidemic of loneliness and isolation’ in 2023, putting forward his proposed Framework for a National Strategy to Advance Social Connection,<sup>4</sup> while former presidential candidate Hillary Clinton expressed concerns about the ‘weaponization of loneliness’ (Clinton, 2023), suggesting that some political parties might target lonely and disconnected individuals. The World Health Organization has also recently launched a commission on social connection, which aims to promote action to tackle social isolation, secure support to scale up proven solutions and establish systems for monitoring loneliness and evaluating progress globally.<sup>5</sup>

The European Union has been active as well. Dubravka Šuica, European Commission Vice-President for Democracy and Demography, has often campaigned on the need to address loneliness in the EU.<sup>6</sup> Loneliness was a health priority under the Swedish presidency of the Council of the EU,<sup>7</sup> and in June 2023 the European Commission unveiled a strategy for a comprehensive approach to tackle increasing mental health problems across the EU. This initiative, which strives to foster good mental health and proactively address mental health conditions, underscores the specific challenges linked to growing loneliness (European Commission, 2023).<sup>8</sup> The European Commission also supports a number of multi-country and EU-wide partnerships to tackle loneliness.<sup>9</sup> Last but not least, since 2021 the EC-EP project has sought to generate additional scientific insights into the causes and consequences of loneliness, as well as into the effectiveness of loneliness interventions in Europe. A critical component of this project is the collection of Europe-wide data on loneliness, without which this volume would not have been possible.

---

<sup>4</sup> See Murthy (2023) for more information.

<sup>5</sup> See <https://www.who.int/groups/commission-on-social-connection> for more information.

<sup>6</sup> See for instance the speech delivered by Vice-President Šuica during the 2023 conference on ‘Loneliness in the European Union: Policies at work’ (Opening Speech (europa.eu)) or the EU-Japan joint press statement ‘EU-Japan exchange of views on loneliness and social isolation’ (ec.europa.eu/commission/presscorner/detail/en/statement\_21\_7726).

<sup>7</sup> Sweden held the Presidency of the Council of the EU during the first half of 2023.

<sup>8</sup> See the communication from the European Commission on a comprehensive approach to mental health.

<sup>9</sup> Examples include the Healthy Loneliness project, a new educational programme to create an enabling environment to minimise the negative effects of undesired loneliness among elderly people; RECETAS, a green project exploring the use of social activities in natural spaces to reduce loneliness; and the ALONE project, which aims to develop high-quality work-based vocational education and training for healthcare professionals to help them to approach vulnerable groups and older people affected by existential loneliness in an efficient and structured way.

## 1.4 The European Commission-European Parliament (EC-EP) Project on Loneliness

There were several reasons for initiating the EC-EP project on loneliness. Firstly, the empirical research on loneliness is dispersed across various disciplines, so it is challenging to obtain a comprehensive overview of the existing evidence. An essential facet of the project was the synthesis of existing knowledge derived from diverse scientific disciplines. Bringing together this wide range of knowledge is crucial for achieving a comprehensive understanding of loneliness, encompassing its prevalence, socio-demographic specificities, determinants and potential consequences. Reviews of existing literature on loneliness can be found in Cuccu and Stepanova (2021), Baarck and Kovacic (2022), Blaskó and Castelli (2022) and Barjaková et al. (2023). In the context of the EC-EP project, the Joint Research Centre of the European Commission (JRC) has also engaged outside the academic community with a number of practitioners working on loneliness interventions.

Secondly, a comprehensive understanding of how to address loneliness requires the compilation of information on existing interventions aimed at alleviating loneliness and a rigorous assessment of their effectiveness. The EC-EP loneliness project included a mapping of loneliness interventions, reviews of existing evidence regarding their effectiveness and discussions with practitioners actively involved in addressing loneliness. Some of the findings can be found in Beckers et al. (2022) and Nurminen et al. (2023).

Thirdly, one crucial step to address loneliness in the EU is accurate and effective measurement. A key component of the EC-EP loneliness project was the design and implementation of a comprehensive EU-wide survey focused on loneliness (hereafter referred to as the EU Loneliness Survey). This survey has several advantages compared with existing data on loneliness. Previous surveys often focused on single EU countries or targeted specific populations, making it difficult to capture a comprehensive view of the phenomenon across EU countries. Moreover, the few existing EU-wide surveys that include a measure of loneliness do not provide detailed information on key potential drivers and consequences of loneliness, hindering the formulation of effective policy recommendations. The EU Loneliness Survey addresses these limitations by measuring loneliness with a variety of validated measurement scales and including rich information on social connectedness, health, social media use, childhood experiences, social engagement and other relevant individual attitudes and beliefs. In addition, the survey was designed to capture the degree of stigma associated with loneliness and the level of awareness of existing loneliness interventions across the European Union.

## 1.5 Organisation of This Volume

The purpose of this book is to offer a comprehensive synthesis and analysis of the outcomes emanating from the EC-EP project on loneliness, with a particular emphasis on the EU Loneliness Survey. The empirical findings derived from this unique data source are examined in the following chapters of this volume.

The volume is made up of three parts:

Part I comprises this introductory chapter and Chap. 2, which discusses the concept of loneliness, explores the main measures of loneliness used in the literature and introduces the EU Loneliness Survey. More specifically, Chap. 2 defines loneliness and looks at the psychometric scales and direct questions commonly employed by researchers to measure loneliness, along with their respective advantages and limitations. It also provides a detailed description of the EU Loneliness Survey, and in particular the data collection method used and the survey's different modules. The final section of the chapter offers an overview of the prevalence of loneliness in Europe and highlights that about 13% of respondents interviewed for the survey reported feeling lonely most or all of the time.

Part II relies on the extensive data from the EU Loneliness Survey to systematically assess the risk factors associated with loneliness across diverse demographic and socio-economic groups and also to explore potential consequences of loneliness. It comprises four chapters.

Chapter 3 examines the factors associated with loneliness, with a specific focus on the demographic and socio-economic characteristics of the respondents. The chapter also investigates the importance of major life events (e.g. separation, health shocks, job loss) on loneliness and the role that social networks may play in protecting against loneliness. The chapter's findings are instrumental for shaping targeted interventions and acknowledging differences in the incidence of loneliness across diverse segments of the population.

Chapter 4 focuses on the associations between loneliness, health and adverse childhood experiences. While there is extensive research exploring the adverse health impacts of loneliness, there is limited understanding of how childhood experiences, like poor health during childhood, influence subsequent feelings of loneliness. This chapter, which fills this gap by exploiting the module on health in the EU Loneliness Survey, underscores the intricate interplay between adverse childhood experiences, loneliness and health outcomes.

Chapter 5 investigates the potential link between intensive use of social media and loneliness. It explores the multifaceted role of social media, which enables a new degree of global connectivity but also affects more traditional social communication patterns. The chapter examines birth cohort variations in social media usage and links intensive social media use and social media addiction to the incidence of loneliness. This is possible because for the first time we have an EU-wide survey that contains detailed information on both loneliness and social media use.

Chapter 6 takes a different perspective from the previous three chapters by shifting the focus from risk factors for loneliness to an examination of potential effects on

social and civic behaviours. The module on civic and social attitudes in the EU Loneliness Survey offers a unique opportunity to assess the link between loneliness and support for democratic institutions, specifically examining associations between loneliness and social trust, political efficacy and voter turnout.

Part III, which consists of two chapters, delves into loneliness interventions and their effectiveness, and provides a comprehensive summary of key insights gained throughout the volume, along with an analysis of future research needs and prospects for tackling loneliness.

After exploring people's perceptions of loneliness and their awareness of loneliness interventions, Chap. 7 discusses the categorisation of loneliness interventions in theory and on the ground, using practical examples from the mapping tool of loneliness interventions in Europe (Nurminen et al., 2023). It also examines the factors that enhance the effectiveness of different interventions and the importance of rigorous evaluation methods, collaborative efforts and knowledge-sharing to advance our understanding of the effectiveness of loneliness interventions. The chapter underscores the need for increased awareness and destigmatisation efforts, as well as the importance of involving various societal actors in supporting lonely individuals.

Chapter 8 takes stock of the key findings from the preceding chapters and explores potential future research avenues offered by the EU Loneliness Survey. The chapter discusses the importance of monitoring loneliness over time and reflects on policy developments for a comprehensive approach to addressing loneliness in the European Union.

Taken together, the results from the EC-EP project covered by this book provide a comprehensive perspective on loneliness in the European Union. We hope that this volume along with the release of microdata from the EU Loneliness Survey will pave the way for additional research on the issue and lead to effective policy actions to address loneliness.

## References

- Baarck, J., D'Hombres, B., & Tintori, G. (2022). Loneliness in Europe before and during the COVID-19 pandemic. *Health Policy*, 126(11), 1124–1129. <https://doi.org/10.1016/j.healthpol.2022.09.002>
- Baarck, J., & Kovacic, M. (2022). *The relationship between loneliness and health* (JRC Technical Report JRC129972). Publications Office of the European Union. <https://doi.org/10.2760/90915>
- Banerjee, A., Chawla, S. K., & Kohli, N. (2023). The 100 top-cited studies on loneliness: A bibliometric analysis. *Cureus*. <https://doi.org/10.7759/cureus.37246>
- Barjaková, M., Garneró, A., & D'Hombres, B. (2023). Risk factors for loneliness: A literature review. *Social Science & Medicine*, 334, Article 116163. <https://doi.org/10.1016/j.socscimed.2023.116163>
- Beckers, A., Buecker, S., Casabianca, E., & Nurminen, M. (2022). *Effectiveness of interventions tackling loneliness* (JRC Technical Report JRC130944). Publications Office of the European Union. <https://doi.org/10.2760/277109>
- Blaskó, Z., & Castelli, C. (2022). *Social media use and loneliness* (JRC Technical Report JRC129042). Publications Office of the European Union. <https://doi.org/10.2760/700283>

- Brodeur, A., Clark, A. E., Fleche, S., & Powdthavee, N. (2021). COVID-19, lockdowns and well-being: Evidence from Google Trends. *Journal of Public Economics*, 193, Article 104346. <https://doi.org/10.1016/j.jpubeco.2020.104346>
- Burlina, C., & Rodríguez-Pose, A. (2023). Alone and lonely. The economic cost of solitude for regions in Europe. *Environment and Planning A: Economy and Space*, 55(8), 2067–2087. <https://doi.org/10.1177/0308518x231169286>
- Cacioppo, J. T., Hughes, M. E., Waite, L. J., Hawkley, L. C., & Thisted, R. A. (2006). Loneliness as a specific risk factor for depressive symptoms: Cross-sectional and longitudinal analyses. *Psychology and Aging*, 21(1), 140–151. <https://doi.org/10.1037/0882-7974.21.1.140>
- Casabianca, E., & Kovacic, M. (2022). *Loneliness and health of older adults: The role of cultural heritage and relationship quality* (JRC Technical Report JRC129380). European Commission. [https://joint-research-centre.ec.europa.eu/publications/loneliness-and-health-older-adults-role-cultural-heritage-and-relationship-quality\\_en](https://joint-research-centre.ec.europa.eu/publications/loneliness-and-health-older-adults-role-cultural-heritage-and-relationship-quality_en)
- Clinton, H. R. (2023). The weaponization of loneliness. *The Atlantic*. <https://www.theatlantic.com/ideas/archive/2023/08/hillary-clinton-essay-loneliness-epidemic/674921/>
- Cuccu, L., & Stepanova, E. (2021). *Loneliness and social and civic behaviours* (JRC Technical Report JRC126983). Publications Office of the European Union. <https://doi.org/10.2760/802268>
- European Commission. (2023). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a comprehensive approach to mental health*. [https://health.ec.europa.eu/publications/comprehensive-approach-mental-health\\_en](https://health.ec.europa.eu/publications/comprehensive-approach-mental-health_en)
- Fulton, L., & Jupp, B. (2015). Investing to tackle loneliness: A discussion paper. *Social Finance*. [https://www.socialfinance.org.uk/assets/documents/investing\\_to\\_tackle\\_loneliness.pdf](https://www.socialfinance.org.uk/assets/documents/investing_to_tackle_loneliness.pdf)
- Hawkley, L. C., Thisted, R. A., Masi, C. M., & Cacioppo, J. T. (2010). Loneliness predicts increased blood pressure: 5-year cross-lagged analyses in middle-aged and older adults. *Psychology and Aging*, 25(1), 132–141. <https://doi.org/10.1037/a0017805>
- Hertz, N. (2021). *The lonely century: How to restore human connection in a world that's pulling apart*. Penguin Random House.
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, 10(2), 227–237. <https://doi.org/10.1177/1745691614568352>
- Meisters, R., Westra, D., Putrik, P., Bosma, H., Ruwaard, D., & Jansen, M. (2021). Does loneliness have a cost? A population-wide study of the association between loneliness and health-care expenditure. *International Journal of Public Health*, 66. <https://doi.org/10.3389/ijph.2021.581286>
- Mihalopoulos, C., Le, L. K., Chatterton, M. L., Bucholz, J., Holt-Lunstad, J., Lim, M. H., & Engel, L. (2019). The economic costs of loneliness: A review of cost-of-illness and economic evaluation studies. *Social Psychiatry and Psychiatric Epidemiology*, 55(7), 823–836. <https://doi.org/10.1007/s00127-019-01733-7>
- Murthy, V. (2023). Our epidemic of loneliness and isolation: The U.S. Surgeon General's advisory on the healing effects of social connection and community. US Department of Health and Human Services. <https://www.ncbi.nlm.nih.gov/books/NBK595227/>
- Nurminen, M., Thoma-Otremba, A., & Casabianca, E. (2023). *Mapping of loneliness interventions in the EU* (Fairness Policy Brief 6/2023, JRC134255). European Commission. Joint Research Centre.

**Béatrice d'Hombres** (Ph.D.) leads the Survey Methods and Analysis Centre (SMAC) within the Science for Modelling, Monitoring and Evaluation Unit at the Joint Research Centre (JRC) of the European Commission. She is the coordinator for the European Parliament Pilot Project on Loneliness at the JRC. With over 17 years of experience as a researcher and policy analyst at the JRC, Dr. d'Hombres has worked in various fields, including labour economics, health economics and



education economics, using applied econometric statistics and survey data analysis methodologies. Her research has been published in international journals such as the *European Economic Review*, *Health Economics*, *Social Science & Medicine*, the *B.E. Journal of Economic Analysis & Policy* and *Social Indicators Research*.

**Caterina Mauri** (Ph.D.) is a post-doctoral researcher at the Brussels Institute for Social and Population Studies, Vrije Universiteit Brussel, contributing to the IneqKill project—an interdisciplinary research initiative focusing on the long-term evolution of mortality inequalities from 1800 to the present day. Dr. Mauri holds a Ph.D. in economics from the University of Southern Denmark and has previously worked at the Survey Methods and Analysis Centre of the European Commission’s Joint Research Centre. Her research interests include loneliness and mental well-being, fairness and inequality perceptions, regional and urban economics, the labour market for artists and creatives, art consumption and innovation and technology in history.

**Sylke V. Schnepf** (Ph.D.) is a senior policy advisor in the Science for Modelling, Monitoring and Evaluation Unit of the European Commission’s Joint Research Centre (JRC) in Ispra, Italy. She is part of the Survey Methods and Analysis Centre (SMAC) team conducting research on survey design, fairness and loneliness. She also contributes to the Competence Centre on Microeconomic Evaluation through research, teaching and advisory activities on quantitative education policy evaluation. Before joining the JRC in 2014, she was an associate professor in social statistics at the University of Southampton, United Kingdom. Dr. Schnepf has a long publication record on patterns of cross-national educational inequalities and counterfactual impact evaluation of policies aimed at mitigating these inequalities. She is also a member of the Scientific Committee of the JRC and a research fellow of the IZA Institute of Labor Economics in Bonn, Germany.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter’s Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter’s Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



## Chapter 2

# Measuring Loneliness: The European Union Loneliness Survey Covering 27 European Countries



Caterina Mauri, Martina Barjaková, and Francesco Berlingieri

**Abstract** While Chap. 1 introduces the concept of loneliness as a negative feeling associated with perceived deficiencies in the quantity and quality of social relationships, this chapter focuses on how this concept is operationalised and measured in surveys. We start by discussing the literature on the measurement of loneliness, which often relies on the use of psychometric scales. In large-scale surveys the use of a direct question on loneliness, in which the respondents self-report how frequently they feel lonely, is also common. The chapter discusses existing measures of loneliness used by different surveys administered in the European Union, together with their limitations. The chapter then addresses how loneliness is dichotomised in the analysis of survey data, both for scales based on indirect questions and for direct questions, and the potential issues associated with presenting results on loneliness. Finally, the chapter introduces the recent European Union Loneliness Survey (EU Loneliness Survey), the first ad hoc survey on the topic of loneliness covering all European Union member states. It discusses how this survey measures loneliness, and the modules and questions included. A methodological section focuses on survey design and choices related to data collection, highlighting unique features of the survey and discussing its limitations. The chapter concludes with a comparison of overall levels of loneliness according to different measures used in the EU Loneliness Survey across all 27 EU countries.

---

C. Mauri (✉)

Brussels Institute for Social and Population Studies (BRISPO), Vrije Universiteit Brussel, Elsene, Belgium

e-mail: [Caterina.Mauri@vub.be](mailto:Caterina.Mauri@vub.be)

M. Barjaková

Department of Psychology, University of Milano-Bicocca, Milan, Italy

e-mail: [M.Barjakova@campus.unimib.it](mailto:M.Barjakova@campus.unimib.it)

F. Berlingieri

European Commission, Joint Research Centre (JRC), Ispra, Italy

e-mail: [Francesco.Berlingieri1@ec.europa.eu](mailto:Francesco.Berlingieri1@ec.europa.eu)

## 2.1 Introduction

As already discussed in Chap. 1, loneliness and social isolation have negative consequences for both individuals and societies, affecting physical, mental and public health. Interventions and policies that succeed in mitigating the problem could thus have large positive effects on people's well-being (see Chap. 6). To design such interventions and policies, it is essential to understand the phenomenon of loneliness well, including its prevalence, nature, causes and effects. Reliable and comparable measurement is at the heart of any work on these questions.

The measurement of loneliness is no simple task due to the personal, subjective and multifaceted nature of the phenomenon. Individuals may experience and interpret loneliness in diverse ways, making it challenging to establish a universally applicable metric, since the only source of information about an individual's feelings of loneliness is their personal testimony. The issue of comparability is exacerbated when looking at different age groups, languages and geographical areas.

People might be hesitant to disclose their feelings of loneliness due to a fear of being judged negatively or because of social expectations, possibly leading to underreporting in surveys. The perception and interpretation of loneliness, and the stigma associated with it, can vary between individuals and between cultures.

Another issue is that loneliness is not a static condition. It fluctuates over time and can be influenced by various life events, changes in social relationships or environmental factors. Capturing the dynamic nature of loneliness accurately in a single measurement is therefore challenging.

Loneliness is also a multifaceted phenomenon. It can be *transient* (occasional), *situational* (triggered by specific life events) or *chronic* (felt for extended time periods), and it can be experienced with different levels of intensity. It is also often divided into social and emotional dimensions. *Emotional loneliness* stems from the lack of an intimate relationship, while *social loneliness* is linked to the absence of a broader social network. Effectively capturing these distinct dimensions and understanding their interplay with respondents' other characteristics represent an additional challenge.

Various methods have been developed to measure loneliness. Each comes with its own strengths and limitations, and the choice of method can influence the results obtained. Building on the definition of loneliness introduced in Chap. 1, this chapter examines how loneliness is defined in the literature and how it is measured in surveys. We explore the measurement tools most commonly used by researchers—psychometric scales and direct questions—and discuss their respective advantages and disadvantages. We then focus on the European context and discuss how different surveys in the European Union measure loneliness.

This sets the stage for a description of the European Union Loneliness Survey (EU Loneliness Survey), the first ad hoc survey on the topic of loneliness covering all 27 EU member states. The survey was designed by the European Commission's Joint Research Centre in the context of a pilot project initiated by the European Parliament and conducted in collaboration with the Directorate General for Employment, Social

Affairs and Inclusion. A unique feature of the EU Loneliness Survey is that it includes different measures of loneliness: two established psychometric scales and one direct question. Moreover, its geographical coverage, large sample size and the rich set of questions included in the questionnaire allow the study of loneliness in the European Union at an unprecedented level of understanding and robustness. In this chapter, we look in detail at the EU Loneliness Survey questions and modules, the survey design and how the data were collected.

## 2.2 Definition and Types of Loneliness

A definition of loneliness that has become widely accepted was given by Perlman and Peplau (1981), who defined it as ‘the unpleasant experience that occurs when a person’s network of social relationships is significantly deficient in either quality or quantity’. This definition captures a few key characteristics of loneliness.

First, loneliness is defined as an ‘unpleasant experience’. This means that it is subjective, it is a feeling of an individual, and it has a negative aspect to it. As some authors emphasise, loneliness does not mean being alone, it means feeling alone (Andersson, 1998; Perlman & Peplau, 1981). This is why the feeling of loneliness is different from the objective condition of social isolation. It may happen that a person is objectively socially isolated (has a low level of social connectedness) but does not feel lonely and vice versa, a person with many social contacts may still experience feelings of loneliness (Andersson, 1998; De Jong Gierveld et al., 2016). Loneliness as defined above is also different from the feeling that stems from voluntary withdrawal from social contacts that has a certain objective, such as meditation, reflection, artistic or religious activities (De Jong Gierveld et al., 2016). This is sometimes termed ‘positive loneliness’ and is characterised by an individual’s active choice to withdraw from social life. In loneliness, instead, a person finds themselves with unintended and undesired deficiencies in their social network.

This leads to the second part of the abovementioned definition: both quality and quantity of one’s social network matter. Hence, loneliness is not only about having too few social contacts; it is also about lacking satisfying contacts. A person may therefore have only a small social network but feel that their relationships are meaningful and that they are not lonely. Conversely, someone may have a large number of contacts and even spend a large amount of time with these contacts yet feel that their social relationships lack depth or are otherwise inadequate, and thus feel lonely.

It is important to emphasise that these deficiencies in social networks are perceived, not objective, and that is why loneliness is distinct from social connectedness, as we already mentioned before. One cannot define how many friends are ‘not enough’—it is a personal matter of each individual. And loneliness arises when the individual perceives not having enough or not having satisfying social relationships. That being said, loneliness and social connectedness are nevertheless very closely related, with the latter being an important risk factor for the former.

### 2.2.1 *Types of Loneliness*

Different types of loneliness have been distinguished in the literature, based on different aspects of this feeling.

One of these aspects is, for instance, the *duration of the feeling*. There is transient loneliness, which represents occasional feelings of loneliness. Then there is situational loneliness, which is triggered by some specific events in life (such as a loss of a partner or moving to a new town) and there is also chronic loneliness, which is simply a lack of satisfactory relationships for extended time periods (Perlman & Peplau, 1981). Of course, situational or transient loneliness can transform into chronic loneliness if they last for a long time. Thus, not only chronic loneliness should be tackled, but as Perlman and Peplau (1981) argue, attention should be paid to situational loneliness, in particular to ways of preventing it from transforming into chronic loneliness.

Related to this is the consideration of the *intensity of the feeling*. Whether loneliness is transient or chronic, felt only sometimes or frequently, it can be felt intensely (being associated with strong negative emotions), or it can be a rather shallow feeling. This intensity is independent of the duration or frequency of the feeling. For instance, it may be that a person frequently feels lonely, but this feeling is weak, while someone else may feel lonely just sometimes (or only for a limited period of time) but experience it very intensely.

Another division concerns the *types of relationships* that are perceived as lacking, whereby loneliness can be split into *social* and *emotional* (Weiss, 1973). Emotional loneliness stems from the lack of an intimate relationship (e.g. romantic partner), while social loneliness is linked to the absence of a broader social network (e.g. friends, neighbours). Linking these two types of loneliness to Perlman and Peplau's definition, it could be said that emotional loneliness corresponds more to the deficiency in quality of social networks, while social loneliness stems from the deficiency in quantity of social contacts. As Russell and colleagues state in their review of Weiss's (1973) work, these two types of loneliness are linked to different feelings and need different interventions (Russell et al., 1984).<sup>1</sup>

Some distinguish yet another type of loneliness, namely, *existential loneliness*, which has been defined as 'the result of a broader separation related to the nature of existence and, in particular, a lack of meaning in life' (Van Tilburg, 2021). This type of loneliness is characterised by a lack of connection to the outside world, feeling isolated, empty or alienated, and is said not to have a permanent remedy (as opposed to emotional and social loneliness).

---

<sup>1</sup> According to Weiss (1973), emotional loneliness is associated with feelings of anxiety and isolation, while social loneliness with aimlessness and marginality. To cure emotional loneliness, a new intimate relationship is needed (as to provide a sense of attachment), while curing social loneliness requires a new supply of friends (as to provide a sense of social integration).

## 2.3 Measuring Loneliness

Measuring loneliness is not straightforward. Due to its subjective nature, it cannot be directly observed or assessed using objective indicators (such as the frequency of meeting family members or the number of friends) but needs to be measured through self-reports (i.e. using surveys). This poses a challenge for various reasons, such as ensuring a common understanding of survey questions, presence of reporting biases, potential unwillingness to report one's feelings or engaging representative samples of the population. Over the years of research on loneliness, two main types of measures have been developed and used—direct and indirect. Both types have their advantages and disadvantages and there does not seem to be a single best way of measuring loneliness.

### 2.3.1 *Direct Measures*

As the name suggests, direct measures ask people directly about their subjective feelings of loneliness, thus they only require one single question in a survey. This question normally asks about the frequency of feeling lonely, which may be linked to a specific time period (e.g. past week, past two weeks), but this is not always the case (Table 2.1). The response options are categorical and represent different frequencies.

### 2.3.2 *Indirect Measures*

The indirect measures do not use the words 'lonely' or 'loneliness', and instead ask about feelings or experiences related to loneliness, such as having someone to talk to about intimate matters, having someone to rely on, feeling left out of society or feeling isolated from others. As there are many different feelings and circumstances related to loneliness, indirect measures are usually present in the form of loneliness scales with multiple items. Over the years of research on loneliness, many scales have been put forward. The most well-known ones are the University of California Los Angeles Loneliness Scale (Russell, 1996) (hereafter referred to as 'UCLA scale') and the De Jong Gierveld Loneliness Scale (De Jong Gierveld & Kamphuis, 1985) ('DJG scale' hereafter), and their short versions (the 3-item UCLA scale (Hughes et al., 2004) and the 6-item DJG scale (De Jong Gierveld & Van Tilburg, 2006), respectively). Other indirect measures of loneliness include, for instance, the Differential Loneliness Scale (Schmidt & Sermat, 1983), the Social and Emotional Loneliness Scale for

**Table 2.1** Examples of direct loneliness measures in large-scale European surveys or large-scale national surveys of some European countries

Survey	Year	Direct measure of loneliness
European social survey (ESS)	2014	[...] how much of the time during the past week... you felt lonely? <ul style="list-style-type: none"> <li>• None or almost none of the time</li> <li>• Some of the time</li> <li>• Most of the time</li> <li>• All or almost all of the time</li> </ul>
Survey of Health, Ageing and Retirement in Europe (SHARE) <sup>a</sup>	2019–2020	How much of the time do you feel lonely? <ul style="list-style-type: none"> <li>• Often</li> <li>• Some of the time</li> <li>• Hardly ever or never</li> </ul>
European Union Statistics on Income and Living Conditions (EU-SILC)	2018	How much of the time over the past four weeks did you feel lonely? <ul style="list-style-type: none"> <li>• All of the time</li> <li>• Most of the time</li> <li>• Some of the time</li> <li>• A little of the time</li> <li>• None of the time</li> </ul>
European quality of life survey (EQLS)	2016	[...] which is closest to how you have been feeling over the last two weeks... I have felt lonely <ul style="list-style-type: none"> <li>• All of the time</li> <li>• Most of the time</li> <li>• More than half of the time</li> <li>• Less than half of the time</li> <li>• Some of the time</li> <li>• At no time</li> </ul>
Generations and gender survey (GSS)—Round 1 <sup>b</sup>	2004–2011	[...] how frequently did you experience the next items during the previous week... I felt lonely <ul style="list-style-type: none"> <li>• Seldom or never</li> <li>• Sometimes</li> <li>• Often</li> <li>• Most or all of the time</li> </ul>
German socio-economic panel (SOEP) <sup>c</sup>	2021	[...] please state how often you experienced this feeling in the last four weeks... How often have you felt lonely? <ul style="list-style-type: none"> <li>• Very rarely</li> <li>• Rarely</li> <li>• Occasionally</li> <li>• Often</li> <li>• Very often</li> </ul>
Understanding society: the UK household longitudinal study <sup>d</sup>	2022–2024	How often do you feel lonely? <ul style="list-style-type: none"> <li>• Hardly ever or never</li> <li>• Some of the time</li> <li>• Often</li> </ul>

*Note* This list of surveys collecting information with a single item on loneliness is not exhaustive. Unless otherwise specified, the information in this table refers to the latest wave of each survey that includes a measure of loneliness, as this measure or the exact wording changed over time in most of them

<sup>a</sup> This survey uses the 3-item UCLA scale alongside the direct measure.

<sup>b</sup> All GSS surveys use the 6-item DJG scale alongside the direct measure. Round 2 of GSS only uses the DJG scale.

<sup>c</sup> This survey also uses the 3-item UCLA scale alongside the direct question.

<sup>d</sup> This survey uses the 3-item UCLA loneliness scale alongside the direct measure.

Adults (DiTommaso & Spinner, 1993) and the Existential Loneliness Questionnaire (Mayers et al., 2002).<sup>2</sup>

<sup>2</sup> There are yet other existing scales to measure loneliness, but our goal in this chapter is not to be exhaustive, rather to present and analyse the most frequently used measures and give examples of some others.

### *UCLA Loneliness Scale*<sup>3</sup>

The UCLA Loneliness Scale was first developed in the late 1970s and included 20 questions capturing the frequency of different feelings and states linked to loneliness, such as feeling left out, completely alone, or having difficulties making friends (Russell et al., 1978). It is important to emphasise that all questions would ask about feelings related to loneliness, but without directly mentioning this particular state. The scale demonstrated high validity and reliability,<sup>4</sup> and became widely used to measure loneliness, but despite this it has been revised twice in order to diminish possible biases and accommodate broader ranges of respondents (Russell, 1996).

In the early 2000s, the scale underwent yet another transformation. A short, 3-item version of it was developed, so as to have a suitable measure of loneliness for telephone surveys (Hughes et al., 2004). This scale asks about the frequency of feeling lack of companionship, feeling left out and feeling isolated from others, with the answer options being ‘hardly ever’, ‘some of the time’ and ‘often’ (as opposed to ‘never’, ‘rarely’, ‘sometimes’ and ‘always’ used in the Revised 20-item UCLA scale).

The UCLA scale in some of its versions is nowadays the most commonly used measure of loneliness (Maes et al., 2022). According to a recent review study, the UCLA scale, in any of its versions, is used mostly with college students and adults, and less frequently with adolescents or older adults (Maes et al., 2022). Its 3-item version is used in some large-scale surveys in Europe, such as SHARE, the Understanding Society survey in the UK, the German SOEP, or the English Longitudinal Study of Ageing (ELSA).

### *De Jong Gierveld Loneliness Scale*<sup>5</sup>

The DJG Loneliness Scale was created in the 1980s. Its original version is composed of 11 questions, selected through a rigorous process from a broader set of items (De Jong Gierveld & Kamphuis, 1985). Overall, the scale captures feelings of loneliness of different degrees, namely, severe deprivation, deprivation linked to a specific problem situation, missing companionship, feeling of sociability and of having meaningful relationships. As in the UCLA scale, the words ‘loneliness’ or ‘lonely’ are not mentioned in any of the items. Differently from the UCLA scale, however, the DJG scale can be interpreted as a two-dimensional measure. It has been designed to measure emotional and social loneliness separately, following the distinction proposed by Weiss (1973), De Jong Gierveld and Van Tilburg (2006). Both the overall scale and the two subscales demonstrated high validity and reliability (De Jong Gierveld & Van Tilburg, 2006). In terms of the composition, the scale has 5 positively worded items that capture the social aspect of loneliness, and six negatively worded items that measure feelings related to emotional loneliness.

---

<sup>3</sup> We report the full wording of its revised and short version in the Appendix to this chapter.

<sup>4</sup> Validity of a scale refers to how well it measures the construct it is supposed to measure. Reliability of a scale refers to how consistent it is to measure the construct.

<sup>5</sup> We report the full wording of the original and short version in the Appendix to this chapter.



The response options are ‘yes!’, ‘yes’, ‘more or less’, ‘no’ and ‘no!’.<sup>6</sup> For each item, these are dichotomised, counting the ‘yes!’, ‘yes’ and ‘more or less’ answers as an indication of loneliness for the negatively worded items and counting the ‘no!’, ‘no’ and ‘more or less’ as indicative of loneliness for the positively worded items. Then, these binary indicators are summed up to an overall score where 0 means absence of loneliness (or complete social embeddedness) and 11 corresponds to complete loneliness.

The DJG scale also has its shorter version, developed in the early 2000s to make the scale more manageable for use in large surveys (De Jong Gierveld & Van Tilburg, 2006). The short version has six questions taken from the original scale and can again be divided into social and emotional subscales (each consisting of three questions). At present, the short DJG scale seems to be used more often than the original DJG scale.

The DJG scale was originally developed for use with older adults, and it is still mostly used in this demographic group, or with adults in general (Maes et al., 2022). Its short version is used in some large-scale surveys in Europe, such as GSS, or the Dutch Longitudinal Internet Studies for Social Sciences (LISS).

### ***Other loneliness scales***

The Differential Loneliness Scale is a 60-item scale focusing on dissatisfaction with four specific types of relationships along five different dimensions. Namely, the scale focuses on deficiencies in romantic-sexual relationships, relationships with family, friends and within a larger group or community, and the deficiencies can be specific to communication, cooperation, or evaluation of the relationship, its presence or absence, and approach or avoidance behaviours (Schmidt & Sermat, 1983). This scale is not often used in the literature and if so, it is mostly in research with samples of college students (Maes et al., 2022).

The Social and Emotional Loneliness Scale for Adults, as its name suggests, was developed with Weiss’s (1973) distinction between two types of loneliness in mind, and thus presents another example of a multidimensional loneliness scale. It has 37 items, 12 of which assess romantic attachments, 11 relationships with family, together forming the emotional loneliness dimension, while the remaining 14 items focus on social loneliness (DiTommaso & Spinner, 1993).

The Existential Loneliness Scale (Mayers et al., 2002) seems to be the only existing measure of existential loneliness specifically (Van Tilburg, 2021). It has 22 items overall seven of which focus on meaninglessness in life, another seven on social ties and close relationships, further two mention loneliness directly, three are worded conditionally and three are specific to HIV as the preliminary version of the scale was first tested in a sample of HIV-positive women (Mayers et al., 2002; Van Tilburg, 2021). To the best of our knowledge, little research focuses on existential loneliness, thus the Existential Loneliness Scale is not frequently used in the literature.

---

<sup>6</sup> The authors note that for telephone and face-to-face interviews the response options may be changed to just ‘yes’, ‘more or less’ and ‘no’.

### *Loneliness scales for children*

All the abovementioned scales can be used in different population groups, but they may not be suitable to measure loneliness in children and adolescents, as children, especially the younger ones, may have difficulty understanding the questions. Partly due to this concern, children's loneliness is sometimes assessed by external sources, such as teachers' reports and behavioural observations (Asher et al., 1984) rather than by directly asking them. But several loneliness scales specifically for children and adolescents do exist, such as the Children's Loneliness Scale (formerly Loneliness and Social Dissatisfaction Questionnaire) (Asher et al., 1984), the Loneliness and Aloneness Scale for Children and Adolescents (formerly Louvain Loneliness Scale for Children and Adolescents) (Marcoen et al., 1987) or the Peer Network and Dyadic Loneliness Scale (Hoza et al., 2000).

### **2.3.3 Comparison of Loneliness Measures**

Both direct and indirect measures have their strengths and weaknesses, and there is no universal agreement among researchers about which type is more suitable to accurately measure feelings of loneliness. Direct measures directly reflect people's feelings and also their own understanding of what loneliness is, as opposed to indirect measures that better reflect researchers' views and definitions of loneliness (Jylhä & Saarenheimo, 2010). From this point of view, direct measures may seem more desirable. On the other hand, since people's understanding of loneliness may differ (across people and in time), two respondents may answer quite differently to a direct question even when their emotional experience is similar. Indirect measures, precisely by reflecting researchers' views and definitions, may be better suited to producing measures that can be compared across respondents, as they examine a whole set of feelings and experiences related to loneliness (Jylhä & Saarenheimo, 2010).

In more practical terms, perhaps one of the biggest advantages of direct measures is their conciseness. They are single, multiple-choice questions that can be very easily implemented even in large-scale surveys not necessarily focused on loneliness. In being concise and direct, they are also easy to understand for survey respondents.

Nevertheless, the characteristic of being direct has its negative side as well, especially in terms of possible response bias due to people giving answers that are socially desirable, but not truthful—the 'social desirability bias'. Loneliness has been associated with a degree of social stigma (Barreto et al., 2022),<sup>7</sup> which may lead people to underreport their true feelings if asked about them directly. Moreover, this stigma may be stronger for some parts of the population than others. In particular, gender differences have been found, with men getting more stigmatised for feeling lonely than women (Barreto et al., 2022; Borys & Perlman, 1985; Lau & Gruen, 1992). This induces further potential bias, as loneliness may be underestimated to a greater

---

<sup>7</sup> The stigma related to loneliness is covered in more detail in Chap. 7.

degree for men, possibly leading to incorrect conclusions about gender differences in loneliness. In fact, it has been documented that when loneliness is measured directly, greater prevalence of loneliness is often found among women, but if indirect measures are used, this gender difference disappears or even flips (Barjaková et al., 2023; Borys & Perlman, 1985). From this point of view, indirect measures provide a more objective picture of loneliness as they attenuate the reporting biases.

Loneliness scales have also proven reliability and validity as measuring instruments (De Jong Gierveld et al., 2016). An advantage specific to the multidimensional scales is that they enable researchers to analyse different aspects or types of loneliness, such as social and emotional loneliness with the DJG scale. This is not possible with direct questions.

However, at least some indirect measures may be harder to implement, simply because they are long, even though this problem has been attenuated thanks to the availability of validated short versions of the main loneliness scales.

In any case, it seems that generally, direct and indirect measures correlate quite strongly (De Jong Gierveld et al., 2016). A good strategy may nevertheless be to use multiple measures of loneliness in the same study and compare the results. This has been done in some large-scale international surveys, namely SHARE and Round 1 of GSS, which each use one direct and one indirect measure of loneliness. The EU Loneliness Survey, presented in a greater detail later in this chapter, went even further and uses one direct and two indirect measures of loneliness (the two most commonly used scales), allowing to check the robustness of the results and discuss any discrepancies, thus bringing additional valuable insights to the literature on loneliness.

Another consideration is worth mentioning when thinking about how to measure loneliness most accurately. It is the choice of the survey mode, in other words, the decision about which channels to use to collect data, as this may have an impact on how people interact with the survey and what answers they give.<sup>8</sup> Traditionally, surveys about loneliness would be conducted through face-to-face interviews, telephone interviews, and self-administered (mail) questionnaires, while nowadays there is also the possibility of online data collection.

To the best of our knowledge, research articles comparing the results and the quality of data on loneliness collected through these various methods are scarce, with just one article showing that the DJG scale produced similar mean loneliness scores if used in face-to-face interviews, telephone interviews or self-administered questionnaires when the socio-demographic characteristics of the samples were taken into account (Van Tilburg & De Leeuw, 1991). However, research not specific to loneliness suggests that mail surveys lead to more accurate answers and perform better than face-to-face or telephone interviews, especially if sensitive questions are involved (De Leeuw, 1992). Similarly, online surveys are linked to lower social desirability bias compared to telephone surveys (Chang & Krosnick, 2009), while no

---

<sup>8</sup> In our discussion here, we leave aside issues related to data quality such as response rates, item non-response, or sample selection, and focus mostly on the problem of capturing people's true feelings, in other words, measuring loneliness as accurately as possible.

difference in socially desirable reporting has been found between paper-based and computer-based (online and offline) surveys (Dodou & de Winter, 2014). Moreover, according to a recent meta-analysis, surveys done with online panel data show similar psychometric properties to those using conventional data collection methods (Walter et al., 2019). Taken together, these findings suggest that when sensitive topics like loneliness are involved, data collection methods that give participants a greater sense of privacy may be more appropriate. Nevertheless, further research is needed to empirically validate this finding.

### **2.3.4 Analysing Loneliness**

A problem that is common to both types of loneliness measures is the freedom that the researchers have when deciding what type of variable to use in the analyses.

The two most famous loneliness scales both produce a total loneliness score, but this does not mean that all researchers treat loneliness as a continuous variable in their analyses. Sometimes, they are interested in examining the prevalence of loneliness, thus group the study participants based on their scores into lonely and not lonely. When that is the case, a question arises as to where to set the cut-off point for this categorisation.

The problem of categorisation is present also for direct measures. These are categorical by nature, as they ask about the frequency of feeling lonely, but a decision needs to be taken as to which categories should be considered as reflecting loneliness.

This is why it may be hard to directly compare findings on loneliness coming from different studies and one should always verify how the loneliness measure has been operationalised for the analyses in a given study.

## **2.4 The EU Loneliness Survey**

The European Union Loneliness Survey is the first survey specifically designed to further our understanding of the prevalence of loneliness, its determinants and associated risks, that covers all 27 member states of the European Union.

The survey was designed by researchers at the Joint Research Centre and contains three well-established loneliness measures, a large set of individual and household-level information as well as a novel set of questions that were specifically designed to cover some under-studied associations with loneliness. Table 2.2 describes the main survey sections and provides examples of the sets of variables recorded.<sup>9</sup>

---

<sup>9</sup> The full questionnaire is available at [https://joint-research-centre.ec.europa.eu/scientific-activities-z/survey-methods-and-analysis-centre-smac/loneliness/eu-loneliness-survey\\_en](https://joint-research-centre.ec.europa.eu/scientific-activities-z/survey-methods-and-analysis-centre-smac/loneliness/eu-loneliness-survey_en).

**Table 2.2** Overview of survey sections and information gathered

Section	Selection of variables included
Loneliness and social connectedness	UCLA scale, DJG scale, frequency of feeling lonely (direct measure), frequency of contacts with friends and family, social network size, relationships in childhood
Socio-economic characteristics of the respondent	Age, gender, educational level, relationship status, income, place of residence, household composition, employment situation
Life events	Deceased spouse, own sickness, recent relocation, conflicts in the workplace
Childhood experiences	Health during childhood, relationship with parents and childhood friendships
Health and health-related habits	Overall current health status, smoking and exercising
Social media use	Time spent on social network sites and instant messaging tools
Attitudes towards others and towards the government	Trust in others, voting
Feelings and beliefs	Anger, happiness, nervousness, church attendance
Social and pro-social activities	Frequency of cultural attendance, volunteering, donating
Interventions	Awareness about interventions and actions taken to fight own loneliness

**Box 2.1: Observing loneliness at a point in time or as it changes over time**

The EU Loneliness Survey is a *cross-sectional survey*, i.e. it describes a group of respondents at a specific point in time. Cross-sectional surveys can yield important insights into associations between variables and provide snapshots about the scope and patterns of loneliness. They also have the advantage of flexibility, allowing the survey to be adapted to efficiently investigate pressing issues and questions of particular interest to social scientists and policymakers at any given time

Many of the large-scale European surveys mentioned above (see Table 2.1) are *repeated cross-sectional surveys*, i.e. they are repeated over time although administered to different samples. For example, the EU-SILC and the ESS fall into this group. There are questions of considerable importance to both researchers and policymakers that can be answered by repeated cross-national surveys, ideally if these are done on a regular basis and over a long time-frame. One such key question is how the prevalence of loneliness evolves over time. This can be an important indicator of the urgency of the issue of loneliness,

and it can also contribute greatly to a better understanding of the causes and consequences of loneliness at the macro level

Finally, in *panel surveys*, feelings of loneliness are recorded for the same individuals over time. This enables researchers to associate changes in feelings of loneliness to other changes in every individual's life. As a result, such data can be particularly helpful to understand individual-level determinants and potentially consequences of loneliness. One example of such survey is the German SOEP (see Table 2.1).

### 2.4.1 *The Information Gathered in the Survey*

The EU Loneliness Survey has the unique feature of *measuring loneliness with two psychometric scales and one direct question*. The two psychometric scales included—the 3-item UCLA scale and the 6-item DJG scale—are among the most commonly used measures of loneliness, and are described in detail in Sect. 2.3.2. All respondents answered to both scales, but to avoid order effects, i.e. to avoid influencing participants' responses by the order of the questions, half of the respondents were randomly assigned to a version of the questionnaire where the UCLA scale was shown first and the DJG scale second, with a battery of unrelated questions in between, and for the other half of the sample the order of the scales was reversed. Table 2.3 reports the exact formulation of the 3-item UCLA scale, the 6-item DJG scale as well as the direct question, which asks about the frequency of the feeling over the past 4 weeks.

To better understand loneliness and social isolation, and their origins, one additional question was asked to those employed or self-employed and to those in education. These subgroups were asked about feelings of isolation at work (at school, for students), and perceived support by colleagues and managers (classmates and teachers in case of students).

The survey included several questions on *social connectedness*. Respondents were asked about the frequency of contacts with family members and friends, either in person or via phone, internet or social media, and about the number of close friends and family members. Respondents also reported on the quality of their relationship with the partner, if applicable, and the frequency of contacts with neighbours. A battery of multiple-choice questions covered *life events* that could trigger the onset of feelings of loneliness (e.g. separation from partner or loss of employment) (see Chap. 3 for a discussion on triggering life events as well as on the relationship between social connectedness and loneliness).

*Childhood experiences* are extremely important for understanding loneliness in adulthood, as early experiences lay the foundation for social development (see Chap. 4 for an in-depth discussion). The EU Loneliness Survey includes questions

**Table 2.3** Wording of loneliness scales and direct loneliness question in the EU loneliness survey

<i>3-item UCLA scale</i>	
Feel that you lack companionship	Possible answers: – Hardly ever or never – Some of the time – Often – Prefer not to say
Feel left out	
Feel isolated from others	
<i>6-item DJG scale</i>	
I experience a general sense of emptiness	Possible answers: – Yes – More or less – No – Prefer not to say
I miss having people around	
I often feel rejected	
There are plenty of people I can rely on when I have problems	
There are many people I can trust completely	
There are enough people that I feel close to	
<i>Direct question</i>	
How much of the time, during the past 4 weeks, have you been feeling lonely?	Possible answers: – All of the time – Most of the time – Some of the time – A little of the time – None of the time – Don't know – Prefer not to say

about respondents' relationship with their parents, their friendships, and their physical and mental health when growing up. Respondents also reported on their current *health* status, their illnesses and habits (e.g. smoking and diet).

The association between *social media use* and loneliness was studied through a set of questions on the frequency and purpose of the use (e.g. to keep in touch with friends, to passively scroll through feeds), and on time spent using social network sites (e.g. Facebook, Instagram, TikTok) and instant messaging tools (e.g. WhatsApp, Messenger, Snapchat) per day. This section also included questions to measure social media addiction and whether social media can help people feel less lonely (see Chap. 5 for more information).

Since loneliness may also have political and civic causes as well as consequences, the survey includes questions on *attitudes towards others* (notably questions on interpersonal trust) and *towards the government* (e.g. questions on support for political parties and intention to vote) (see Chap. 6 for more information). A random sample of respondents was also asked to take part in a *game to reveal their level of trust* in the behaviour of other respondents. The game aimed at investigating the interplay between loneliness and trust, namely, whether trust and trustworthiness are affected by whether the players or their counterparts reported to feel lonely.<sup>10</sup>

<sup>10</sup> See Stepanova et al. (2024) for additional details and an analysis of the results of the game.

The survey also included questions on *feelings and beliefs*. These sets of questions included self-reported feelings of happiness, anger, nervousness but also the frequency of church attendance. Another set of questions focused on *social and pro-social activities*, e.g. the frequency of participation to social and cultural activities but also willingness to donate or volunteer for a charity or a non-profit organisation (see Chap. 6 for an exploration of the association between pro-social activities and loneliness).

Finally, the EU Loneliness Survey included questions related to *interventions* against loneliness, focusing on both awareness, and actions undertaken to mitigate one's own loneliness.

All novel questions that were not, to the best of our knowledge, previously asked in established surveys, were first tested on a small sample of respondents. This was to ensure that the questions were formulated in a clear way. Together with the abovementioned questions, metadata such as the length of survey completion, device used to access the questionnaire and date of completion were collected.<sup>11</sup>

## 2.4.2 Survey Methodology

The EU Loneliness Survey was administered to two distinct samples, differing in country coverage, number of survey questions and sample selection.

### *The main sample*

The main sample (also referred to as the 'EU27 sample') covers all 27 European Union member states, with participants recruited from an established consumer panel. It contains information on 25,646 respondents across all member states.<sup>12</sup> To achieve a sample that is possibly representative of the population of each member state, quotas were used for sample selection.<sup>13</sup> Quotas reflected the target population in terms of age, gender, educational attainment and NUTS region of residence based on available data from Eurostat.

In the main sample, the respondents received the full questionnaire as described above and completed it, on average, in 28 min. The survey was administered online to the entirety of the respondents, who used mostly desktop and mobile phone access to the survey, with a smaller share using tablets.

---

<sup>11</sup> A technical report (Berlingieri et al., 2024) accompanying the data release focusses on details about the EU Loneliness Survey methodology, survey design and data collection.

<sup>12</sup> The total engagement rate, calculated as the ratio of total responses (complete and incomplete) against total invited participants, was 39%.

<sup>13</sup> During data collection and based on fieldwork progress, quotas were opened to allow the data collection to reach the required number of completed interviews per country.



### *The probability-based sample*

A second sample (also referred to as the ‘EU4 sample’) only included four selected countries, each representing one geographical region of the European Union—Sweden in the North, Italy in the South, Poland in the East and France in the West of the European Union, with the respondents recruited from an existing probability-based panel (KnowledgePanel EU).<sup>14</sup> The EU4 sample contains responses from 4,030 respondents across the four countries. In Poland, all the respondents in the existing probability-based panel were invited to participate in the EU4 survey. A stratified sample by three age groups was drawn from the probability panel in France, Italy and Sweden. Based on an estimated response rate, random eligible panel members were selected and invited to complete the survey within each stratum.

In this second sample, respondents only received a shortened version of the questionnaire, which also did not include the game on trust described above. The average completion time in this sample was 19–20 min. The survey was administered online to almost the entirety of the respondents, and a very small share of respondents (France: 6%; Italy: 7%; Poland 5%; Sweden 0.3%) who did not have a digital tool to fill in the survey was interviewed telephonically (i.e. they were contacted by an interviewer through Computer Assisted Telephone Interviewing (CATI) to record their answers).<sup>15</sup>

In both samples, respondents were aged 16 years or older during the interview period from November to December 2022. Panellists needed to be ‘fresh’ (i.e. not having completed any survey in the previous 14 days) and their participation in the survey was rewarded with survey points, which they could convert into a payment or a voucher.

The questionnaire was translated and administered in the national language of each member state, with the exception of Ireland and Malta—in both countries only the English version of the survey was used. Translation was done professionally and back translation was performed for 31 out of the 82 survey questions of the main questionnaire.<sup>16</sup> Local versions were produced by including different country names, country-specific lists of regions, municipalities, political parties and income ranges.

For both surveys quality checks (such as identification of speeders, high share of responses consisting of ‘prefer not to say’ or ‘don’t know’, straight-lining) were applied during the data collection and respondents not passing these quality checks

---

<sup>14</sup> With probability sampling methods respondents are recruited randomly, with the aim of reaching a high level of representativeness. The probability of being included in the panel is recorded when the respondents first join the panel.

<sup>15</sup> The set of questions asked telephonically did not differ in language, content and structure from the regular survey.

<sup>16</sup> The back-translation methodology comprised a 3-step approach including a forward translation, a back translation and a final review.

were removed from the final data file.<sup>17</sup> Ex-post weights based on gender, age, education and geographical area variables were calculated for both samples to account for underrepresentation of some socio-demographic groups in the sample.

Unless otherwise specified, the analysis in the rest of this chapter and in the rest of the book is based on the main sample covering 27 EU member states. Analyses based on the EU4 sample, despite the limited geographical coverage, are used to validate the robustness of the results or draw attention to possible limitations specific to the use of online consumer panels (see Sect. 2.4.4).

### ***2.4.3 Loneliness Levels in the EU Loneliness Survey According to Different Loneliness Measures***

The survey allows comparing loneliness levels across the three measures included: the direct question, the UCLA 3-item scale and the DJG 6-item scale. The UCLA and DJG ordinal measures are computed by adding up the scores of the different items reported in Table 2.3, following the operationalisations that are most common in the loneliness literature. The possible answers to the 3-items of the UCLA scale were ‘hardly ever’ (with assigned value of 1), ‘some of the time’ (with assigned value of 2), or ‘often’ (with assigned value of 3). These are added up to build a 3–9 scale. As regards the DJG scale, the six items are first dichotomised following the authors’ instructions (De Jong Gierveld & Van Tilburg, 2006) (see also Sect. 2.3.2) and the six binary variables are then added up to build a 0–6 scale. Respondents not providing an answer to the direct question or to at least one item of the two scales are excluded from the analysis.<sup>18</sup> The final sample in this chapter consists of 23,061 respondents aged between 16 and 100 years with complete information on gender, education and the three loneliness measures. In order to ensure high quality, this sample is also further reduced by the exclusion of 188 respondents who selected the same category in seven or more consecutive grouped questions (i.e. participants who engaged in ‘straightlining’, a behaviour that is often associated with low engagement with the survey).

The correlation between the three measures of loneliness is high when using ordinal measures (i.e. the five categories of the direct question, the 3–9 UCLA scale and the 0–6 DJG scale). In particular, the correlation between the direct question and the UCLA scale is 0.7, while the correlation between the direct question and the DJG scale is 0.6 (see Table 2.4). The two subscales of the DJG scale correlate with the direct question to quite different degrees, however. The correlation of the DJG emotional loneliness subscale with the direct question is 0.65, while that of the DJG

---

<sup>17</sup> A total of 30 responses were removed in the final main data file and 17 responses were removed in the final data file for the EU4 sample.

<sup>18</sup> These are 889 observations (3.5% of the sample) for the direct question, 692 observations (2.7%) for the UCLA scale and 1,171 observations (4.6%) for the DJG scale.

**Table 2.4** Correlation between the direct loneliness question and the UCLA and DJG loneliness scales

	Direct question		
	Ordinal measure	Slightly lonely	Very lonely
UCLA	0.70	0.58	0.48
DJG	0.60	0.52	0.36
DJG emotional	0.65		
DJG social	0.32		

*Note* The direct question asks how much of the time respondents have been lonely during the past 4 weeks. The ordinal measure refers to the five possible answers ranging from ‘none of the time’ to ‘all of the time’. ‘Very lonely’ refers to individuals feeling lonely most or all of the time, while ‘slightly lonely’ to those feeling lonely at least some of the time. The UCLA ordinal measure is a 3–9 scale based on three items. Those with a score higher or equal to 6 are defined as ‘slightly lonely’, those with a score higher or equal to 8 as ‘very lonely’. The DJG scale is a 0–6 scale based on six items. ‘Slightly lonely’ are those with a score of 4 or more and ‘very lonely’ those with the score equal to 6. The DJG scale can be decomposed in two 0–3 scales based on the three items capturing emotional loneliness and the three items capturing social loneliness. EU-27 sampling weights are applied. *Source* EU Loneliness Survey, 2022, authors’ calculations, N = 23,061

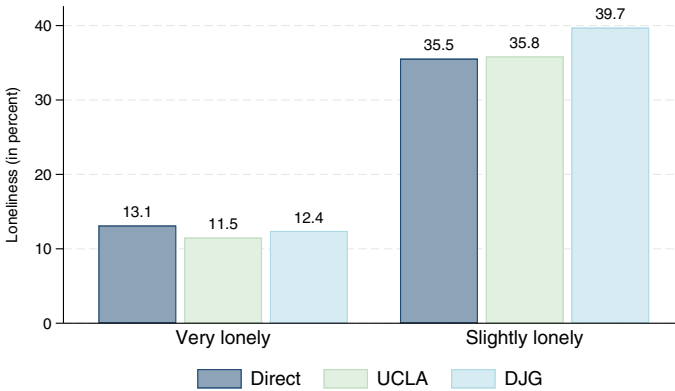
social loneliness subscale is only 0.32. This suggests that the direct question, similarly to the UCLA scale, better captures emotional loneliness (Van Tilburg, 2021).

In what follows, we dichotomise the three loneliness variables in two alternative ways to define two groups of individuals (and their respective complements): those feeling very lonely and those feeling slightly lonely. For the direct measure, ‘slightly lonely’ refers to being lonely at least some of the time, while ‘very lonely’ refers to being lonely most or all of the time. For the UCLA scale, we define those feeling ‘slightly lonely’ as those with a score higher or equal to 6, following some existing literature (Steptoe et al., 2013). The ‘very lonely’ category corresponds to a UCLA scale score of 8 or 9. As for the DJG scale, we define the slightly lonely as having the score of 4 or more and the very lonely with the score equal to 6.

Based on these categories, 12–13% of respondents reported feeling very lonely, while at least 36–40% felt slightly lonely (see Fig. 2.1). Using the aforementioned cut-offs, we thus get very similar loneliness shares with the three loneliness measures. The correlation between the dichotomised measures is smaller compared to that of the continuous measures, but it remains above 0.5 at least for slight loneliness (see Table 2.4).

The fact that the direct question is strongly correlated to the UCLA and DJG measures suggests that it is a valuable measure of loneliness.<sup>19</sup> As discussed above, the direct question has a further advantage that it can be easily asked in large representative surveys and compared across different surveys. Thus, most of the results of this book are based on this measure and, in particular, on the share of those feeling very lonely (i.e. feeling lonely most or all of the time in the past 4 weeks). The

<sup>19</sup> See Paris et al. (2024) for a comparison between the direct measures of loneliness and the UCLA and DJG scales.

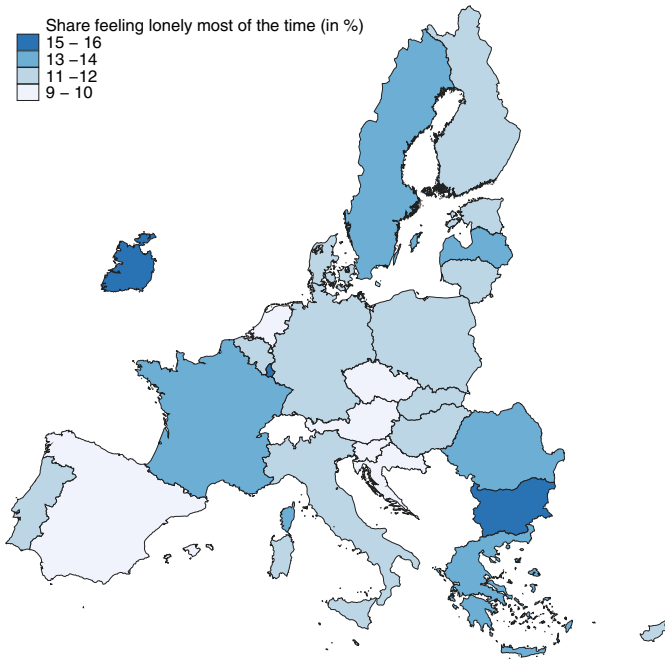


**Fig. 2.1** Share of lonely respondents according to different loneliness measures. *Note* For the direct question the ‘very lonely’ are defined as those feeling lonely most or all of the time over the past 4 weeks, while the ‘slightly lonely’ as those feeling lonely at least some of the time. Based on the UCLA 3–9 scale those with a score higher or equal to 6 are defined as ‘slightly lonely’, while those with a score higher or equal to 8 as ‘very lonely’. Using the DJG 0–6 scale, the ‘slightly lonely’ are those with a score of 4 or more and the ‘very lonely’ those with the score equal to 6. EU-27 sampling weights are applied. *Source* EU Loneliness Survey, 2022, authors’ calculations, N = 23,061

UCLA and DJG scales are mainly employed to check the robustness of the results to different loneliness measures. However, it must be noted that the UCLA and DJG can still be preferred in specific settings at least for two reasons. First, they allow to measure loneliness in a more fine-grained way, and second, the DJG scale allows distinguishing between the emotional and social components of loneliness.

#### 2.4.4 Loneliness Levels Across Countries and Samples

Figure 2.2 presents aggregate levels of loneliness across all 27 countries of the European Union. As highlighted in the previous section, individuals feeling lonely most or all of the time in the past 4 weeks are defined as lonely. The loneliness incidence appears to be lowest in Austria, Croatia, Czechia, the Netherlands, Slovenia and Spain (10% or less). It is highest in Bulgaria, Cyprus, Ireland and Luxembourg (17% or more). Differences across countries may reflect differences in culture and values (this discussion will be developed further in Chap. 6), but also differences in the demographic composition of the national population as well as sampling differences (see Sect. 2.4.2). It must be noted that the cross-country loneliness patterns are somewhat different from those observed in Europe before the Covid-19 pandemic with other data sources (Luhmann et al., 2023). This may be due to a differential impact of the Covid-19 pandemic in the EU countries, differences in the survey mode (i.e. online vs. face-to-face survey) or sampling differences.



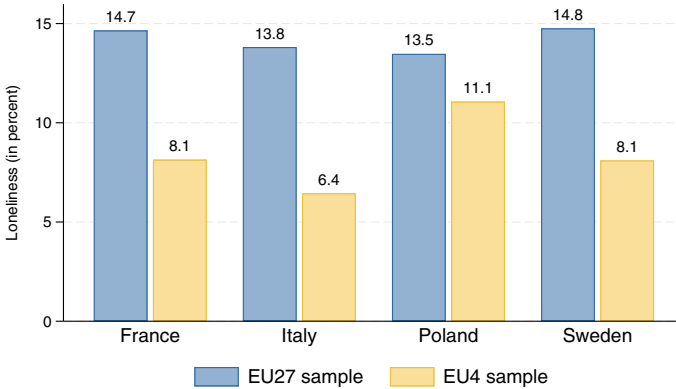
**Fig. 2.2** Loneliness share by country. *Source* EU loneliness survey, authors' calculations, N = 23,061. Country-specific sampling weights are applied

As discussed in Sect. 2.4.2, the main sample of the EU Loneliness Survey on all 27 countries is based on a consumer panel and is thus not a probability-based sample. However, for four countries (France, Italy, Poland and Sweden), the survey allows to compare loneliness shares to the EU4 sample, which is based on probability sampling. Figure 2.3 shows the loneliness incidences by sample and country. For all four countries, loneliness shares resulting from the EU4 sample are smaller than those resulting from the EU27 sample.<sup>20</sup> This is an important finding, as it may indicate that the loneliness incidence found in the EU27 sample could differ from the one in the overall population despite applying population weights. This calls for caution in the generalisation of the results.

The differences in the incidence of loneliness between the 2 samples are similar for all countries except for Poland, where the difference is smaller (2 percentage points).

These differences are likely to stem from differences in the sampling design and possibly from differences in the survey mode. In fact, when collecting data for the EU4 sample, a small share of the respondents that did not have a digital tool to fill in

<sup>20</sup> For a comparison between the two EU Loneliness Survey samples, the consumer panel and the probability based one, see Berlingieri and Mauri (2024). Studies comparing online probability-based vs non-probability based panels, also point to significant differences between these samples (Callegaro et al., 2014).



**Fig. 2.3** Share of lonely respondents by sample and country. *Source* EU Loneliness Survey, authors' calculations, EU27 and EU4 samples. Country-specific sampling weights are applied

the survey was interviewed telephonically (see Sect. 2.4.2). Respondents may be less likely to report their loneliness when interviewed via telephone and at the same time those who do not have access to a digital tool are more likely older adults, whose level of loneliness may differ from the population average.<sup>21</sup>

## 2.5 Conclusions

Feelings of loneliness have profound implications for mental and physical health, diminishing well-being and life satisfaction. Reliable measurement is vital to address the problem appropriately, but this is challenging, mainly due to the subjective and multifaceted nature of loneliness. Different measurement tools have been developed and used in research on loneliness, each with its own strengths and weaknesses, approach to loneliness and analytical possibilities, which can make the comparison of findings across studies somewhat difficult.

Another problem with measuring loneliness is that it has not been done systematically. Most of the evidence on the prevalence, determinants and consequences of loneliness comes from cross-sectional studies carried out in individual countries and with relatively small sample sizes. Nevertheless, there are some large-scale European surveys that do measure loneliness, such as the European Social Survey (ESS) and the European Union Statistics on Income and Living Conditions (EU-SILC).

<sup>21</sup> A discussion on the association between age and loneliness is included in Chap. 3.

The European Union Loneliness Survey (EU Loneliness Survey) introduced in this chapter represents an important step forward in the measurement and understanding of loneliness in the European Union. The EU Loneliness Survey is a cross-sectional survey conducted in 2022 and covering all 27 European Union member states, and it confirms that loneliness is a widespread issue.

Of course, the EU Loneliness Survey has some limitations that should be considered when working with the data. First, being a cross-sectional survey, the EU Loneliness Survey only provides a snapshot of the prevalence of loneliness at a given point in time and does not enable systematic tracking of trends and patterns in loneliness over time. Questions about the evolution of loneliness over time, both at an aggregate level and within cohorts of the population, are hard to answer without repeated collections of data over an extended period. Second, the main data collection is based on a consumer panel. The difficulties of reaching certain population groups with such panels are well known and they may therefore suffer from challenges related to data quality. This calls for caution about drawing general conclusions from the survey for the overall population.

Nevertheless, the EU Loneliness Survey has a number of unique qualities. It offers detailed data for a *large sample*, and so it is eminently suitable for informing evidence-based policymaking, aiding in the identification of vulnerable minority groups and facilitating the design of targeted interventions. Moreover, the geographical coverage of all 27 EU member states allows for cross-country comparisons.

The survey includes *three different and established measures of loneliness*—two psychometric scales and one direct question, all well established in the literature on loneliness. This increases the accuracy and robustness of the results, as comparisons across measures are possible.

Along with responses on feelings of loneliness, the EU Loneliness Survey collects a *wide range of information* which allows an examination of the causes, effects and prevalence of loneliness. Of particular interest are sections covering social connectedness, life events, social media use, attitudes towards others and towards government, self-reported mental and physical health, and a set of questions on interventions to attenuate feelings of loneliness. Associations of these variables with loneliness will be explored in the following chapters.

The EU Loneliness Survey was also designed to allow for *tests of the robustness* of its findings. Apart from using multiple measures of loneliness, it was conducted in two different samples using two different sampling methods. While the main sample covering all 27 EU countries was based on a consumer panel, the survey was carried out additionally in four EU countries using a probability-based sampling method, which yields more generalisable results by reducing potential selection biases.

The EU Loneliness Survey also provides valuable data for the methodology of future research, not necessarily linked to loneliness, on the question of *survey sampling*. This includes comparing online non-probability and probability samples, and exploring potential biases linked to different survey and sample selection methodologies.

Overall, the data generated by the EU Loneliness Survey have significant potential to address unanswered research questions in the areas of loneliness and social isolation, and also in survey design.

## Appendix A

See Tables 2.5 and 2.6.

**Table 2.5** UCLA revised (20-item) and short (3-item) loneliness scales

	Revised version	Short version <sup>†</sup>
1. I feel in tune with the people around me*	X	
2. I lack companionship	X	X
3. There is no one I can turn to	X	
4. I do not feel alone*	X	
5. I feel part of a group of friends*	X	
6. I have a lot in common with the people around me*	X	
7. I am no longer close to anyone	X	
8. My interests and ideas are not shared by those around me	X	
9. I am an outgoing person*	X	
10. There are people I feel close to*	X	X
11. I feel left out	X	
12. My social relationships are superficial	X	
13. No one really knows me well	X	
14. I feel isolated from others	X	X
15. I can find companionship when I want it*	X	
16. There are people who really understand me*	X	
17. I am unhappy being so withdrawn	X	
18. People are around me but not with me	X	
19. There are people I can talk to*	X	
20. There are people I can turn to*		

*Note* \* Denotes items to be reversed before scoring. † In the original version of the short scale, the items were phrased as questions, e.g. ‘How often do you feel that you lack companionship: Hardly ever, some of the time or often?’ Answer options for the revised scale are ‘Never’, ‘Rarely’, ‘Sometimes’ and ‘Often’. Answer options for the short scale are ‘Hardly ever’, ‘Some of the time’ and ‘Often’. *Source* Hughes et al. (2004)



**Table 2.6** De Jong Gierveld original (11-item) and short (6-item) loneliness scales

	Emotional subscale – original version	Social subscale – original version	Emotional subscale – short version	Social subscale – short version
1. There is always someone I can talk to about my day-to-day problems*		X		
2. I miss having a really close friend	X			
3. I experience a general sense of emptiness	X		X	
4. There are plenty of people I can rely on when I have problems*		X		X
5. I miss the pleasure of the company of others	X			
6. I find my circle of friends and acquaintances too limited	X			
7. There are many people I can trust completely*		X		X
8. There are enough people I feel close to*		X		X
9. I miss having people around	X		X	
10. I often feel rejected	X		X	
11. I can call on my friends whenever I need them*		X		

*Note* \* Denotes items to be reversed before scoring. Answer options are 'Yes!', 'Yes', 'More or less', 'No' and 'No!' or alternatively 'Yes' and 'More' or 'less' and 'No'. *Source* De Jong Gierveld and Van Tilburg (2006)

## References

- Andersson, L. (1998). Loneliness research and interventions: A review of the literature. *Aging and Mental Health*.
- Asher, S. R., Hymel, S., & Renshaw, P. D. (1984). Loneliness in Children. *Child Development*.
- Barjaková, M., Garnero, A., & d'Hombres, B. (2023). Risk factors for loneliness: A literature review. *Social Science & Medicine*.
- Barreto, M., van Breen, J., Victor, C., Hammond, C., Eccles, A., Richins, M. T., & Qualter, P. (2022). Exploring the nature and variation of the stigma associated with loneliness. *Journal of Social and Personal Relationships*.
- Berlingieri, F., Casabianca, E., Colagrossi, M., D'Hombres, B., Kovacic, M., Mauri, C., Nurminen, M., Schnepf, S.V., & Stepanova, E. (2024). *EU loneliness survey—methodological report*. Publications Office of the European Union.
- Berlingieri, F., & Mauri, C. (2024). *Measuring loneliness with probability and non probability samples* (forthcoming).
- Borys, S., & Perlman, D. (1985). Gender differences in loneliness. *Personality and Social Psychology Bulletin*.
- Callegaro, M., Villar, A., Yeager, D., & Krosnick, J. A. (2014). A critical review of studies investigating the quality of data obtained with online panels based on probability and nonprobability samples. *Online Panel Research: Data Quality Perspective, A*, 23–53.
- Chang, L., & Krosnick, J. A. (2009). National surveys via rdd telephone interviewing versus the internet: Comparing sample representativeness and response quality. *Public Opinion Quarterly*.
- De Jong Gierveld, J., & Kamphuis, F. (1985). The development of a Rasch-type loneliness scale. *Applied Psychological Measurement*.
- De Jong Gierveld, J., & Van Tilburg, T. G. (2006). A 6-item scale for overall, emotional, and social loneliness: Confirmatory tests on survey data. *Research on Aging*.
- De Jong Gierveld, J., Van Tilburg, T. G., & Dykstra, P. A. (2016). Loneliness and social isolation. In A. Vangelisti, & D. Perlman, *The Cambridge handbook of personal relationships* (2nd ed.). Cambridge University Press.
- De Leeuw, E. D. (1992). *Data quality in mail, telephone and face to face surveys*. [unpublished doctoral thesis].
- DiTommaso, E., & Spinner, B. (1993). The development and initial validation of the social and emotional loneliness scale for adults (SELSA). *Personality and Individual Differences*.
- Dodou, D., & de Winter, J. C. (2014). Social desirability is the same in offline, online, and paper surveys: A meta-analysis. *Computers in Human Behavior*, 36, 487–495.
- Gnambs, T., & Kaspar, K. (2015). Disclosure of sensitive behaviors across self-administered survey modes: A meta-analysis. *Behavior Research Methods*, 47, 1237–1259.
- Hoza, B., Bukowski, W. M., & Beery, S. (2000). Assessing peer network and dyadic loneliness. *Journal of Clinical Child Psychology*.
- Hughes, M. E., Waite, L. J., Hawkey, L. C., & Cacioppo, J. T. (2004). A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Research on Aging*.
- Jylhä, M., & Saarenheimo, M. (2010). Loneliness and aging: Comparative perspectives. In D. Dannefer, & C. Phillipson, *The SAGE Handbook of Social Gerontology*. SAGE Publications.
- Lau, S., & Gruen, G. E. (1992). The social stigma of loneliness: Effect of target person's and perceiver's sex. *Personality and Social Psychology Bulletin*.
- Luhmann, M., Buecker, S., & Rüsberg, M. (2023). Loneliness across time and space. *Nature Reviews Psychology*, 2(1), 9–23.
- Maes, M., Qualter, P., Lodder, G. M., & Mund, M. (2022). How (Not) to measure loneliness: A review of the eight most commonly used scales. *International Journal of Environmental Research and Public Health*.
- Marcoen, A., Goossens, L., & Caes, P. (1987). Loneliness in pre-through late adolescence: Exploring the contributions of a multidimensional approach. *Journal of Youth and Adolescence*.

- Mayers, A. M., Khoo, S.-T., & Svartberg, M. (2002). The Existential loneliness questionnaire: Background, development, and preliminary findings. *Journal of Clinical Psychology*.
- Paris, B., Ropovik, I., Silan, M. A., D’Hombres, B., Casabianca, E., & IJzerman, H. (2024, January 11). *Evaluating loneliness measurements across the European union*. <https://doi.org/10.31234/osf.io/tk68s>
- Perlman, D., & Peplau, L. A. (1981). Toward a social psychology of loneliness. In R. Gilmour, & S. Duck, *Personal relationships: Volume 3. Relationships in disorder*. Academic Press.
- Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*.
- Russell, D. W., Cutrona, C. E., Rose, J., & Yurko, K. (1984). Social and emotional loneliness: An examination of Weiss’s typology of loneliness. *Journal of Personality and Social Psychology*.
- Russell, D. W., Peplau, L. A., & Ferguson, M. L. (1978). Developing a measure of loneliness. *Journal of Personality Assessment*.
- Schmidt, N., & Sermat, V. (1983). Measuring loneliness in different relationships. *Journal of Personality and Social Psychology*.
- Stepanova, E., Alt, M., & Hopfensitz, A. (2024). *Loneliness and trust: Evidence from a large-scale trust game experiment* (forthcoming).
- Steptoe, A., Shankar, A., Demakakos, P., & Wardle, J. (2013). Social isolation, loneliness, and all-cause mortality in older men and women. *Proceedings of the National Academy of Sciences*.
- Van Tilburg, T. (2021). Social, emotional, and existential loneliness: A test of the multidimensional concept. *The Gerontologist*.
- Van Tilburg, T., & De Leeuw, E. (1991). Stability of scale quality under various data collection procedures: A mode comparison on the ‘De Jong Gierveld loneliness scale’. *International Journal of Public Opinion Research*.
- Walter, S. L., Seibert, S. E., Goering, D., & O’Boyle Jr, E. H. (2019). A tale of two sample sources: Do results from online panel data and conventional data converge? *Journal of Business and Psychology*.
- Weiss, R. S. (1973). *Loneliness: The experience of emotional and social isolation*. The MIT Press.

**Caterina Mauri** (Ph.D.) is a post-doctoral researcher at the Brussels Institute for Social and Population Studies, Vrije Universiteit Brussel, contributing to the IneqKill project—an interdisciplinary research initiative focusing on the long-term evolution of mortality inequalities from 1800 to the present day. Dr. Mauri holds a Ph.D. in economics from the University of Southern Denmark and has previously worked at the Survey Methods and Analysis Centre of the European Commission’s Joint Research Centre. Her research interests include loneliness and mental well-being, fairness and inequality perceptions, regional and urban economics, the labour market for artists and creatives, art consumption and innovation and technology in history.

**Martina Barjaková** (M.Sc) is a behavioural scientist with extensive experience in behavioural research aimed at informing policy. Most of her research has been conducted at the Behavioural Research Unit of the Economic and Social Research Institute in Dublin. Additionally, she has contributed to several projects for the Joint Research Centre of the European Commission. In her research, she has focused mostly on applying behavioural insights to analyse and support pro-environmental and health-related behaviours, on studying risk perceptions and analysing the risk factors and prevalence of loneliness. She holds a bachelor’s degree in international trade from Prague University of Economics and Business and a master’s degree in economic and social sciences from Bocconi University in Milan. She is currently completing her Ph.D. at the Department of Psychology of the University of Milan-Bicocca, after which she plans to return to applied behavioural research to support public policy at a national or international level.

**Francesco Berlingieri** (Ph.D.) is a research economist and socio-economic analyst at the Joint Research Centre (JRC) of the European Commission, working in the Survey Methods and Analysis Centre (SMAC) on inequality, perceptions of social issues and subjective well-being. Dr. Berlingieri is a labour economist and holds a Ph.D. in economics from Heidelberg University in Germany. Before joining the JRC, he worked at the Leibniz Centre for European Economic Research (ZEW) in Mannheim, Germany, where he focused on educational and labour market inequalities, as well as on regional disparities.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



**Part II**  
**Loneliness and Its Associates**

# Chapter 3

## Who Feels Lonely in the European Union?



**Francesco Berlingieri, Martina Barjaková, Andrea Garnero, and Caterina Mauri**

**Abstract** This chapter analyses the prevalence of loneliness in the European Union along several dimensions, exploring vulnerabilities within specific demographic groups and mitigating or triggering factors such as meaningful social connections and life events. The first part of the chapter investigates which demographic and socio-economic groups are more vulnerable to loneliness. In particular, it considers characteristics such as age, gender, socio-economic status, sexual orientation, disability, migration background and population density of the place of residence. The second part of the chapter is devoted to shedding light on the relationship between loneliness and social connectedness. Regression analysis is used to investigate how the risk of feeling lonely is associated with a rich set of variables related to respondents' social interactions and relationships. Finally, the chapter looks into life events that might trigger loneliness. Major life transitions, such as retirement or leaving the education system, may bring disruptions to people's social networks and thus increase the risk of feeling lonely.

---

F. Berlingieri (✉)  
European Commission, Joint Research Centre (JRC), Ispra, Italy  
e-mail: [Francesco.Berlingieri1@ec.europa.eu](mailto:Francesco.Berlingieri1@ec.europa.eu)

M. Barjaková  
Department of Psychology, University of Milan-Bicocca, Milan, Italy  
e-mail: [M.Barjakova@campus.unimib.it](mailto:M.Barjakova@campus.unimib.it)

A. Garnero  
OECD, 2, Rue André Pascal, 75016 Paris, France  
IZA, Bonn, Germany

A. Garnero  
e-mail: [Andrea.Garnero@oecd.org](mailto:Andrea.Garnero@oecd.org)

C. Mauri  
Brussels Institute for Social and Population Studies (BRISPO), Vrije Universiteit Brussel, Elsene, Belgium  
e-mail: [Caterina.Mauri@vub.be](mailto:Caterina.Mauri@vub.be)

### 3.1 Introduction

Both to further our understanding of loneliness and to craft effective interventions to tackle the problem, it is important to understand how loneliness varies across the population and what factors may exacerbate or mitigate it. In this chapter, we exploit the richness of the EU Loneliness Survey to identify socio-demographic groups who are more vulnerable to loneliness in the European Union, explore the interplay between loneliness and social connectedness and investigate life events as triggers for loneliness. The insights gained are instrumental for informing the design and implementation of targeted interventions and support systems that address the diverse nature of loneliness across the population.

Over many years of research on loneliness, several possible determinants have been studied empirically and the prevalence of loneliness has been compared for many different population groups. The focus has mostly been on analysing individual characteristics and life circumstances, either factors that influence a person's opportunities for social connectedness and their social network, or aspects directly related to the characteristics of this social network (De Jong Gierveld et al., 2016). In fact, the prevalence of loneliness cannot be explained solely by individual socio-demographic characteristics such as age or educational level, as people's social interactions play a more important role in experiences of loneliness (Hawkley et al., 2008). Examining social connectedness therefore provides insights into the dynamics of social interactions and their effect on loneliness. At the same time, policies that promote community engagement, strengthen social ties and create supportive environments can foster a sense of belonging and help prevent or reduce loneliness.

Moreover, investigating the role played by life events as triggers for loneliness can help identify critical periods of vulnerability. Major life transitions, such as retirement or leaving the education system, may disrupt established social networks (Wrzus et al., 2013), thus increasing the risk of loneliness. Recognising these triggers may facilitate the development of proactive interventions and preventive strategies during these transitional periods, to reduce the risk of loneliness or to prevent an instance of *situational* loneliness from escalating into *chronic* loneliness, as described in Chap. 2.

While the literature demonstrates that the most important risk factors for loneliness are related to an individual's social network and to personal experiences impacting social connectedness, it is still interesting to investigate which groups of the population are more vulnerable to loneliness. Previous studies have stressed that minority groups—such as individuals with a migration background, members of the LGBTIQ+ community and people with disabilities—have a higher incidence of loneliness (Lasgaard et al., 2016), perhaps because they are more at risk of social exclusion or because they are not in a position to rely on an established social network. Poverty, unemployment and geographical mobility also tend to be associated with a higher risk of loneliness. Moreover, recent major events such as the COVID-19 pandemic and the containment measures implemented to reduce transmission of the virus may have had additional long-term effects on the social connectedness and feelings of loneliness of certain groups, such as children, young adults or older individuals.

In this chapter, we start by examining the factors that influence an individual's opportunities for social connectedness, i.e. demographic and socio-economic factors (Sect. 3.2), and then move on to factors related to social connections (Sect. 3.3). We finish the chapter by looking into shocks and triggering events that are likely to change a person's social network (Sect. 3.4).

Compared with prior studies mostly based on smaller samples, a narrow geographical focus and a single measure of loneliness, this chapter offers a significant contribution to the understanding of loneliness risk factors in Europe. First, the chapter analyses loneliness in all 27 EU countries using the EU Loneliness Survey, which is underpinned by a large and recent sample of more than 25,000 respondents.<sup>1</sup> This allows the empirical exploration of a large number of individual characteristics, while maintaining a considerable sample size. Second, the survey uses different measures of loneliness, yielding results that are robust to different specifications. Finally, the chapter explores potential triggers for loneliness by incorporating questions on life events, an aspect typically only covered by longitudinal studies. In this way, our study not only contributes to the existing body of knowledge on loneliness but does so with a methodological rigour and breadth that significantly advance the state of knowledge in this field.

## 3.2 Which Demographic and Socio-economic Groups are More Vulnerable to Loneliness?

Individuals belonging to certain population groups may be more at risk of feeling lonely than others. This section presents the incidence of loneliness for different demographic and socio-economic groups in the EU. There are studies that have analysed how the risk of feeling lonely varies for different groups in different countries, however, the majority of them have focused on single countries and smaller samples. The ample sample size of the EU Loneliness Survey enables us to examine prevalence of loneliness within different groups while ensuring a substantial number of observations in each subgroup. Moreover, since the survey covers 27 European countries, it ensures a sample with a high degree of variation in terms of cultural characteristics and economic conditions.

### **Box 3.1: Methodology and robustness of the results**

In this chapter, loneliness is defined by a binary variable that indicates whether individuals reported to have felt lonely most or all of the time during the previous 4 weeks. All figures report results using EU-27 weights to balance

---

<sup>1</sup> The EU Loneliness Survey interviewed 25,646 individuals aged 16 and over living in the 27 EU member states in November and December 2022 (see Sect. 2.4.2 for further details).



the sample to the EU population in terms of age, gender, educational attainment, and NUTS region of residence. If not specified otherwise in the figures notes, the results presented refer to the EU Loneliness Survey subsample of 24,342 respondents for whom information on loneliness (direct question), age, education, and gender was available. It should be noted that some of the questions have a high non-response rate, notably the one on household income, so that results may refer to different sub-samples. Tables 3.1 and 3.2 in the Appendix provide information on the summary statistics and the response rate for all the questions used in this chapter.

The EU Loneliness Survey allows to test the robustness of the results to the use of different loneliness measures and different sampling methods. The analyses presented are also reproduced using dichotomised versions of the UCLA and the DJG loneliness scales as described in Chap. 2. Robustness to different loneliness measures is a significant added value as most of the existing studies rely on one single measure. Moreover, for four countries (France, Italy, Poland and Sweden) we can test the robustness of the results when using the EU4 sample, a probability-based sample. Most results hold for all alternative specifications with only small differences in the magnitude of the correlations (see Tables 3.3, 3.4, 3.5 and 3.6 in the Appendix). When substantial differences are found using alternative specifications, these are described in footnotes throughout the chapter.

One of the most commonly studied factors associated with loneliness is age. Historically, many studies focused on older adults, perhaps because they were seen as an at-risk group. Research looking at differences in loneliness by age suggests this could indeed be the case, finding a U-shaped relationship between age and loneliness (Mund et al., 2020). In other words, loneliness seems to be higher in older age,<sup>2</sup> compared to the rest of the population, but it is also elevated in adolescents or very young adults. Nevertheless, different studies find different types of relationships between age and loneliness, such as linear and increasing (Hansen & Slagsvold, 2016), or non-linear with several dips and peaks during the life span (Luhmann & Hawkey, 2016).

Another commonly studied demographic characteristic in relation to loneliness is gender, even though studies have found contrasting results depending on the loneliness measure used. According to a meta-analysis of studies using indirect measures of loneliness, men are found to be slightly lonelier than women, but with very small

---

<sup>2</sup> However, the association between age and loneliness often disappears in multivariate analyses (Barjaková et al., 2023) This could be explained by the fact that it is not the age per se that causes loneliness, but factors related to that age. The elderly are, for instance, more likely to have lost their partner and have poorer health, two characteristics that are linked with higher likelihood of loneliness.

effect sizes (Maes et al., 2019).<sup>3</sup> Other studies using direct measures of loneliness have found either no differences between men's and women's loneliness (Lykes & Kemmelmeier, 2013) or sometimes that women are lonelier than men (Kung et al., 2022; Victor & Yang, 2012).

The results from the EU Loneliness Survey on the prevalence of loneliness by age and gender are shown in Fig. 3.1. We find the prevalence of loneliness to be decreasing with age with the highest levels among younger respondents, in line with recent results from another large-scale multi-country survey (Barreto et al., 2021). Contrary to other studies in the literature (for instance, Mund et al., 2020; Victor & Yang, 2012), however, we do not find evidence that loneliness increases at an older age and thus of a U-shaped relationship. This may be due to the fact that after the COVID-19 pandemic the risk of loneliness increased particularly among younger individuals (Baarck et al., 2022).<sup>4</sup> As regards gender, we find women to be more likely to feel lonely, especially at young ages between 16 and 24, in line with some studies using direct measures of loneliness.<sup>5</sup>

In terms of socio-economic characteristics, three indicators are commonly used in the literature on loneliness—educational attainment, employment status and financial situation (as measured by objective or subjective income or wealth variables). Higher educational attainment is generally linked to lower levels of loneliness (Hansen & Slagsvold, 2016; Pinguart & Sørensen, 2001). Similarly, people who are unemployed are usually found to feel lonelier than their employed counterparts, but in many cases this finding is not statistically significant (Morrish & Medina-Lara, 2021). A review of longitudinal studies points towards bidirectionality of the relationship between employment and loneliness, i.e. some studies find that unemployment predicts loneliness later in life and others that loneliness leads to a higher likelihood of being unemployed in the future (Morrish & Medina-Lara, 2021). There is also some evidence suggesting that loneliness increases before losing a job (Buecker et al., 2021a, 2021b). A better financial situation is also associated with less loneliness (Hawkey et al., 2020a, 2020b; Pinguart & Sørensen, 2001), but again this relationship is statistically significant only in some studies (Dahlberg et al., 2021).

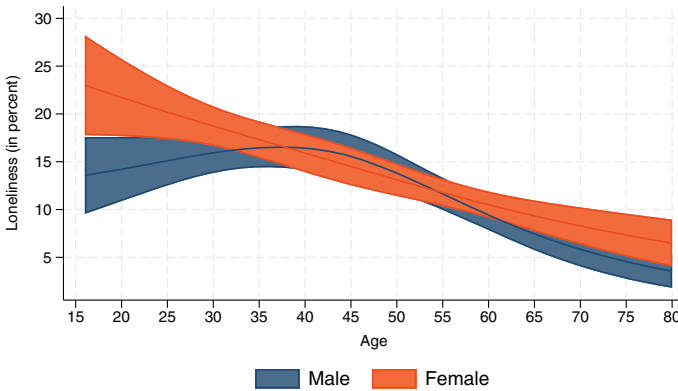
Results from the EU Loneliness Survey confirm that there are important differences in the shares of people reporting being lonely depending on their socio-economic status. Figure 3.2 shows that poorer respondents are more likely to be lonely

---

<sup>3</sup> To the best of our knowledge, no similar meta-analysis on gender and loneliness measured with direct questions is available.

<sup>4</sup> Another explanation for this finding may be that this survey is administered online and does not cover the digitally-excluded parts of the population that tend to be older in age. However, we find similar results using the EU4 sample, which is based on probability sampling and covers the digitally-excluded population too (results available upon request).

<sup>5</sup> A similar result is found when using the dichotomised version of the UCLA and DJG loneliness scales described in Chap. 2: in both instances women are found to be on average slightly lonelier than men. Thus, contrary to previous results from the literature (see Sect. 3.2), we do not find that the loneliness measure affects the gender differences in the incidence of loneliness.

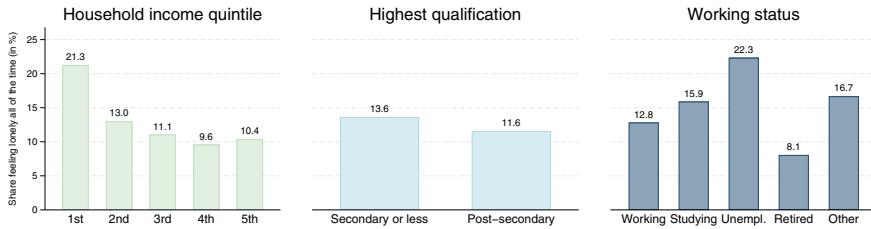


**Fig. 3.1** Probability of feeling lonely by age and gender. *Note* Predicted values from a regression model with feeling lonely most or all of the time as the dependent variable for the subsample of 24,158 individuals aged 16–80 years old identifying themselves with the male or female gender. The red and blue lines show how the probability changes with age for men and women, respectively. The lines show fitted values and 95% confidence intervals. Model fitting is obtained via a logistic regression with cubic splines in age. No other control variables are included in the regression. *Source* EU Loneliness Survey, 2022, authors' calculations

than those in higher income quintiles.<sup>6</sup> The difference is particularly pronounced between the poorest 20% of households (i.e. people living in households in the first and hence lowest income quintile) and others. Moreover, consistently with previous studies, we find that individuals with lower levels of education (secondary education qualification at most) have a higher risk of feeling lonely than those holding a post-secondary education qualification. Finally, loneliness is more prevalent among those not employed than among those who work. The risk of loneliness is particularly high among the unemployed, with more than one out of five stating to feel lonely. While the retired are less likely to report feeling lonely, this finding can be explained by the fact that in our sample, the incidence of loneliness is lower for older individuals, who are also likely to be retired.

Researchers have also studied how race/ethnicity and migration background relate to feelings of loneliness and they have usually found that people with migration backgrounds report higher levels of loneliness compared to native populations (Buecker et al., 2021b; ten Kate et al., 2020). The explanations that have been put forward include different socio-demographic characteristics of the migrants (Visser & El Fakiri, 2016), lower satisfaction with social relationships (ten Kate et al., 2020), or cultural (dis)similarity (de Jong Gierveld et al., 2015).

<sup>6</sup> Income quintiles are defined based on total non-equivalised household disposable income, i.e. after tax and compulsory deductions. Respondents could provide figures based on weekly, monthly, or yearly income sources and were provided with country-specific income brackets corresponding to country income deciles. These were calculated based on the EU statistics on income and living conditions (EU-SILC) 2019 data adjusted for inflation.



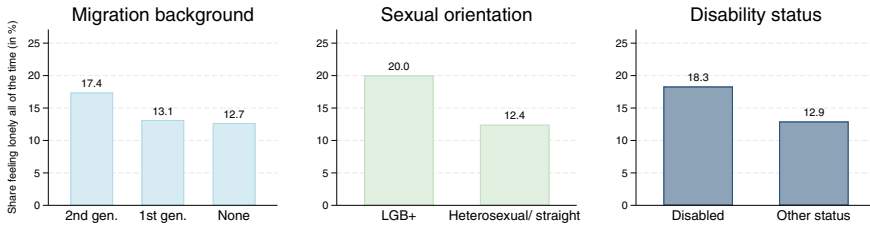
**Fig. 3.2** Loneliness incidence by income level, education and working status. *Note* The graph provides descriptive results. The first graph on household income quintiles refers to the subsample of 22,695 individuals responding to the question on household disposable income. ‘Other’ working status in the third graph includes individuals indicating, as working status, ‘Permanently sick or disabled’, ‘Doing housework, such as looking after children or other persons’ or ‘Other’. ‘Studying’ refers to people in education. *Source* EU Loneliness Survey, 2022, authors’ calculations

Figure 3.3 shows that also in the EU Loneliness Survey, respondents with a migration background are more likely to feel lonely. The shares are particularly high for second-generation migrants, i.e. those that are born in the country of the interview and have at least one parent born abroad. This is a novel finding, as most of the previous literature focused on first-generation migrants—(e.g. de Jong Gierveld et al., 2015). The fact that the incidence of loneliness in the EU Loneliness Survey is not very different between individuals without migration background and first-generation migrants (i.e. those born abroad) may be due to the selectivity of this group. Since only respondents speaking the official languages of a country could be included in the survey, a large number of first-generation migrants were likely to be excluded. Those who did respond to the survey are likely to be particularly well integrated, perhaps partly due to circumstances or social skills that also reduce the incidence of loneliness. Since almost all second-generation immigrants are likely to speak the official language of their country, no similar selection effect should be expected among them.<sup>7</sup> When distinguishing by country of origin, first-generation migrants from non-EU countries are at greater risk of feeling lonely than those born in another EU country, a result similar to one found in Canada, where immigrants of British or French origin were not more likely to feel lonely compared to the native Canadians, while those from non-European countries were the loneliest group (de Jong Gierveld et al., 2015).

People with a migration background are not the only minority group at a higher risk of loneliness. Figure 3.3 also shows that non-heterosexual individuals are substantially more likely to feel lonely compared to those self-identifying as being heterosexual or straight.<sup>8</sup> The observed relationship holds also conditional on

<sup>7</sup> We find some support to this conjecture when looking at the average level of education obtained. Compared to individuals without a migration background, first-generation migrants are more likely to hold a post-secondary qualification while second-generation migrants are less likely to hold such a qualification.

<sup>8</sup> Respondents who selected ‘lesbian or gay’, ‘bisexual’ or ‘other sexual orientation’ for the question on sexual orientation are defined to be non-heterosexual or LGB+.



**Fig. 3.3** Loneliness incidence by migration background, sexual orientation and disability status. *Note* Second-generation migration background refers to individuals with one parent born abroad. First-generation migrant status refers to people born abroad. The graph in the middle refers to the subsample of 23,442 individuals providing a valid response to the question on sexual orientation. ‘LGB+’ refers to respondents stating to be lesbian or gay, bisexual or having another sexual orientation than heterosexual/straight. ‘Disabled’ refers to those stating to be permanently sick or disabled. *Source* EU Loneliness Survey, 2022, authors’ calculations

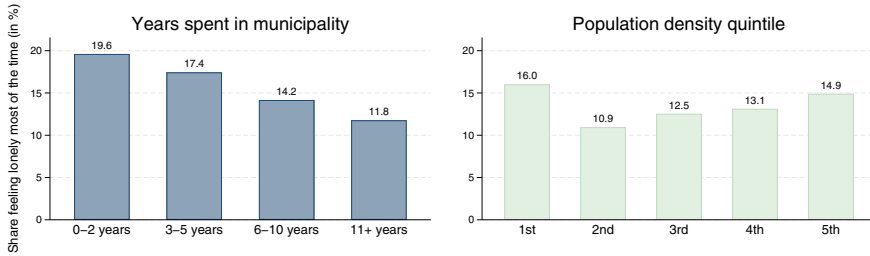
socio-demographic characteristics and with different loneliness scales (Berlingieri & Kovacic, 2023). This is an important finding, documented in few studies so far (Gorczyński & Fasoli, 2021; Marquez et al., 2022), because information about sexual orientation is generally not asked in large-scale surveys. Although not shown in the Figure, those that do not identify with binary gender identity are also significantly more at risk of feeling lonely.<sup>9</sup>

Finally, individuals who have a disability or are permanently sick, and not working, are at a higher risk of loneliness compared to individuals who are working or are not employed for other reasons. This finding is in line with previous research showing higher incidence of loneliness among people who receive a disability pension compared to those working (Lasgaard et al., 2016), or among those who have a disability compared to the healthy individuals (Pagan, 2020).<sup>10</sup>

Yet another important group of determinants of loneliness, perhaps at the intersection between individual and societal influences, is related to the characteristics of the environment in which a person lives. Past research focused on many different environmental characteristics but found only some of them to be associated with loneliness (Barjaková et al., 2023). The objective and subjective characteristics of the neighbourhood, such as access to facilities or green spaces, or the satisfaction with and feeling of belonging to the neighbourhood are all associated with lower levels of loneliness (Bower et al., 2023; Lyu & Forsyth, 2021). On the other hand, results from past research are more mixed when it comes to residential density or degree of urbanisation and their link to loneliness (Bower et al., 2023; Lyu & Forsyth, 2021).

<sup>9</sup> The loneliness incidence for individuals not identifying with binary gender identity is as high as 28%. However, this finding is based on a small sample given that only 95 respondents identify with this group.

<sup>10</sup> An individual characteristic that has been shown to have significant associations to feelings of loneliness is health (Baarck & Kovacic, 2022; Cohen-Mansfield et al., 2016; Nicolaisen & Thorsen, 2014a, 2014b). The association between loneliness and health is discussed in detail in Chap. 4.



**Fig. 3.4** Loneliness incidence by municipality of residence. *Note* Population density quintiles refer to the distribution of respondents in terms of the population density of their municipality of residence. They are based on Eurostat statistics on population data at the municipality level (LAU codes) for 2021. The graph on the right refers to a subsample of 22,897 individuals excluding Cyprus and Spain, for which municipal population data was not available. *Source* EU Loneliness Survey, 2022, authors' calculations

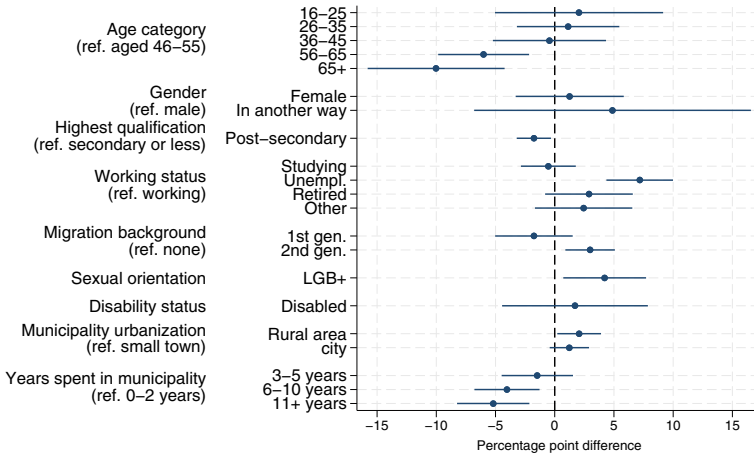
Our analysis of environmental characteristics in the EU Loneliness Survey focuses on whether loneliness incidence differs depending on the place of residence of the respondents and the number of years spent residing in it. Figure 3.4 shows that people who recently relocated to a new municipality are more likely to feel lonely than those who have been living in their municipality for more than 10 years. The population density of the municipality of residence also matters. The probability of loneliness is highest for the 20% of the population who reside in the municipalities with the lowest population density. People living in very rural areas are thus not only more likely to be socially isolated but also more at risk of feeling lonely. However, leaving these very remote localities aside, the incidence of loneliness appears to increase with population density. This means that in large and very densely populated cities, the share of people feeling lonely is also relatively high. Such a U-shaped relationship between the degree of urbanisation and loneliness has also been suggested by a review of literature focusing on older adults, even though in most studies the association is not statistically significant, especially if other factors related to loneliness are controlled for (Lyu & Forsyth, 2021).<sup>11</sup>

In summary, the focus of this section has been on identifying the population groups that have a higher-than-average loneliness incidence. Even if descriptive, this evidence may be important for practitioners and policymakers, for instance for targeting policy measures aimed at reducing loneliness and its consequences. However, it is also informative to analyse whether the observed differences hold when conditioning on all other characteristics in a multivariate regression model.

Figure 3.5 reports coefficients (average marginal effects) from a logistic regression including all the reported characteristics as well as country dummies.<sup>12</sup> Most of the

<sup>11</sup> It should be noted that such a U-shaped relationship between the degree of urbanisation and loneliness is much less evident when using measures based on the UCLA and DJG loneliness scales in the EU Loneliness Survey.

<sup>12</sup> Because of many missing observations, household income is not included in the model and a self-assessed categorisation of the degree of urbanisation of the place of residence is included instead



**Fig. 3.5** Demographic and socio-economic characteristics and loneliness. *Note* Coefficients (average marginal effects) from a multivariate logistic regression with being lonely as the dependent variable. The lines show 95% confidence intervals. A negative percentage point difference means that the group is less lonely than the reference group indicated in parenthesis. Other covariates included in the estimation are country fixed effects. Standard errors are clustered at the country level. McFadden adjusted R-squared: 0.037. *Source* EU Loneliness Survey, 2022, authors' calculations

relationships described hold conditional on other characteristics. In particular, the unemployed, the non-heterosexual individuals and the second-generation immigrants have a significantly higher likelihood to feel lonely compared, respectively, to those working, to heterosexual individuals and to those without a migration background. Individuals older than 55 years are less likely to feel lonely compared to younger individuals, while having a post-secondary degree is associated with a significantly lower risk of loneliness compared to having a lower qualification. Moreover, living in a rural area is associated with a significantly higher loneliness risk compared to living in a small town, while the coefficient for living in a city is positive but not statistically significant. This partly confirms the U-shaped relationship found with respect to urban density. The association between loneliness and the time spent in the municipality is also confirmed with a significant difference between living in the place for less than 3 years and more than 5 years.

Some associations, however, do not hold conditional on other characteristics. In particular, no significant difference is found between women and men. The figure also shows that not identifying with binary gender identity is associated with a higher loneliness risk, but the coefficient is very imprecisely estimated because of the small number of observations. Moreover, as expected, being retired is not associated with a lower likelihood of loneliness if age and other characteristics are taken into account.

---

of population density. When included, we find that individuals living in households in the bottom income quintile have a 7 percentage points higher probability to feel lonely compared to those in richer households.

Finally, there is no significant association between being disabled or permanently sick and loneliness, possibly because of a high correlation with working status categories.

It is important to recollect that, as suggested by previous studies, the experience of loneliness tends to depend more on people's social interactions and personal relationships rather than on demographic and socio-economic characteristics (Barjaková et al., 2023; Hawkey et al., 2008). These factors are explored in the following section.

### 3.3 Loneliness and Social Connectedness

The quantity and quality of social relationships are key factors to preventing or reducing the feelings of loneliness, as the definition of loneliness itself suggests. The EU Loneliness Survey contains extensive information about the quantity and quality of personal and social relationships as well as about the frequency of social interactions.<sup>13</sup> This section investigates the associations between loneliness and these different measures of social connectedness through a multivariate analysis accounting for the demographic and socio-economic characteristics described in the previous section. More specifically, all figures included show coefficients from multivariate logistic regressions with being lonely most or all of the time as the dependent variable.

#### **Box 3.2: Interpretation of the results and causality**

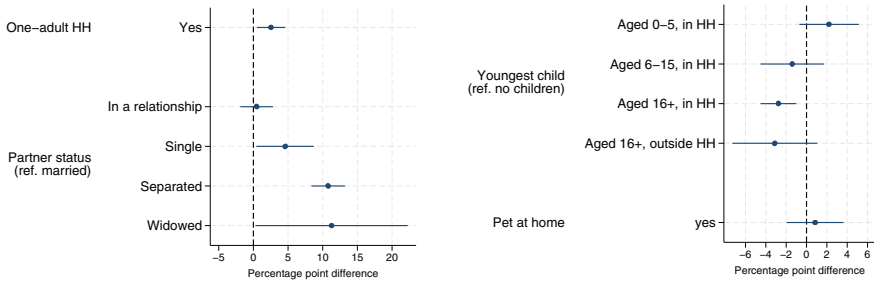
The findings presented in this chapter significantly advance the understanding of the relationship between loneliness and social connectedness, thanks to the great amount of information included in the EU Loneliness Survey. However, similarly to most other studies on loneliness, the relationships shown in this chapter are descriptive and correlational, and cannot be interpreted causally. It may well be that some of the supposed determinants of loneliness are the consequences of loneliness instead, or that the relationship is bidirectional. In fact, the relationship between loneliness and social interactions and specific life events is likely to be bidirectional. Lack of interactions with family members and friends are likely to increase the risk of feeling lonely. At the same time, however, loneliness is an unpleasant feeling that may affect mental and physical health, and thus impact the preferences and capability to interact with others.

Potentially, quasi-experimental methods such as instrumental variable techniques could be employed using cross-sectional data such as the EU Loneliness Survey to establish the causal impact of selected variables on loneliness, for instance, by exploiting reforms increasing the educational attainment for younger birth cohorts or reforms changing retirement rules only for some type

---

<sup>13</sup> A recent policy brief discusses this relationship exploiting the EU Loneliness Survey (Berlingieri et al., 2023).





**Fig. 3.6** Partner status, children in household, pets at home and loneliness. *Note* Coefficients (average marginal effects) from a multivariate logistic regression with being lonely as the dependent variable. The lines show 95% confidence intervals. A negative percentage point difference means that the group is less lonely than the reference group indicated in parenthesis. Other covariates included in the estimation are age, gender, highest education, working status, migration background, sexual orientation, disability status, urbanisation of place of residence, time spent in municipality and country indicators as described in Fig. 3.5. The sample size is of 24,087, because 107 individuals preferred not to report their partner status. Standard errors are clustered at the country level. McFadden adjusted R-squared: 0.056. *Source* EU Loneliness Survey, 2022, authors' calculations

of workers. However, longitudinal data better suited to assess the causal contribution of risk factors. In fact, the few existing studies that have attempted to measure the causal impact of risk factors on loneliness have used longitudinal designs (e.g. Böger & Huxhold, 2018; Buecker et al., 2021a, 2021b; Hawkey et al., 2020a, 2020b).

A first important social factor that may affect feelings of loneliness is the composition of the household in which an individual lives. In fact, living alone often turns out to be one of the strongest correlates of loneliness in the literature (Lykes & Kimmelmeier, 2013), and people who live with someone, especially a partner, consistently report lower levels of loneliness (Hansen & Slagsvold, 2016). Figure 3.6 shows that individuals from the EU Loneliness Survey who are the only adults in the household are 3 percentage points more likely to feel lonely compared to those living with other adults, independently of being single or not.<sup>14</sup>

Yet being in a relationship matters: having a partner or a spouse is consistently associated with less loneliness in the literature, compared to being single, divorced and especially widowed (Cohen-Mansfield et al., 2016; Lykes & Kimmelmeier, 2013). Marital or partner status is another one of the strongest predictors of loneliness (Fokkema et al., 2012). In the EU Loneliness Survey, the partner status seems to be more important for reducing the risk of loneliness than living with other adults. While there is no difference in the probability of being lonely between people who are

<sup>14</sup> When using the DJG or UCLA loneliness measures, however, living alone is associated to a higher loneliness risk only when the partner status is not controlled for (see Table 3.4 in the Appendix). This is also the case when carrying out the same estimation using the probability-based EU4 sample.

married (the reference group) and those who are in a relationship but not married, single individuals are 5 percentage points more likely to feel lonely than married individuals (regardless of whether they live alone or not). Moreover, those who report to be separated or widowed are 11 percentage points more likely to suffer from loneliness.

Having children is another important factor in people's lives, even though previous research finds mixed results on whether this affects feelings of loneliness or not, especially if the effects of other risk factors of loneliness are considered (Cohen-Mansfield et al., 2016; Lasgaard et al., 2016). What seems to matter for loneliness, at least for older adults, is the contact with the children, not just the fact of having them (de Jong Gierveld et al., 2009; Niedzwiedz et al., 2016). In the EU Loneliness Survey, having children is associated with a lower risk of loneliness only if the children are more than 16 years old and live in the household, which may in fact be at least in part driven by older adults who have contact with their children as they share the same household.<sup>15</sup>

A final aspect related to the household is having a pet, but we do not find this to be associated with a reduced risk of feeling lonely, independently of the pet type.<sup>16</sup> This finding seems to be quite aligned with the previous literature, which, at least before the COVID-19 pandemic, mostly found no significant associations between pet ownership and loneliness (Kretzler et al., 2022).

Other factors related to the social relationships to be considered are the size of the social network, frequency of contact with people in this network and the quality of the relationships. Having a larger social network is associated with lower levels of loneliness (Böger & Huxhold, 2018) and so is a more frequent contact with others (especially friends, more than family members) (Franssen et al., 2020; Pinquart & Sörensen, 2001). Interestingly, some evidence suggests that what really matters is not the objectively measured frequency of contact, but satisfaction with this frequency (Nicolaisen & Thorsen, 2017), a finding very much in line with the definition of loneliness as a subjective feeling. Loneliness is also impacted by the quality of the relationships, possibly even more than the quantity (Lodder et al., 2015; Pinquart & Sörensen, 2001).

The EU Loneliness Survey includes several measures of the quality of social relationships and the frequency of social interactions. First, individuals who are married, cohabitating or in a relationship are asked about the degree of happiness with the relationship with their partner using a 10-point scale.<sup>17</sup> Second, the survey asks about the number of family members and friends that the respondents have a

---

<sup>15</sup> Note that this relationship is not statistically significant neither when using the DJG or the UCLA loneliness measures nor when carrying out the estimation on the probability-based EU4 sample (see Table 3.4 in the Appendix).

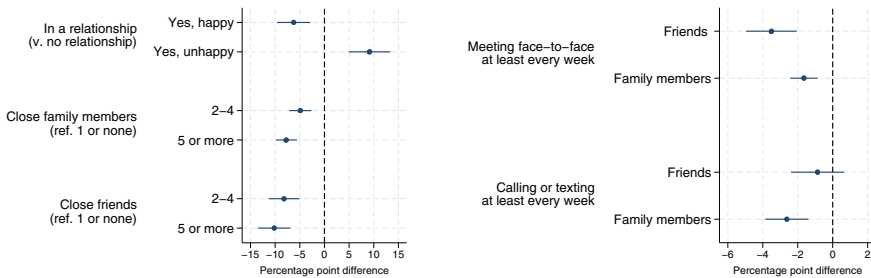
<sup>16</sup> People who have a dog at home are actually more likely to report feeling lonely (result not shown). This may be because many people who feel lonely decide to get a dog.

<sup>17</sup> We consider those who give a score between 6 and 10 to be happy in their relationship, while those who give lower scores unhappy.

close relationship with. Third, individuals are asked about the frequency of face-to-face meetings as well as talking/chatting via phone, internet and social media with friends and family members not in their household.

Figure 3.7 reports the associations between these characteristics and loneliness. We have shown that being in a relationship is associated with a lower likelihood of loneliness. However, this is only the case if individuals are happy in their relationship, making them 6 percentage points less likely to be lonely than the single individuals, while those in unhappy relationships are actually more likely to be lonely than those not in a relationship. This is in line with results by de Jong Gierveld et al. (2009). Having a close relationship with several friends and family members not living in the same household is also linked to a substantially lower risk of loneliness compared to having just one close contact or none (−4 to −10 percentage points, depending on the number of close contacts). Finally, the frequency of contacts with family members and friends is also important: individuals who meet family members and friends at least once a week are 2–4 percentage points less likely to be lonely. At least for family members, this also applies to exchanges via phone, the internet or social media.

The importance of relationship quality and social interactions for loneliness is not only testified by the size of the coefficients reported in Fig. 3.7, but also by the fact that the regression adding these characteristics has a much better goodness of fit compared to previous estimations (the pseudo R-squared is equal to 0.14 as opposed to 0.06 or less in previous regressions).



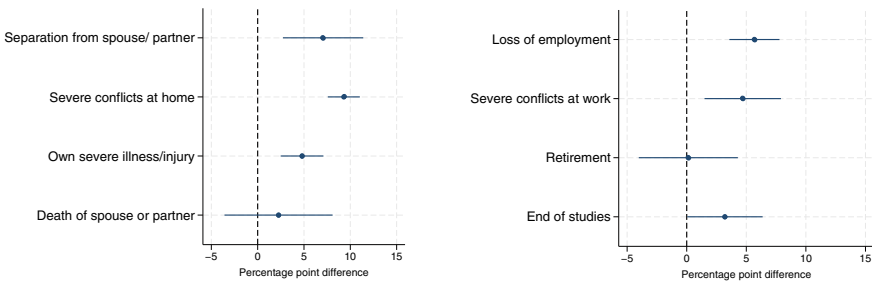
**Fig. 3.7** Loneliness and social contacts. *Note* Coefficients (average marginal effects) from a multivariate logistic regression with being lonely as the dependent variable. The lines show 95% confidence intervals. A negative percentage point difference means that the group is less lonely than the reference group indicated in parenthesis. Other covariates included in the estimation are age, gender, highest education, working status, migration background, sexual orientation, disability status, urbanisation of place of residence, time spent in municipality and country indicators as described in Fig. 3.5. Results refer to a sub-sample of 21,620 individuals with information about relationship status and the frequency of interaction with close family members and friends. Standard errors are clustered at the country level. McFadden adjusted R-squared: 0.143. *Source* EU Loneliness Survey, 2022, authors’ calculations

### 3.4 Life Events as a Trigger for Loneliness

So far, we have looked at how loneliness relates to social connections and socio-demographic characteristics as if these were stable, considering their level at a given point in time. However, these factors may and do change over time, and loneliness may be triggered by negative changes in the quality and quantity of social interactions. In particular, major life events, such as loss of a partner or a job, may disrupt one's social network (Wrzus et al., 2013) and substantially increase the risk of loneliness (Buecker et al., 2021a, 2021b). Despite this, few previous studies have examined the effects of triggering life events on loneliness. That is why respondents in the EU Loneliness Survey were asked whether they had experienced some major events in the previous year, with a focus on events potentially reducing the quantity or quality of social relationships.

Figure 3.8 shows that especially events within the household, such as the presence of severe conflicts at home or separation from a partner in the previous year, are associated with a higher risk of loneliness (10 and 7 percentage points, respectively, compared to those not experiencing any of the events reported in the figure). However, we do not see a significant effect of death of spouse or a partner, which is commonly found in the literature (Buecker et al., 2021a, 2021b; Dahlberg et al., 2021). This may be due to the fact that not many survey respondents experienced this particular event in the previous year (and we still find that being widowed is on average associated with a higher risk of feeling lonely, as presented in the previous section). Finally, those participants who experienced health shocks, such as severe illness or injury, are also 5 percentage points more likely to feel lonely.

Loneliness may also be triggered by work-related events. Individuals who lost their job or experienced conflicts at work are more likely to feel lonely (by 7 and



**Fig. 3.8** Loneliness and life events. *Note* Coefficients (average marginal effects) from a multivariate logistic regression with being lonely most or all of the time as dependent variable. The lines show 95% confidence intervals. The reference group includes participants not experiencing any of the events. Other covariates included in the estimation are age, gender, highest education, working status, migration background, sexual orientation, disability status, urbanisation of place of residence, time spent in municipality and country indicators as described in Fig. 3.5. Results refer to a sub-sample of 23,957 individuals with information on the life events reported. Standard errors are clustered at the country level. McFadden adjusted R-squared: 0.073. *Source* EU Loneliness Survey, 2022, authors' calculations

4 percentage points, respectively). The same holds for those who completed their education or finished their studies in the previous year—they are 3 percentage points more likely to feel lonely.<sup>18</sup> On the other hand, we find no association between entering retirement and loneliness, in line with the lack of an association between being retired and loneliness found in Sect. 3.2. Similar relationships between work-related events and loneliness were found by another study focussing on life events as triggers for loneliness (Buecker et al., 2021a, 2021b). In particular, this study found that job loss was associated with an increase in loneliness, while it did not find a significant association with retirement and transition into paid employment.<sup>19</sup>

### 3.5 Conclusions

In this chapter we have made use of the EU Loneliness Survey, the first large survey focused on loneliness and social connectedness covering all 27 EU member states, to identify demographic and socio-economic population groups that are more vulnerable to loneliness in Europe. We have also exploited the rich set of data available in this survey to explore the role played by the structure and functioning of a person's social network and the relevance of major life events for subsequent feelings of loneliness.

We find four types of demographic and socio-economic characteristics that are significantly associated with a higher risk of feeling lonely. First, loneliness is found to be more prevalent among poorer people and the unemployed, in line with previous literature. Second, minority groups—especially individuals with a migration background, non-heterosexual people and those with a disability—have on average a significantly higher incidence of loneliness than other population groups. Third, people who have recently moved to a different place of residence tend to be more at risk of loneliness. Fourth, in the EU Loneliness Survey, young adults (especially women) aged 16–24 report higher levels of loneliness, while lower rates of loneliness are found among older adults. The latter result runs counter to some previous findings, and this question would therefore merit further investigation in future large cross-country surveys.

---

<sup>18</sup> This result, however, is not statistically significant neither when using the DJG or the UCLA loneliness measures nor when carrying out the estimation on the probability-based EU4 sample (see Table 3.6 in the Appendix).

<sup>19</sup> In Buecker et al., 2021, transition into paid employment refers to every change from any other occupational status (e.g. first job after school or employment after parental leave).

While the identification of population groups at risk of loneliness is important from a policy perspective, this chapter shows that a person's social network and social interactions appear to play a greater role than demographic and socio-economic characteristics in frequent feelings of loneliness. In particular, having a high-quality romantic relationship, having a close relationship with several family members and friends, as well as frequent interactions with close contacts, are all factors associated with a substantially lower risk of loneliness. On the other hand, being single, separated or widowed is linked to a higher likelihood of feeling lonely than for people who are married or have a partner.

While it may take a long time to establish meaningful intimate and social relationships, some major life events might bring sudden disruptions to an individual's social network. The chapter shows that a recent separation, a health shock, losing a job and conflicts at home or at work are particularly associated with a stronger prevalence of loneliness. By shedding light on these connections, the chapter highlights the importance of triggering events for loneliness, supporting the limited evidence on this aspect provided by a small number of longitudinal studies carried out in individual countries.

Due to the survey's large sample and high degree of variation in terms of cultural characteristics and economic conditions, the chapter provides a clear contribution to the understanding of loneliness and the factors associated with it. Despite the descriptive nature of the results, they are relevant for policymakers and practitioners as they may enable better targeting of policies aimed at reducing loneliness in Europe. In addition, the chapter provides a methodological contribution as it tests and confirms that the main results are robust to the use of different measures of loneliness and are qualitatively similar when using the probability-based EU4 sample. Even if the findings cannot be interpreted in a causal way, the strength of the associations between feelings of loneliness and individual characteristics or specific life experiences may help identify important aspects and channels of influence to be analysed in more depth in future studies. Quasi-experimental techniques could be used to estimate more precisely the relevance of specific determinants of loneliness using cross-sectional data such as the EU Loneliness Survey. However, longitudinal surveys would offer additional tools to estimate the causal impact of risk factors for loneliness. In this respect, the collection of new cross-country longitudinal data at EU level or the inclusion of questions on social connectedness and loneliness in existing multi-country panel datasets would be desirable.

## Appendix

See Tables 3.1, 3.2, 3.3, 3.4, 3.5 and 3.6.

**Table 3.1** List of demographic and socio-economic variables

Variable	Number of observations	Mean (in %)	Standard deviation
Feeling lonely	24342	13	33.7
Age group: 16–25 years	24342	12.2	32.7
Age group: 26–35 years	24342	14.7	35.4
Age group: 36–45 years	24342	16.3	36.9
Age group: 46–55 years	24342	17.4	37.9
Age group: 56–65 years	24342	19.6	39.7
Age group: 65+ years	24342	19.8	39.8
Gender: Male	24342	48.2	50
Gender: Female	24342	51.5	50
Gender: In another way	24342	0.3	5.4
Highest qualification: secondary or less	24342	71.6	45.1
Highest qualification: post-secondary	24342	28.4	45.1
Income quintile: 1st	22695	18.3	38.7
Income quintile: 2nd	22695	22.1	41.5
Income quintile: 3rd	22695	23.1	42.2
Income quintile: 4th	22695	21.1	40.8
Income quintile: 5th	22695	15.4	36.1
Working	24342	52.3	49.9
In education	24342	5.3	22.5
Unemployed	24342	9.2	28.9
Retired	24342	24.2	42.9
Other working status	24342	9	28.6
1st generation immigrant	24342	6.3	24.2
2nd generation immigrant	24342	7.5	26.3
Non-heterosexual (LGB+)	24342	6.1	23.9
Permanently sick or disabled	24342	2.6	15.9
Living in a rural area or village	24184	24.6	43.1
Living in a small or medium-sized town	24184	31.3	46.4
Living in a large town/city	24184	44.1	49.7
Living in the municipality since 0–2 years	24342	8.3	27.6
Living in the municipality since 3–5 years	24342	8.5	27.9
Living in the municipality since 6–10 years	24342	6.2	24.1
Living in the municipality since 11+ years	24342	77	42.1

Source EU Loneliness Survey, 2022, authors' calculations

**Table 3.2** List of social connectedness and life events variables

Variable	Number of observations	Mean (in %)	Standard deviation
Living alone	24342	23.4	42.3
Married/cohabitating	24235	53.5	49.9
In a relationship	24235	11.8	32.2
Single	24235	22.2	41.6
Separated	24235	8.6	28
Widowed	24235	4	19.5
No children	24342	35	47.7
Youngest child: Aged 0–5, in household	24342	12.7	33.3
Youngest child: Aged 6–15, in household	24342	18.7	39
Youngest child: Aged 16+, in household	24342	13.7	34.4
Youngest child: Aged 16+, not in household	24342	19.9	39.9
Has a pet at home	24342	66.2	47.3
In a happy relationship	24094	73.6	60.6
Close family members: 1 or none	22951	13.6	34.3
Close family members: 2–4	22951	46.3	49.9
Close family members: 5 or more	22951	40.1	49
Close friends: 1 or none	22772	19.8	39.8
Close friends: 2–4	22772	49.4	50
Close friends: 5 or more	22772	30.9	46.2
Meeting friends at least every week	24074	48.4	50
Meeting family members at least every week	24095	50.1	50
Calling/texting friends at least every week	24120	68.9	46.3
Calling/texting family members at least every week	24181	74.2	43.8
<i>Life events happened in the past 12 months</i>			
Separation from spouse/partner	23957	3.8	19.2
Severe conflicts at home	23957	12.1	32.6
Own severe illness/injury	23957	5.5	22.8
Lost spouse or partner	24342	0.5	7.3
Loss of employment	23957	6.2	24
Severe conflicts at work	23957	6.4	24.5
Retirement	23957	4.2	20
End of studies	23957	4.2	20.1

Source EU Loneliness Survey, 2022, authors' calculations



**Table 3.3** Alternative specifications: Demographic and socio-economic characteristics and loneliness

	Baseline		Alternative measure		Only 4 countries		
	(1)	(2)	UCLA	DJG	EU27	EU4	(5)
<i>Age category (ref. 46–55)</i>							
16–25	0.021 (0.036)	0.032 (0.022)	0.023 (0.023)	0.023 (0.023)	0.077 (0.062)	0.065*** (0.011)	
26–35	0.011 (0.022)	0.037 (0.023)	0.017 (0.012)	0.017 (0.012)	0.030 (0.031)	0.014 (0.023)	
36–45	–0.004 (0.024)	0.035** (0.016)	0.016* (0.009)	0.016* (0.009)	0.019 (0.031)	–0.006 (0.013)	
56–65	–0.060*** (0.020)	–0.035*** (0.011)	–0.064*** (0.015)	–0.064*** (0.015)	–0.032 (0.031)	–0.004 (0.037)	
65+	–0.100*** (0.030)	–0.065*** (0.012)	–0.085*** (0.023)	–0.085*** (0.023)	–0.015 (0.018)	–0.009 (0.031)	
<i>Gender (ref. male)</i>							
Female	0.013 (0.023)	0.012 (0.012)	0.034*** (0.006)	0.034*** (0.006)	0.056*** (0.008)	0.012 (0.016)	
In another way	0.049 (0.060)	0.031 (0.047)	0.037 (0.061)	0.037 (0.061)	0.168* (0.096)	0.121 (0.098)	
Post-secondary education	–0.018** (0.007)	–0.013* (0.008)	–0.018*** (0.005)	–0.018*** (0.005)	–0.035*** (0.005)	–0.024* (0.013)	
<i>Working status (ref. working)</i>							
Studying	–0.005 (0.012)	0.043*** (0.009)	0.009 (0.014)	0.009 (0.014)	–0.038 (0.024)	–0.009 (0.015)	
Unemployed	0.072*** (0.014)	0.081*** (0.024)	0.061*** (0.016)	0.061*** (0.016)	0.057** (0.029)	0.032 (0.036)	
Retired	0.029 (0.019)	0.045*** (0.013)	0.033 (0.027)	0.033 (0.027)	–0.055*** (0.017)	–0.035 (0.027)	
Other	0.024 (0.021)	0.054*** (0.014)	0.049*** (0.014)	0.049*** (0.014)	0.014 (0.032)	0.057 (0.054)	
<i>Migration background (ref. none)</i>							
1st generation	–0.018 (0.017)	–0.010 (0.009)	–0.017 (0.016)	–0.017 (0.016)	–0.036* (0.021)	0.029 (0.020)	
2nd generation	0.030*** (0.011)	0.041*** (0.019)	0.029*** (0.005)	0.029*** (0.005)	0.065*** (0.020)	0.033 (0.024)	
Sexual orientation: LGB+	0.042*** (0.018)	0.054*** (0.019)	0.098*** (0.013)	0.098*** (0.013)	0.014 (0.031)	0.031 (0.020)	
Disabled	0.017 (0.031)	0.039*** (0.019)	0.012 (0.031)	0.012 (0.031)	0.022 (0.082)	0.052 (0.057)	

(continued)

**Table 3.3** (continued)

	Baseline		Alternative measure		Only 4 countries	
	(1)	(2)	DJG	UCLA	EU27	EU4
<i>Urbanisation (ref. small town)</i>						
Rural area	0.021** (0.009)	0.001 (0.008)	-0.011 (0.008)		0.020** (0.009)	-0.010* (0.005)
City	0.012	-0.015*	0.001		-0.011	0.020
	(0.008)	(0.008)	(0.005)		(0.010)	(0.015)
<i>Years spent in municipality (ref. 0–2 years)</i>						
3–5 years	-0.015 (0.015)	-0.032** (0.016)	-0.041* (0.024)		-0.018 (0.040)	-0.031*** (0.007)
6–10 years	-0.040*** (0.014)	0.011 (0.016)	-0.005 (0.022)		-0.014 (0.041)	-0.005 (0.020)
11+ years	-0.052*** (0.016)	-0.012 (0.015)	-0.017 (0.019)		-0.051*** (0.018)	-0.013* (0.007)
Country FE	Yes	Yes	Yes		Yes	Yes
Observations	24184	23698	23279		3808	3906

*Note* Coefficients (average marginal effects) from multivariate logistic regressions. Column 1 presents the results from the baseline estimation with feeling lonely most or all of the time during the previous 4 weeks as the dependent variable. The dependent variables in columns 2 and 3 are dichotomised versions of the UCLA and the DJG loneliness scales as described in Chap. 2. Column 4 reports results of the baseline model only for France, Italy, Poland and Sweden using the EU27 sample, while column 5 presents similar estimates using the EU4 sample. Standard errors are clustered at the country level. Significance level: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . *Source* EU Loneliness Survey, 2022, authors' calculations

**Table 3.4** Alternative specifications: Partner status, children in household, pets at home and loneliness

	Baseline		Alternative measure		Only 4 countries	
	(1)	(2)	(3)	(4)	(5)	(5)
One-adult household	0.025** (0.010)	0.012 (0.015)	0.001 (0.010)	0.012 (0.012)		-0.017* (0.010)
<i>Partner status (ref. married)</i>						
In a relationship	0.005 (0.012)	0.031*** (0.010)	0.026 (0.018)	0.001 (0.026)		0.032* (0.018)
Single	0.046** (0.021)	0.042** (0.019)	0.049*** (0.013)	0.062** (0.027)		0.112*** (0.025)
Separated	0.108*** (0.012)	0.114*** (0.016)	0.086*** (0.021)	0.143*** (0.012)		0.097*** (0.014)
Widowed	0.113** (0.056)	0.096** (0.045)	0.034* (0.019)	0.191** (0.085)		0.104 (0.071)
<i>Youngest child (ref. no children)</i>						
Aged 0–5, in HH	0.022 (0.015)	0.006 (0.010)	-0.010 (0.007)	-0.021 (0.016)		-0.023 (0.016)
Aged 6–15, in HH	-0.014 (0.016)	-0.001 (0.009)	-0.002 (0.016)	-0.051** (0.025)		-0.014 (0.030)
Aged 16+, in HH	-0.028*** (0.009)	-0.008 (0.013)	-0.012 (0.011)	-0.018 (0.018)		-0.004 (0.028)
Aged 16+, outside HH	-0.031 (0.021)	-0.015 (0.014)	-0.036*** (0.008)	-0.035*** (0.010)		-0.004 (0.028)
Pet at home	0.008 (0.014)	0.001 (0.009)	-0.002 (0.005)	-0.014 (0.019)		-0.006*** (0.002)
Demographic characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24087	23611	23197	3801	3889	3889

*Note* Coefficients (average marginal effects) from multivariate logistic regressions. Column 1 presents the results from the baseline estimation with feeling lonely most or all of the time during the previous 4 weeks as the dependent variable. The dependent variables in columns 2 and 3 are dichotomised versions of the UCLA and the DJG loneliness scales as described in Chap. 2. Column 4 reports results of the baseline model only for France, Italy, Poland and Sweden using the EU27 sample, while column 5 presents similar estimates using the EU4 sample. Demographic characteristics included in the estimation are age, gender, highest education, working status, migration background, sexual orientation, disability status, urbanisation of place of residence, time spent in municipality as described in Table 3.3. Standard errors are clustered at the country level. Significance level: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . *Source* EU Loneliness Survey, 2022, authors' calculations

**Table 3.5** Alternative specifications: Loneliness and social contacts

	Baseline	Alternative measure		Only 4 countries	
		UCLA	DJG	EU27	EU4
	(1)	(2)	(3)	(4)	(5)
<i>In a relationship (ref. not in a relationship)</i>					
Yes, happy	−0.062*** (0.017)	−0.060*** (0.011)	−0.061*** (0.014)	−0.088*** (0.012)	−0.101*** (0.014)
Yes, unhappy	0.091*** (0.022)	0.070*** (0.021)	0.072*** (0.017)	0.076*** (0.018)	0.032*** (0.011)
<i>Close family members (ref. 1 or none)</i>					
2–4	−0.049*** (0.011)	−0.040** (0.017)	−0.030*** (0.007)	−0.035** (0.016)	−0.030 (0.019)
5 or more	−0.077*** (0.011)	−0.069*** (0.018)	−0.065*** (0.011)	−0.074*** (0.026)	−0.050* (0.028)
<i>Close friends (ref. 1 or none)</i>					
2–4	−0.082*** (0.016)	−0.057*** (0.017)	−0.035*** (0.011)	−0.051*** (0.015)	−0.057** (0.026)
5 or more	−0.102*** (0.017)	−0.079*** (0.017)	−0.074*** (0.013)	−0.085*** (0.029)	−0.066*** (0.025)
<i>Meeting face-to-face at least every week</i>					
Friends	−0.035*** (0.007)	−0.023*** (0.006)	−0.033** (0.014)	−0.055*** (0.013)	−0.050** (0.020)
Family members	−0.016*** (0.004)	−0.007 (0.009)	−0.021*** (0.004)	−0.009 (0.010)	−0.036** (0.016)
<i>Calling or texting at least every week</i>					
Friends	−0.009 (0.008)	−0.010 (0.014)	−0.032*** (0.011)	0.003 (0.010)	−0.024** (0.011)
Family members	−0.026*** (0.006)	−0.018*** (0.003)	−0.022*** (0.006)	−0.044*** (0.012)	−0.010 (0.008)
Demographic characteristics	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Observations	21620	21334	21052	3357	3454

*Note* Coefficients (average marginal effects) from multivariate logistic regressions. Column 1 presents the results from the baseline estimation with feeling lonely most or all of the time during the previous 4 weeks as the dependent variable. The dependent variables in columns 2 and 3 are dichotomised versions of the UCLA and the DJG loneliness scales as described in Chap. 2. Column 4 reports results of the baseline model only for France, Italy, Poland and Sweden using the EU27 sample, while column 5 presents similar estimates using the EU4 sample. Demographic characteristics included in the estimation are age, gender, highest education, working status, migration background, sexual orientation, disability status, urbanisation of place of residence, time spent in municipality as described in Table 3.3. Standard errors are clustered at the country level. Significance level: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . *Source* EU Loneliness Survey, 2022, authors' calculations

**Table 3.6** Alternative specifications: Loneliness and life events

	Baseline		Alternative measure		Only 4 countries	
	(1)	(2)	UCLA	DJG	EU27	EU4
Separation from partner	0.071 <sup>***</sup> (0.022)	0.051 <sup>***</sup> (0.010)	0.053 <sup>***</sup> (0.012)	0.091 <sup>***</sup> (0.032)	0.092 <sup>***</sup> (0.014)	0.092 <sup>***</sup> (0.014)
Severe conflicts at home	0.093 <sup>***</sup> (0.009)	0.085 <sup>***</sup> (0.008)	0.088 <sup>***</sup> (0.006)	0.111 <sup>***</sup> (0.012)	0.055 <sup>***</sup> (0.011)	0.055 <sup>***</sup> (0.011)
Own severe illness/injury	0.048 <sup>***</sup> (0.012)	0.061 <sup>***</sup> (0.008)	0.031 <sup>***</sup> (0.014)	-0.000 (0.020)	0.024 <sup>*</sup> (0.014)	0.024 <sup>*</sup> (0.014)
Death of spouse/partner	0.023 (0.030)	0.014 (0.027)	0.067 (0.042)	0.026 (0.095)	0.100 (0.088)	0.100 (0.088)
Loss of employment	0.057 <sup>***</sup> (0.011)	0.041 <sup>***</sup> (0.016)	0.027 <sup>***</sup> (0.010)	0.041 <sup>***</sup> (0.011)	0.031 <sup>**</sup> (0.013)	0.031 <sup>**</sup> (0.013)
Severe conflicts at work	0.047 <sup>***</sup> (0.016)	0.055 <sup>***</sup> (0.009)	0.017 (0.020)	0.065 <sup>***</sup> (0.017)	0.053 <sup>***</sup> (0.006)	0.053 <sup>***</sup> (0.006)
Retirement	0.001 (0.021)	-0.018 <sup>*</sup> (0.010)	-0.053 <sup>**</sup> (0.022)	0.077 <sup>*</sup> (0.039)	0.010 <sup>**</sup> (0.005)	0.010 <sup>**</sup> (0.005)
End of studies	0.032 <sup>**</sup> (0.016)	0.008 (0.016)	0.006 (0.027)	0.000 (0.032)	-0.003 (0.039)	-0.003 (0.039)
Demographic characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	23815	23364	22967	3747	3848	3848

*Note* Coefficients (average marginal effects) from multivariate logistic regressions. Column 1 presents the results from the baseline estimation with feeling lonely most or all of the time during the previous 4 weeks as the dependent variable. The dependent variables in columns 2 and 3 are dichotomised versions of the UCLA and the DJG loneliness scales as described in Chap. 2. Column 4 reports results of the baseline model only for France, Italy, Poland and Sweden using the EU27 sample, while column 5 presents similar estimates using the EU4 sample. Demographic characteristics included in the estimation are age, gender, highest education, working status, migration background, sexual orientation, disability status, urbanisation of place of residence, time spent in municipality as described in Table 3.3. Standard errors are clustered at the country level. Significance level: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . *Source* EU Loneliness Survey, 2022, authors' calculations

## References

- Baarck, J., & Kovacic, M. (2022). *The relationship between loneliness and health*. Publications Office of the European Union.
- Baarck, J., d'Hombres, B., & Tintori, G. (2022). Loneliness in Europe before and during the COVID-19 pandemic. *Health Policy*, 126(11), 1124–1129.
- Barjaková, M., Garnero, A., & d'Hombres, B. (2023). Risk factors for loneliness: A literature review. *Social Science & Medicine*.
- Barreto, M., Victor, C., Hammond, C., Eccles, A., Richins, M. T., & Qualter, P. (2021). Loneliness around the world: Age, gender, and cultural differences in loneliness. *Personality and Individual Differences*.
- Berlingieri, F., & Kovacic, M. (2023). Health and relationship quality of the LGBTQIA+ population in Europe. *Working Paper No 2023: 29, Department of Economics, University of Venice "Ca' Foscari"*.
- Berlingieri, F., Colagrossi, M., & Mauri, C. (2023). Loneliness and social connectedness: Insights from a new EU-wide survey. *Fairness Policy Brief*, 2023, 3.
- Böger, A., & Huxhold, O. (2018). Do the antecedents and consequences of loneliness change from middle adulthood into old age? *Developmental Psychology*.
- Bower, M., Kent, J., Patulny, R., Green, O., McGrath, L., Teesson, L., & Rugel, E. (2023). The impact of the built environment on loneliness: A systematic review and narrative synthesis. *Health & Place*.
- Buecker, S., Denissen, J. J., & Luhmann, M. (2021). A propensity-score matched study of changes in loneliness surrounding major life events. *Journal of Personality and Social Psychology*.
- Buecker, S., Ebert, T., Götz, F. M., Entringer, T. M., & Luhmann, M. (2021b). In a lonely place: Investigating regional differences in loneliness. *Social Psychological and Personality Science*.
- Cohen-Mansfield, J., Hazan, H., Lerman, Y., & Shalom, V. (2016). Correlates and predictors of loneliness in older-adults: A review of quantitative results informed by qualitative insights. *International Psychogeriatrics*.
- Dahlberg, L., McKee, K. J., Frank, A., & Naseer, M. (2021). A systematic review of longitudinal risk factors for loneliness in older adults. *Aging and Mental Health*.
- de Jong Gierveld, J., van der Pas, S., & Keating, N. (2015). Loneliness of older immigrant groups in Canada: Effects of ethnic-cultural background. *Journal of Cross-Cultural Gerontology*.
- de Jong Gierveld, J., van Groenou, M. B., Hoogendoorn, A. W., & Smit, J. H. (2009). Quality of marriages in later life and emotional and social loneliness. *Journal of Gerontology: Social Sciences*.
- De Jong Gierveld, J., Van Tilburg, T. G., & Dykstra, P. A. (2016). Loneliness and social isolation. In A. P. Vangelisti, *The Cambridge Handbook of Personal Relationships* (2nd ed.). Cambridge University Press.
- Fokkema, T., de Jong Gierveld, J., & Dykstra, P. A. (2012). Cross-national differences in older adult loneliness. *The Journal of Psychology: Interdisciplinary and Applied*.
- Franssen, T., Stijnen, M., Hamers, F., & Schneider, F. (2020). Age differences in demographic, social and health-related factors associated with loneliness across the adult life span (19–65 years): A cross-sectional study in the Netherlands. *BMC Public Health*.
- Gorczynski, P., & Fasoli, F. (2021). Loneliness in sexual minority and heterosexual individuals: A comparative meta-analysis. *Journal of Gay & Lesbian Mental Health*, 26, 1–18.
- Hansen, T., & Slagsvold, B. (2016). Late-life loneliness in 11 European countries: Results from the generations and gender survey. *Social Indicators Research*.
- Hawkey, L. C., Buecker, S., Kaiser, T., & Luhmann, M. (2020b). Loneliness from young adulthood to old age: Explaining age differences in loneliness. *International Journal of Behavioral Development*.
- Hawkey, L. C., Hughes, M. E., Waite, L. J., Masi, C. M., Thisted, R. A., & Cacioppo, J. T. (2008). From social structural factors to perceptions of relationship quality and loneliness: The Chicago health, aging, and social relations study. *Journal of Gerontology: Social Sciences*.

- Hawkey, L. C., Zheng, B., & Song, X. (2020). Negative financial shock increases loneliness in older adults, 2006–2016: Reduced effect during the great recession (2008–2010). *Social Science & Medicine*.
- Kretzler, B., König, H. H., & Hajek, A. (2022). Pet ownership, loneliness, and social isolation: A systematic review. *Social Psychiatry and Psychiatric Epidemiology*, 57, 1935–1957.
- Kung, C. S., Pudney, S. E., & Shields, M. A. (2022). Economic gradients in loneliness, social isolation and social support: Evidence from the UK Biobank. *Social Science & Medicine*.
- Lasgaard, M., Friis, K., & Shevlin, M. (2016). “Where are all the lonely people?” A population-based study of high-risk groups across the life span. *Social Psychiatry and Psychiatric Epidemiology*.
- Lodder, G. M., Scholte, R. H., Goossens, L., & Verhagen, M. (2015). Loneliness in early adolescence: Friendship quantity, friendship quality, and dyadic processes. *Journal of Clinical Child & Adolescent Psychology*.
- Luhmann, M., & Hawkey, L. C. (2016). Age differences in loneliness from late adolescence to oldest old age. *Developmental Psychology*.
- Lykes, V. A., & Kemmelmeier, M. (2013). What predicts loneliness? Cultural difference between individualistic and collectivistic societies in Europe. *Journal of Cross-Cultural Psychology*.
- Lyu, Y., & Forsyth, A. (2021). Planning, aging, and loneliness: Reviewing evidence about built environment effects. *Journal of Planning Literature*.
- Maes, M., Qualter, P., Vanhalst, J., van den Noortgate, W., & Goossens, L. (2019). Gender differences in loneliness across the lifespan: A meta-analysis. *European Journal of Personality*.
- Marquez, J., Goodfellow, C., Hardoon, D., Inchley, J., Leyland, A. H., & Qualter, P. (2022). Loneliness in young people: A multilevel exploration of social ecological influences and geographic variation. *Journal of Public Health*.
- Morrish, N., & Medina-Lara, A. (2021). Does unemployment lead to greater levels of loneliness? A systematic review. *Social Science & Medicine*.
- Mund, M., Freuding, M. M., Möbius, K., Horn, N., & Neyer, F. J. (2020). The stability and change of loneliness across the life span: A meta-analysis of longitudinal studies. *Personality and Social Psychology Review*.
- Nicolaisen, M., & Thorsen, K. (2014). Who are lonely? Loneliness in different age groups (18–81 years old), using two measures of loneliness. *International Journal of Aging and Human Development*.
- Nicolaisen, M., & Thorsen, K. (2014b). Loneliness among men and women—A five-year follow-up study. *Aging & Mental Health*.
- Nicolaisen, M., & Thorsen, K. (2017). What are friends for? Friendships and loneliness over the lifespan—from 18 to 79 years. *The International Journal of Aging and Human Development*.
- Niedzwiedz, C. L., Richardson, E. A., Tunstall, H., Shortt, N. K., Mitchell, R. J., & Pearce, J. R. (2016). The relationship between wealth and loneliness among older people across Europe: Is social participation protective? *Preventive Medicine*, 91.
- Pagan, R. (2020). Gender and age differences in loneliness: evidence for people without and with disabilities. *International Journal of Environmental Research and Public Health*.
- Pinquart, M., & Sörensen, S. (2001). Influences on loneliness in older adults: A meta-analysis. *Basic and Applied Social Psychology*.
- ten Kate, R. L., Bilecen, B., & Steverink, N. (2020). A closer look at loneliness: Why do first-generation migrants feel more lonely than their native Dutch counterparts? *The Gerontologist*.
- Victor, C. R., & Yang, K. (2012). The prevalence of loneliness among adults: A case study of the United Kingdom. *The Journal of Psychology*.
- Visser, M. A., & El Fakiri, F. (2016). The prevalence and impact of risk factors for ethnic differences in loneliness. *European Journal of Public Health*.
- Wrzus, C., Hänel, M., Wagner, J., & Neyer, F. J. (2013). Social network changes and life events across the life span: A meta-analysis. *Psychological Bulletin*, 139(1), 53.

**Francesco Berlingieri** (Ph.D.) is a research economist and socio-economic analyst at the Joint Research Centre (JRC) of the European Commission, working in the Survey Methods and Analysis Centre (SMAC) on inequality, perceptions of social issues and subjective well-being. Dr. Berlingieri is a labour economist and holds a Ph.D. in economics from Heidelberg University in Germany. Before joining the JRC, he worked at the Leibniz Centre for European Economic Research (ZEW) in Mannheim, Germany, where he focused on educational and labour market inequalities, as well as on regional disparities.

**Martina Barjaková** (M.Sc) is a behavioural scientist with extensive experience in behavioural research aimed at informing policy. Most of her research has been conducted at the Behavioural Research Unit of the Economic and Social Research Institute in Dublin. Additionally, she has contributed to several projects for the Joint Research Centre of the European Commission. In her research, she has focused mostly on applying behavioural insights to analyse and support pro-environmental and health-related behaviours, on studying risk perceptions and analysing the risk factors and prevalence of loneliness. She holds a bachelor's degree in international trade from Prague University of Economics and Business and a master's degree in economic and social sciences from Bocconi University in Milan. She is currently completing her Ph.D. at the Department of Psychology of the University of Milan-Bicocca, after which she plans to return to applied behavioural research to support public policy at a national or international level.

**Andrea Garnero** (Ph.D.) is an economist at the OECD, where he is one of the lead authors of the OECD Employment Outlook, the organisation's flagship report on labour markets. Additionally, he is a research fellow at Université libre de Bruxelles and at the IZA Institute of Labor Economics in Bonn. Previously, Dr. Garnero served as an assistant for economic affairs and as G20 assistant sherpa to the Italian Prime Minister and as an economist at the Directorate-General for Employment, Social Affairs and Inclusion of the European Commission. Between 2021 and 2022, he chaired the expert group on in-work poverty at the Italian Ministry of Labour and was involved in the French minimum wage expert group from 2017 to 2021. During his secondment to the Joint Research Centre of the European Commission in 2021–2022, Dr. Garnero contributed to the work on loneliness and the development of the survey that underpins the chapters of this book.

**Caterina Mauri** (Ph.D.) is a post-doctoral researcher at the Brussels Institute for Social and Population Studies, Vrije Universiteit Brussel, contributing to the IneqKill project—an interdisciplinary research initiative focusing on the long-term evolution of mortality inequalities from 1800 to the present day. Dr. Mauri holds a Ph.D. in economics from the University of Southern Denmark and has previously worked at the Survey Methods and Analysis Centre of the European Commission's Joint Research Centre. Her research interests include loneliness and mental well-being, fairness and inequality perceptions, regional and urban economics, the labour market for artists and creatives, art consumption and innovation and technology in history.



**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



# Chapter 4

## Childhood Experiences, Health and Loneliness



Matija Kovacic, Sylke V. Schnepf, and Zsuzsa Blaskó

**Abstract** This chapter examines the associations between loneliness, health and adverse childhood experiences. First, it describes the general patterns of these variables across 27 European Union member states. Second, it investigates the association between loneliness and early-life adverse experiences, controlling for individuals' current situation and demographic and socio-economic conditions. Third, it examines the interplay between adverse childhood conditions and the statistically and economically considerable association between loneliness and physical and mental health outcomes. Finally, the chapter assesses the robustness of the main findings to alternative measures of loneliness. Results show that there is a significant association between adverse childhood experiences and loneliness even after accounting for a range of individual-specific factors, suggesting that feelings of loneliness may be a result not only of individuals' current circumstances but also of their upbringing. Childhood experiences are also strongly associated with different health outcomes in adulthood. The association between loneliness and health reduces in magnitude once we take account of childhood experiences. In addition to a direct association between early-life conditions and health, this result indicates that adverse childhood conditions may be linked to health outcomes indirectly through loneliness.

---

M. Kovacic (✉) · S. V. Schnepf  
European Commission, Joint Research Centre (JRC), Ispra, Italy  
e-mail: [Matija.Kovacic@ec.europa.eu](mailto:Matija.Kovacic@ec.europa.eu)

S. V. Schnepf  
e-mail: [Sylke.Schnepf@ec.europa.eu](mailto:Sylke.Schnepf@ec.europa.eu)

M. Kovacic  
Ca' Foscari University of Venice, Venice, Italy

M. Kovacic · S. V. Schnepf  
IZA, Bonn, Germany

Z. Blaskó  
Independent Researcher, Brussels, Belgium  
e-mail: [Zsuzsa.Blasko@outlook.com](mailto:Zsuzsa.Blasko@outlook.com)

## 4.1 Introduction

Policymakers and researchers are dedicating increasing attention to the problem of loneliness. This is not only due to the growing incidence of loneliness in the population but also because there is extensive literature demonstrating that feelings of loneliness are associated with several adverse health outcomes and therefore represent a serious public health and economic problem (see Chap. 1).

Research shows that loneliness is significantly associated with several physical and mental health conditions, such as sleeping problems, cardiovascular diseases, functional decline, cognitive impairment and increased prevalence of depression and anxiety (Baarck & Kovacic, 2022; Baarck et al., 2022; Beutel et al., 2017; Berlingieri et al., 2023; Casabianca & Kovacic, 2022, 2024; Courtin & Knapp, 2017; Holt-Lunstad et al., 2015; Perissinotto et al., 2012;). In addition, a meta-analytic review of nearly 150 studies by Holt-Lunstad et al. (2015) finds that the risk of premature mortality linked to loneliness is stronger than the risk associated with obesity and physical inactivity. Understanding the main drivers of loneliness and its relationship with health is therefore of utmost importance not only for research and policy in general, but also from a health policy perspective.

This chapter sheds light on the association between poor health and loneliness, looking not only at socio-economic and demographic potential drivers of loneliness but especially at individuals' past life experiences. Taking account of childhood experiences allows us to show that experiences of loneliness might arise not only as a result of current circumstances but also as a consequence of a person's upbringing (Casabianca & Kovacic, 2022, 2024; Guthmuller, 2022; Kamiya et al., 2013).

Existing research provides evidence for a significant association between adverse childhood conditions—such as physical harm, abuse, neglect and a bad parent–child relationship—with health outcomes later in life (Anda et al., 2002; Bellis et al., 2014; Brugiavini et al., 2022; Case et al., 2005; Dube et al., 2002; Ford et al., 2011; Gunstad et al., 2006; Kovacic & Orso, 2022). Furthermore, adverse childhood conditions are likely to affect an individual's development and behaviour, in ways that could also increase the likelihood of loneliness later in life. This chapter attempts to uncover the complex links between health, loneliness and adverse childhood experiences. More specifically, after documenting a significant association between loneliness and adverse childhood experiences, the analysis provides some insights into possible mechanisms for links between loneliness and health, as well as some indirect channels linking early-life adverse events to health later in life via current experiences of loneliness.

In addition to the above-mentioned novel contribution, this chapter adds to the existing literature in several ways. First, most existing research on loneliness exploits single-country or small-scale data sources. This chapter, relying on data from the EU Loneliness Survey, the first EU-wide survey on loneliness, offers a comprehensive picture of the relationship between loneliness, health and adverse childhood conditions in a broad European context, as it covers all 27 EU member states. Second, the EU Loneliness Survey contains several alternative measures of loneliness and health

outcomes. This allows us to test the robustness of the main results for alternative definitions of loneliness. Third, the analysis provides insights on the current prevalence of loneliness among younger individuals as well as the importance of social isolation in childhood, both for the probability of experiencing similar feelings later in life and for the occurrence of adverse mental and physical health conditions.

The results presented in this chapter may have important policy implications because, crucially, if children's negative experiences in their families and schools are not tackled, they are likely to face negative health outcomes and costs when they are adults.

## 4.2 Literature Review

Research has established that the probability of experiencing loneliness can be significantly affected by a series of common demographic (age, sex, race/ethnicity) and socio-economic (education, employment, income) factors, as well as by household characteristics (size of household, marital status), social engagement (participation in leisure or voluntary activities, frequency of contact with friends and family members), harmful life events (loss of a partner, parent or child) and specific personality traits—such as extroversion or neuroticism (Abdellaoui et al., 2018; Hawkey & Cacioppo, 2010; Wang & Dong, 2018, see also Chap. 3). In addition, it is suggested that loneliness can be shaped by adverse early-life conditions. Adverse childhood experiences can include physical harm, abuse and neglect, a bad parent–child relationship and lack of friendships (Brugiavini et al., 2022; Chang et al., 2019; Kovacic & Orso, 2022). It has been shown that, for example, physical harm, emotional neglect, poor health and lack of close friendships in childhood or the presence of close relatives with mental and physical health issues (Casabianca & Kovacic, 2022; Guthmuller, 2022) are associated with loneliness later in life. Adverse early-life conditions such as the absence of a parent or a low-quality parent–child relationship correlate positively with adult loneliness, too. Moreover, adverse childhood conditions are equally important for explaining loneliness incidence as demographic, socio-economic and social engagement activities (Guthmuller, 2022).

There are two main mechanisms linking adverse childhood circumstances to loneliness later in life. First, according to Bowlby (1988), the quality of the parent–child relationship has a considerable impact on individuals' social, emotional and cognitive skills later in life, which may influence social development, self-esteem and feelings of rejection, with long-lasting effects on the probability of experiencing loneliness at later life stages (Ejlsvkov et al., 2020). Similar relationships hold for a lack of close friends in childhood (van Harmelen et al., 2017; Burr et al., 2020; Schinka et al., 2013). Second, adverse childhood conditions have been shown to significantly correlate with several physical and mental health conditions (Brugiavini et al., 2022; Kovacic & Orso, 2022; Kovacic & Schnepf, 2023), which in turn can boost loneliness since the two are strongly interconnected.

In this context, loneliness may represent a mediating factor in the relationship between adverse childhood conditions and health. More precisely, extensive literature

documents consistent associations between loneliness and mental and physical health conditions. Studies reveal that lonelier individuals are at higher risk of depression, suicidal ideation and suicide attempts, cardiovascular disease, cognitive decline and risky behaviours (e.g. Cacioppo & Cacioppo, 2018; Leigh-Hunt et al., 2017). A dual relationship between loneliness and adverse childhood conditions on the one hand and loneliness and health on the other, is likely to reduce the effect of loneliness on health once adverse childhood experiences are taken into account.

In the following, we will test these conjectures. We start by showing a direct effect of adverse experiences at early life stages on the probability of experiencing loneliness later in life. As a second step, we estimate an empirical model in which health is regressed on individuals' self-declared loneliness, demographic and socioeconomic factors, as well as country-fixed effects. Finally, we estimate the same model by adding the full set of adverse experiences in childhood and report the marginal effect of being lonely net of the effect of childhood conditions.

### 4.3 Data, Methods and Limitations

Like all chapters in the volume, we exploit the data from the EU Loneliness Survey, administered in 2022. Chapter 2 introduced in detail the data collection, the loneliness measures included in the survey as well as its advantages and limitations.

In what follows, we describe in detail the different measures used to quantify individuals' loneliness, physical and mental health conditions and the presence of several adverse childhood experiences. Moreover, for each of these measures, we emphasise the main issues related to data availability, methods of analysis and possible caveats.

#### 4.3.1 Measurements

##### Loneliness

As discussed in Chap. 2, the EU Loneliness Survey has three measures of loneliness: one direct measure and two scale measures. For this chapter, as for most chapters in this volume, our main measure of loneliness refers to the share of respondents who report that they had been lonely most of the time in the previous four weeks. Given the specific sample we use for this chapter, roughly 13% of respondents feel lonely in the European Union.<sup>1</sup>

Even though we mainly rely on this specific direct question, for comparability and robustness checks, we also consider another categorisation of the same variable, namely the one defining lonely individuals as those feeling lonely at least 'some of the time'. Furthermore, we exploit the short three-item version of the Revised University

---

<sup>1</sup> Our final sample comprises 22 964 individuals for whom we have complete information on loneliness, demographic and socio-economic characteristics.

of California Los Angeles (UCLA) Loneliness Scale. The latter asks respondents the following three questions: ‘How often do you feel that you lack companionship?’; ‘How often do you feel left out?’ and ‘How often do you feel isolated from others?’. The respondents chose from the following answer categories: ‘hardly ever’ (1), ‘some of the time’ (2) or ‘often’ (3). By adding the values up for each person, we built a 0–6 scale that is then used to define lonely individuals (scores ranging from 3 to 6).

## Health

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’ (Huber et al., 2011). Exploiting the health module in the EU Loneliness Survey, we measure overall health with three self-reported measures: a measure of the overall physical and mental health conditions, a health measure focusing on chronic physical illnesses and a measure of mental or emotional disorders based on depressive symptoms.

For the overall health status, the following standard self-assessed question was asked: ‘Would you say that in general your health is: 1. Very good, 2. Fairly good, 3. Average, 4. Fairly poor, 5. Very poor?’ We dichotomised the multiple-category responses and constructed a binary indicator with a value of 1 if individuals reported that their health was fairly poor or very poor and 0 otherwise.

We define individuals with chronic illness as those answering ‘yes, a lot’ (compared to ‘yes a little’ or ‘not at all’) to the following question: ‘Does your condition or illness/or any of your conditions or illnesses reduce your ability to carry out day-to-day activities?’.

Finally, we define respondents to be depressed if they choose the answer options ‘always’ or ‘frequently’ to the question ‘Over the past week, how frequently have you felt the following way: depressed’ (compared to the answer options ‘occasionally’, ‘rarely’, ‘very rarely’ and ‘never’).

## Childhood experiences

The EU Loneliness Survey includes a module which covers measures of early childhood experiences. Any answers to questions about the past are likely to be subject to recall error. Research on the validity of adult reporting of adverse childhood experiences finds varying levels of inconsistencies between real-time and retrospective reports (e.g. Colman et al., 2016; Hardt et al., 2010) suggesting that associations between childhood experiences and adult outcomes based on such data might be biased to some extent. Nevertheless, in the absence of large-scale longitudinal surveys offering the richness necessary to understand the long-term associations between significant life-events across the lifespan, such potential bias is difficult to overcome.

The survey allows to cover four childhood experiences: adverse relationships with parents, lacking friendships during childhood, being raised with close relatives with severe illness and having poor health during childhood (e.g. Holt-Lunstad et al., 2015).

The quality of the relationship with parents is captured by the following question: ‘How would you describe your relationship with your parents when you were growing up?’ with answers expressed on a scale ranging from 1 (‘not close at all’) to 10 (‘very

close’). We consider that an individual experienced an adverse relationship with their parents during childhood if s/he answers 1–4, which is about 25% of respondents.

Another measure of a negative childhood experience is having had a close relative suffering from poor health or engaging in unhealthy behaviour (smoking heavily, drinking heavily, having a chronic, severe illness, disability, accident or mental health issues). Around 13% of respondents grew up with relatives having at least one of these experiences.

As for social connectedness in childhood, the survey asks individuals whether they had a close group of friends they felt comfortable spending time with during their school years. Since no other specific variable is available to measure loneliness in childhood, we use this measure as a proxy for the probability of experiencing feelings of loneliness (or social isolation) at an early age. Indeed, lack of social connectedness is a strong predictor of loneliness, although not everyone with a low level of social connections necessarily feels lonely. Among respondents, 11% declare to have rarely or never spent time with close friends during their school years.

Finally, concerning childhood health, the following self-assessed health status question was asked: ‘How would you define your (mental and physical) health when you were growing up?’. This question is measured on a five-point scale with the following answer options: ‘very good’, ‘fairly good’, ‘average’, ‘fairly poor’ and ‘very poor’. It was then dichotomised into a binary variable with a value of 1 if individuals declare that their health during childhood was ‘fairly poor’ or ‘very poor’ and 0 otherwise. 11% of respondents rate their overall health in childhood as fairly poor or very poor.

### **4.3.2 Methods**

The analysis of the relationship between adverse childhood experiences, loneliness and health proceeds in several steps. First, we present some descriptive statistics by means of simple scatter plots at the country level, relating the percentage of individuals feeling lonely and the corresponding shares of individuals that have experienced adverse childhood experiences. Second, we run a set of logistic regressions and estimate the associations between childhood conditions and loneliness controlling for individuals’ demographic and socio-economic characteristics. Third, we estimate three sets of regressions linking loneliness and three different health outcomes (self-assessed poor health, chronic health problems and depressive symptoms). We begin (i) by simply regressing individual self-assessed health status on their experiences of loneliness controlling only for country-fixed effects; (ii) we expand the baseline model by including the full set of individuals’ demographic and socioeconomic characteristics; and (iii) we enrich the model with measures of adverse childhood conditions. For the sake of clarity, we report only the marginal effects related to the main variables of interest. Tables 4.2 and 4.3 in the appendix provide the full set of regression estimates.

### 4.3.3 *Limitations*

As discussed in Chap. 2, participants in the EU Loneliness Survey were not sampled randomly from sampling frames so that we cannot be sure to have representative results for all 27 European countries covered. This could eventually impact on the country ranking on levels of loneliness, poor health and adverse childhood experiences. Estimated associations between the three variables are less likely to be subject to bias.

Another source of concern relates to non-response rates to some questions. Health conditions, for instance, appear to be a sensitive topic. We find the highest non-response for self-reported long-lasting physical or mental health (chronic illness) at 12.3%. Retrospective measures on childhood conditions, on the other hand, register significantly lower non-response rates. For instance, adverse relationships with mother (father) are at 2.1% (2.6%), while loneliness and health in childhood are at 0.6% and 0.9%, respectively. Considerably high non-response rates for self-assessed chronic illnesses require some caution in the interpretation of the results, since we cannot assume that they are random.

The relationship between adverse childhood conditions, loneliness and health is complex. While adverse events in childhood may be considered exogenous to individuals' current experiences, they still may suffer from reporting bias (see the discussion above). Moreover, both childhood and adulthood experiences may be affected by pre-existing personality traits and a predisposition to poor health. However, the relationship between current loneliness experiences and health is much more delicate since there may be a reverse causality between the two. In other words, loneliness may harm health, but at the same time, adverse health may boost feelings of loneliness. Significant associations between poor health and loneliness, therefore, cannot be interpreted as causal. While unveiling causality is beyond the objectives of this chapter, it is most likely that poor health can cause loneliness at the same time as loneliness can impact health.

## 4.4 Results

### 4.4.1 *Are Adverse Childhood Experiences Linked to Loneliness in Adulthood?*

Before investigating whether and how adverse childhood experiences relate to loneliness, we provide some descriptive statistics on their prevalence across 27 European member states.

Table 4.1 shows that in the European Union about a quarter of adults (25.2%) report having had adverse relationships with their parents. There are considerable differences between countries. Countries with traditionally strong Catholic religious values tend to show a lower incidence of adverse relationships with parents while some Central and Eastern European countries show a higher incidence.



**Table 4.1** Share of respondents having had adverse childhood experiences in EU 27

Measure of childhood experiences	Mean across all EU countries (and standard deviation) in percent	Three countries with lowest values, in percent	Three countries with highest values, in percent
Adverse relationship with parents	25.2 (5.3)	Italy 15.2 Netherlands 16.9 Spain 18.6	Estonia 38.1 Latvia 35.4 Poland 31.6
Social isolation in childhood	11.3 (2.8)	Bulgaria 6.9 Croatia 7.8 Greece 7.9	Malta 18.0 Denmark 17.0 Finland 14.3
Close relative with severe illness	13.3 (3.2)	France 6.0 Spain 8.0 Italy 9.0	Finland 18.9 Slovenia 18.4 Estonia 16.7
Poor health as child	10.7 (3.6)	Bulgaria 5.3 Romania 6.0 Austria 6.8	Denmark 19.0 Sweden 17.3 Ireland 16.1

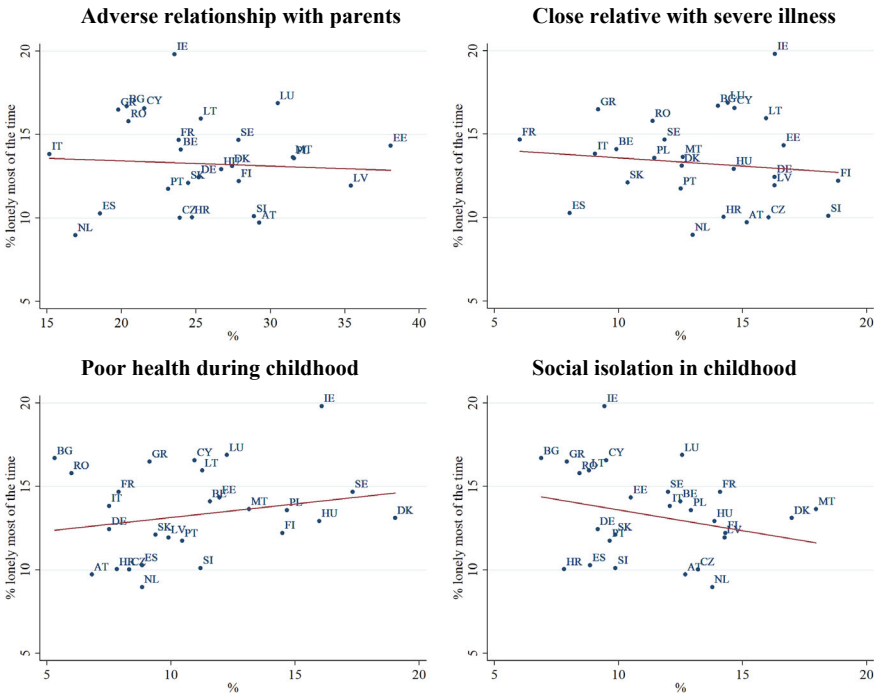
Source EU Loneliness Survey, 2022, authors' calculations

About 11% of the respondents reported that they had rarely or never spent time with close friends during childhood, with 7–8% of respondents in Bulgaria, Greece and Croatia and 14–18% in Finland, Denmark and Malta. At the country level, having a negative relationship with parents is only slightly correlated with feeling socially isolated from friends during childhood (correlation coefficient 0.39), confirming that peer relationships and relationships with the parents are two separate factors that contribute to overall well-being.

More than one tenth of the respondents grew up with a close relative either affected by a severe illness or engaging in unhealthy behaviour. At the country level, this is moderately correlated with having an adverse relationship with parents (correlation coefficient 0.48) but not correlated with feeling isolated as a child (−0.01). Again, European countries differ greatly, with country shares varying between 6% in France and 19% in Finland. Finally, 11% of adults report having had poor health as a child, with child health appearing worst in Northern European countries like Denmark, Sweden and Ireland and best in Bulgaria, Romania and Austria.

It is important to note that among individuals who have suffered from at least one adverse experience in childhood (40.5% of European adults), 26.7% report only one, 9.9% report two and 3.9% report more than two adverse childhood conditions.

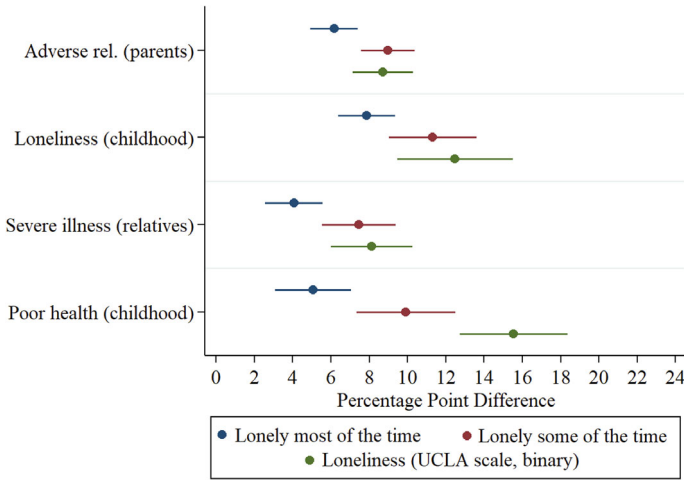
As previously mentioned, we first show simple country-level comparisons of the share of individuals feeling lonely most of the time and the incidence of adverse childhood experiences in the respective populations (Fig. 4.1). On average, the prevalence of loneliness (y-axis) is lowest (10% or below) in the Netherlands, Austria, Czechia, Slovenia, Croatia and Spain. The country with the highest incidence is Ireland (20%). As for the relationship between loneliness and adverse childhood experiences, we do not find any strong association, except for lack of social connectedness during childhood. The correlation between the latter variable and loneliness incidence (−0.24 with and −0.20 when we exclude Ireland), however, is not significantly different from zero.



**Fig. 4.1** Share of respondents feeling lonely and with adverse childhood experience, by experience and country. *Note* The y-axis shows the share of adults reporting feeling most of the time lonely. The x-axis displays the share of respondents subject to the specific adverse childhood experience. The red line shows fitted regression line. *Source* Authors’ calculations. EU Loneliness Survey, 2022, authors’ calculations

The lack of strong correlations between loneliness and adverse childhood experiences at the country level, however, does not imply that there is no such a relationship at the individual level. According to the literature, there are several individual-specific factors that are significantly linked to the probability of experiencing loneliness, such as age, gender, household composition, minority status and occupational status. The following question arises: are adverse experiences at early life stages significantly associated with loneliness in adulthood, even after controlling for the other covariates? This is important because a significant correlation between childhood conditions and loneliness later in life, net of the other factors, would emphasise the long-term impact of adverse upbringing on adulthood.

In order to answer this question, we estimate a logistic regression model with loneliness as a dependent variable and consider the following individual-specific controls: age, gender, education, relationship status, occupational status, number of children aged 0–5, number of children aged 6–15, a dummy for first- and second-generation immigrants, a dummy for reporting LGBT sexual orientation and country-fixed effects. In order to check the robustness of our baseline results, we run three



**Fig. 4.2** The ‘effect’ of adverse childhood experience on loneliness. *Note* This graph shows the percentage point increase in loneliness incidence for different adverse childhood experiences and its 95% confidence interval. The coefficients for adverse childhood experiences (‘adverse rel.’) derive from a logistic regression model that conditions on the following current situational and demographic factors of respondents: age, gender, education, relationship status, occupational status, number of children aged 0–5, number of children aged 6–15, dummy for first- and second-generation immigrants, dummy for LGBT and country fixed effects. ‘S. isolation’ refers to ‘social isolation’. Number of observations: 22 964. *Source* EU Loneliness Survey, 2022, authors’ calculations

additional regression models using different measures of loneliness, namely an alternative direct measure (i.e. feeling lonely some of the time) and one indirect measure (i.e. loneliness defined on the short UCLA scale). For the sake of clarity, we only report the marginal effects of early-life conditions, while the full set of regression estimates can be found in Table 4.2 in the appendix.

Figure 4.2 reports the conditional marginal effects with confidence intervals only for the variables in the model capturing adverse childhood experiences.

Each colour represents one model. Regardless of the loneliness measure used, childhood experiences are always significantly associated with the probability of experiencing loneliness. This result suggests that loneliness is not related just to current experiences; rather, it correlates with other events that occurred far in the past when the respondents were young.

Lack of social connectedness during childhood is associated with an 8 percentage point higher likelihood of experiencing loneliness most of the time in adulthood. An adverse relationship with parents increases loneliness by 6 percentage points and poor health in childhood by 5 percentage points. Having grown up with a close relative suffering from serious illnesses or following unhealthy habits increases the probability of loneliness incidence by 4 percentage points. Since the 95% confidence intervals overlap across the four different measures of adverse childhood experiences considered, we cannot say which factor performs relatively ‘worse’ in the context of loneliness in adulthood.

When we consider the alternative direct measure of loneliness (feeling lonely some of the time) and loneliness defined in terms of the short UCLA loneliness scale the associations become even stronger. For the latter, it is especially poor health in childhood that links to loneliness, with an increase of 16 percentage points on average. This can be considered a notable association given that 39.3% of individuals in our sample appear to be lonely according to this measure.

In light of these results, we can conclude that adverse experiences at early life stages matter for explaining adults' loneliness beyond contemporary individual-specific characteristics, networks and life circumstances.

#### ***4.4.2 How Do Loneliness and Adverse Childhood Experiences Link to Health Outcomes?***

Up to now, this chapter has focused on the potential role played by adverse childhood conditions in explaining the likelihood of experiencing loneliness. In this subsection, loneliness will be used as an explanatory variable in order to better understand its importance and potential interplay with childhood experiences in shaping individuals' physical and mental health conditions.

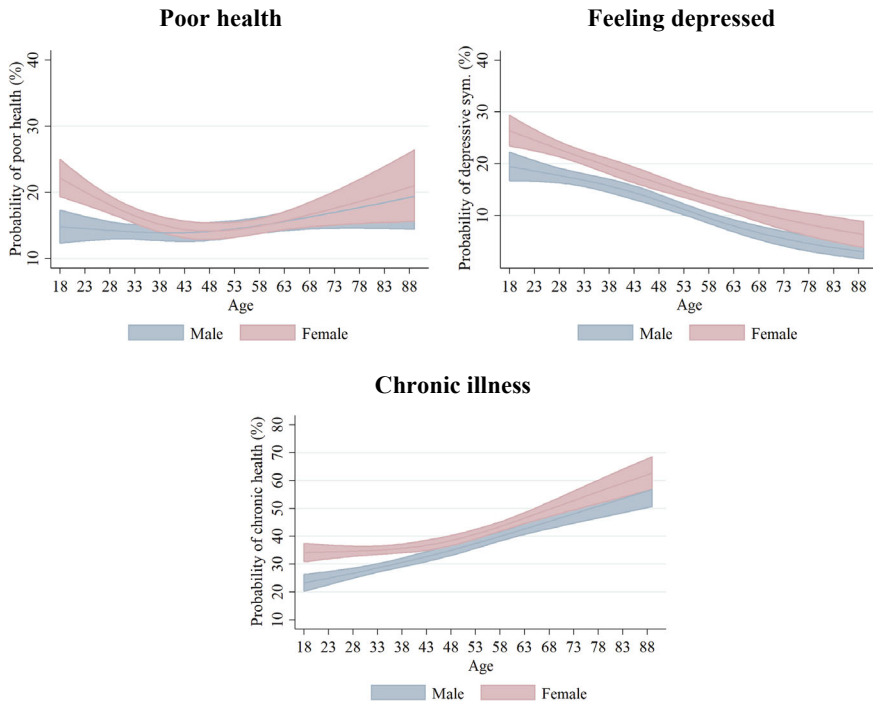
We first provide some descriptive evidence on the incidence of loneliness for three different measures reported so far, across age and gender. Second, we show bivariate associations between loneliness and three different health outcomes at the country level. Finally, we unveil the association between loneliness and health, with and without controlling for individuals' childhood experiences. This latter exercise allows us to estimate the associations between loneliness and health net of the adverse childhood experiences early in life, which, as shown in the previous section, are among the important correlates of current loneliness experiences but may, at the same time, shape health conditions as well.

##### **4.4.2.1 How are Different Health Outcomes Related to Age and Gender?**

As discussed in the measurement section, this chapter employs three different self-reported health outcome measures: a general health measure, including individuals' subjective perceptions of their own overall mental and physical conditions, a chronic health measure and a mental health outcome (feeling depressed frequently or always).

Figure 4.3 describes these health outcomes across all EU member states by providing respondents' average probability of reporting poor health as a function of age and gender.

For all three health measures considered, women are significantly worse off at younger ages, while they do not differ significantly from men at older ages. The incidence of different health outcomes differs with age. Not surprisingly, the share



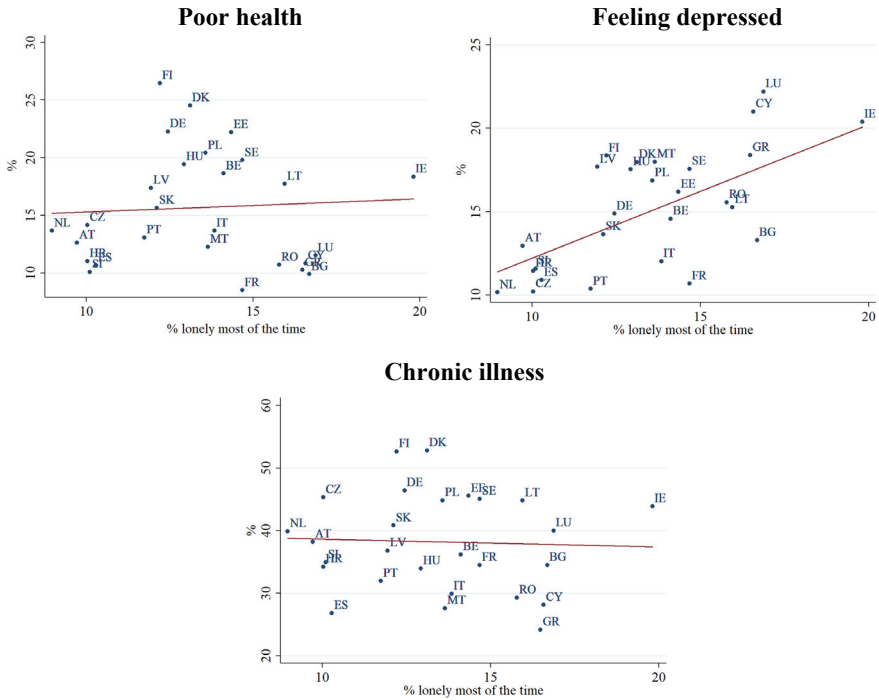
**Fig. 4.3** Probability of poor health, feeling depressed and chronic illness in the European Union by age and gender. *Note* Predicted probabilities of poor health, suffering depression and chronic illness derive from a logistic regression conditioning on gender and age only. The lines show fitted values and 95% confidence intervals. *Source* EU Loneliness Survey, 2022, authors’ calculations

of respondents suffering from chronic illnesses increases with age, being around 30% for young adults and 60% for older adults.

In contrast, younger individuals are more affected by depressive symptoms than older individuals (around 25%). Self-assessed poor health follows a slight U-shape, with younger and older people being most negative about their health status. The U-shape pattern could indicate that the self-reported health measure captures both mental (more important for the young) and physical health problems (more predominant for the elderly) simultaneously, which are both lowest during middle age.

#### 4.4.2.2 Is Loneliness Incidence Associated with Poor Health Across European Countries?

The existing literature shows that loneliness is associated with several physical and mental health outcomes. Figure 4.4 reports the unconditional correlations between the prevalence of loneliness and adverse health conditions across 27 EU member states. The x-axis reports the percentage of people feeling lonely most of the time



**Fig. 4.4** Share of respondents with poor health and feeling lonely (most of the time) by health measure and country. *Source* EU Loneliness Survey, 2022. Authors’ calculations

against the percentage of individuals reporting poor overall health, suffering from depressive symptoms and those with one or more chronic illnesses.

Loneliness and self-reported overall and chronic health are not significantly associated (the correlation coefficients are 0.06 and  $-0.04$ , respectively). The picture does not change significantly even when we consider the other measures of loneliness, with the exception of the UCLA, which shows a slight positive association with adverse overall health conditions. Nevertheless, countries with higher loneliness incidence tend to have significantly higher percentages of individuals with depressive symptoms (correlation coefficient: 0.64).

Moreover, it is important to note that the health outcomes considered relate differently to each other. For country rankings of the incidence of chronic health problems and adverse overall self-reported health we observe very similar scores. For instance, Finnish, Danish, German and Estonian respondents report the poorest general and chronic health, while Southern Europeans tend to be better off. Indeed, the correlation coefficient between these two health outcomes is 0.67.

In contrast, the comparison with depressive symptoms leads to rather different country rankings. Indeed, this measure is correlated with chronic health (correlation coefficient of 0.38) and with general health (correlation coefficient of 0.50). The three health outcomes investigated, therefore, capture different aspects of the individuals’ health.

#### 4.4.2.3 How are Health Outcomes, Loneliness and Adverse Childhood Experiences Related at the Individual Level?

Up to now, the analysis focused on the aggregated country-level data to understand the extent and variation of adverse health outcomes and loneliness across the European Union. This subsection will move a bit further and investigate the conditional associations between loneliness and health at the individual level, controlling for a rich set of explanatory and control factors.

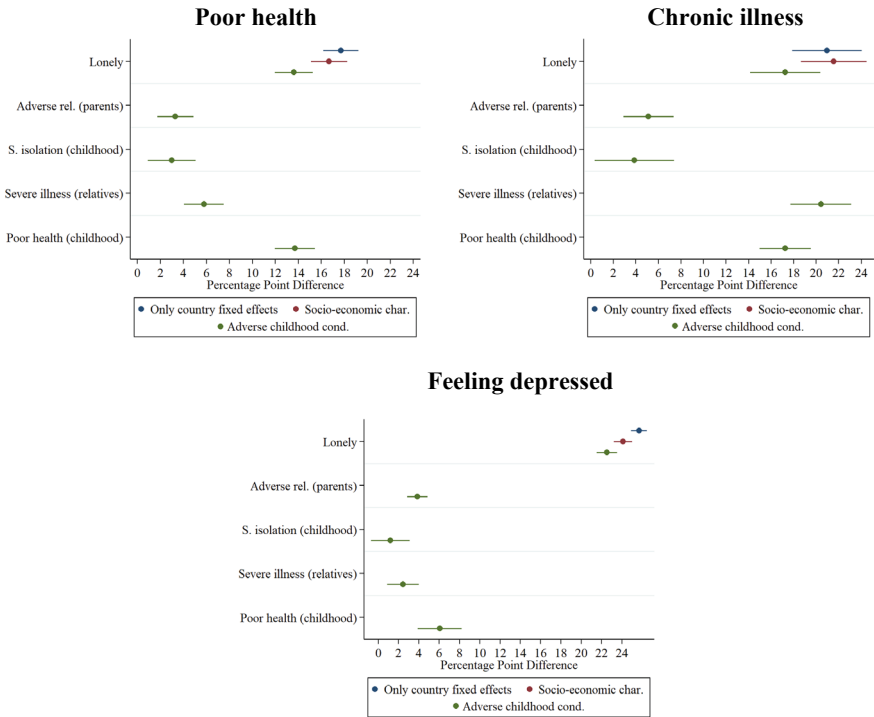
As discussed earlier in this chapter, existing research shows the link between adverse childhood experiences and health in adulthood on one side and adults' loneliness and health on the other. In addition, this chapter showed that adverse childhood experiences are significantly associated with the probability of feeling lonely later in life. However, less is known about whether and how adverse childhood conditions and loneliness may jointly relate to individual health outcomes. As already shown by the literature, negative experiences in childhood may directly shape individuals' health in adulthood (Kovacic & Orso, 2022). The association between early-life experiences and health, however, may also be indirect and go through their impact on loneliness.

In order to shed light on these mechanisms, we estimate three different models using the three health outcomes as dependent variables, a full set of individual-specific demographic and socio-economic characteristics and country of residence controls. The first model regresses health on loneliness without controlling for other individual-specific factors. The second model adds demographic and socio-economic factors, while the third one controls for early-life conditions as well. The latter specification allows us, at least to some extent, to shed light on the possible mediating role of early-life conditions in shaping the associations between loneliness and health. It is worth noting that the results cannot be interpreted as causal since there may be several confounding factors influencing both outcomes. Moreover, loneliness and health in adulthood may be simultaneously determined, which makes the interpretation of the results as clear direct effects impossible. In all model specifications, the robust standard errors are clustered at the country of residence level.

Figure 4.5 displays the results. For the sake of space and clarity, we report only the coefficients related to the main variables of interest, namely loneliness and adverse childhood conditions. Dots represent the percentage point differences in the association between each variable and health between individuals affected by loneliness and/or adverse childhood experiences and their 'non-affected' counterparts. Blue dots refer to the first model, while red and green dots report the coefficients from the second and third models, respectively.

Differently from simple correlations at the country level, the individual-level models offer a more precise picture of potential relationships between loneliness and health. This is not surprising evidence, since country-level comparisons did not take into consideration any individual-specific characteristics that may significantly shape the likelihood of experiencing loneliness and/or adverse health conditions.

The results show that there is a significant and strong relationship between loneliness and health. Individuals feeling lonely most of the time have on average an



**Fig. 4.5** Marginal effects of loneliness on health outcomes, by health outcome, selected logistic regression results. *Note* The dots display the percentage point increase of poor health with its 95% confidence intervals compared to the control group. ‘Adverse rel.’ refers to adverse relationship with parents and ‘S. isolation’ to social isolation during childhood. Appendix Table 4.3 shows the regression results for the third and most comprehensive model for all three health outcomes. *Source* EU Loneliness Survey, 2022, authors’ calculations

18 percentage point higher chance of assessing their overall health as poor, a 22 percentage point higher probability of reporting a chronic illness and a 24 percentage point higher incidence of having depressive symptoms compared to their non-lonely counterparts. Once we condition on family, work and socio-economic background factors (model 2, red dots), the association of loneliness with health outcomes tends to decrease, but not significantly, since confidence intervals of the marginal effects overlap. Consequently, individuals’ current circumstances cannot explain away the strong association between loneliness and poor health.

When controlling for adverse childhood experiences (green dots), the coefficient of loneliness decreases considerably in size, by 3 percentage points for overall health (17 percentage points for model 2 but only 14 percentage points for model 3), 5 percentage points for chronic health and 2 percentage points for feeling depressed. While the confidence intervals still overlap slightly, it appears that adverse childhood experiences can explain away a part of the association of loneliness with health. This indicates that a part of the association between early-life circumstances and health



passes through loneliness. With a necessary dose of caution, therefore, we may interpret this result as an indicator of the potential indirect influence of childhood conditions on health later in life.

All four adverse childhood experiences are significantly associated with poorer health conditions. More precisely, individuals who grew up with close relatives affected by serious illness or engaging in unhealthy behaviours, have a 20 percentage point higher likelihood of chronic diseases than those raised without such close relatives. This association is as high as the one between loneliness and health. The presence of relatives with severe illnesses or unhealthy behaviours however does not correlate significantly with the other health outcomes. This result may indicate that there may be some genetic influences if some respondents affected by chronic diseases have inherited severe illnesses from their relatives or the presence of a recall bias if some respondents relate their own health status to that of their relatives in the past. Finally, individuals' poor health in childhood has a similarly high association with current chronic health conditions.

Adverse health conditions in childhood represent an important correlate for overall physical and mental conditions as well. Individuals reporting having had poor health when young are 14 percentage points more likely to report poor overall health in adulthood. Even though part of this association may be attributed to reporting errors, with individuals being more negative about their current health conditions and also recalling their past health conditions more negatively, it may still indicate some degree of persistence of general health conditions over the life course. Poor health in childhood is positively correlated with the likelihood of feeling depressed later in life, with individuals reporting adverse health in childhood having a 6 percentage point higher probability of feeling depressed than those with better early-life health prospects.

In addition, being socially isolated as a child and experiencing an adverse relationship with parents increases the probability of adverse health later in life. Individuals who rarely or never spent time with close friends in childhood are 4 percentage points more likely to report adverse overall health and chronic conditions later in life. This association is somewhat weaker for the likelihood of feeling depressed. The association between adverse relationships with parents and health, on the other hand, is similar among the three health outcomes considered (roughly a 4 percentage point difference).

In sum, the results presented indicate that loneliness is significantly related to health. Adverse childhood conditions represent important direct correlates to individuals' health conditions later in life and may have an indirect effect on health through their potential relationship with loneliness. The latter evidence, however, should be taken with caution because the empirical setting presented in this chapter does not allow us to interpret the results in a causal way since there may be several confounding factors at the individual level influencing both outcomes.

## 4.5 Conclusions

This chapter examines the association of adverse childhood experiences with loneliness and poor health in adulthood.

The analysis exploits the 2022 European Union Loneliness Survey (EU Loneliness Survey) dataset and uses three self-reported measures of health: poor health, chronic illness and self-reported depression. Descriptive statistics suggest that, compared with individuals who do not feel lonely, those feeling lonely most of the time have an 18 percentage point higher risk of rating their overall health as poor, a 22 percentage point higher risk of experiencing a chronic illness and a 24 percentage point higher risk of feeling depressed. This confirms existing literature linking loneliness to a variety of poor health outcomes, including higher mortality (Holt-Lunstad et al., 2015).

Once we take account of individuals' specific characteristics and present circumstances, the association between loneliness and poor health declines, but not greatly overall. Nevertheless, adding adverse childhood experiences into the models shows two interesting results: first, adverse childhood experiences are strongly associated with poor health for all three health outcomes considered. For example, on average individuals who either had a severely ill relative or one with unhealthy habits have a 20 percentage point higher risk of reporting a chronic health issue compared with adults who have not had this experience. Adults with poor health during childhood have a 14 percentage point higher risk of also reporting poor health during adulthood. This suggests that adverse childhood experiences are directly linked to poorer health as adults. Furthermore, the introduction of childhood experiences into the models decreases the association of loneliness with health, indicating that early-life circumstances can also indirectly shape health outcomes, through loneliness.

There are a number of policy conclusions to be drawn from this chapter.

First, given the association of adverse childhood experiences with loneliness and health outcomes, future data collection exercises should include information on adults' upbringings if the aim is to understand their well-being.

Second, any efforts to improve adults' health and reduce their incidence of loneliness need to not only tackle current situational problems but also take account of past childhood experiences.

Third, the level of children's adverse experiences appears to be very high in the European Union. While tackling this problem depends clearly on the specific nature of the negative childhood experience, we need a greater understanding of what societies can do to improve children's experiences of their upbringing. Clearly there are also differences between subjective reporting of adverse childhood experiences and objective data recorded by national health systems, such as on child mortality, and these would need to be investigated further in the future.

## Appendix

**Table 4.2** Extract of logistic regression results for loneliness measures as dependent variable and adults' circumstances and adverse childhood experiences as explanatory variables (marginal effects)

Loneliness measure	Lonely most of the time	Lonely some of the time	Loneliness (UCLA scale)
Female	0.003 (0.008)	0.037*** (0.011)	0.052*** (0.009)
Age 30–50	–0.009 (0.010)	–0.014 (0.014)	–0.008 (0.016)
Age >50	–0.049*** (0.011)	–0.114*** (0.017)	–0.116*** (0.018)
Low education	0.015 (0.013)	0.020 (0.021)	0.010 (0.022)
High education	–0.008 (0.007)	–0.004 (0.010)	–0.007 (0.009)
Single	0.071*** (0.010)	0.123*** (0.015)	0.103*** (0.014)
In relationship	0.013 (0.013)	0.042** (0.017)	0.040** (0.019)
Separated or divorced	0.079*** (0.008)	0.149*** (0.016)	0.126*** (0.020)
Widow	0.098*** (0.021)	0.170*** (0.023)	0.109*** (0.023)
Retired	–0.028** (0.012)	–0.029** (0.014)	–0.043** (0.017)
Unemployed	0.034*** (0.011)	0.054*** (0.015)	0.098*** (0.016)
In education	–0.016 (0.011)	0.007 (0.020)	0.036* (0.020)
Homemaker	0.030 (0.018)	0.032 (0.027)	0.026 (0.031)
Other	0.021 (0.022)	0.035 (0.031)	0.022 (0.031)
Kids aged 0–5	0.009* (0.005)	0.028*** (0.011)	0.023** (0.011)
Kids aged 6–15	0.001 (0.004)	0.004 (0.006)	0.000 (0.005)
First generation immigrant	–0.022 (0.015)	0.018 (0.022)	0.006 (0.017)
Second generation immigrant	0.011 (0.010)	0.010 (0.015)	0.032** (0.016)
LGBT	0.032*** (0.008)	0.072*** (0.013)	0.068*** (0.012)
Adverse relationship parents	0.062*** (0.006)	0.090*** (0.007)	0.087*** (0.008)
Absent parent	–0.009 (0.007)	0.002 (0.010)	0.007 (0.012)
Few friends during childhood	0.079*** (0.008)	0.113*** (0.012)	0.125*** (0.015)
Relative having illness	0.041*** (0.008)	0.075*** (0.010)	0.081*** (0.011)
Bad health during childhood	0.051*** (0.010)	0.099*** (0.013)	0.155*** (0.014)
N	22964	22964	22579

*Note* Standard errors clustered by country of residence in parentheses. Country fixed effects included but coefficients not displayed. *Source* EU Loneliness Survey, 2022, authors' calculations

**Table 4.3** Extract of logistic regression results for three health measures as dependent variable and loneliness, adults' circumstances and adverse childhood experiences as explanatory variables (marginal effects)

Health measure	Overall health	Depression	Chronic health
Lonely	0.136*** (0.008)	0.225*** (0.005)	0.173*** (0.016)
Female	-0.003 (0.005)	0.022*** (0.005)	0.034*** (0.011)
Age 30-50	0.004 (0.010)	-0.007 (0.010)	0.056*** (0.016)
Age >50	0.033*** (0.012)	-0.040*** (0.012)	0.145*** (0.017)
Low education	-0.002 (0.010)	0.012 (0.008)	0.004 (0.022)
High education	-0.040*** (0.006)	-0.021*** (0.005)	-0.013 (0.010)
Single	0.020** (0.010)	0.004 (0.009)	0.012 (0.013)
In relationship	0.009 (0.009)	0.011 (0.013)	0.002 (0.018)
Separated or divorced	0.031** (0.015)	0.005 (0.010)	0.029 (0.018)
Widowed	0.032** (0.014)	0.010 (0.014)	-0.005 (0.024)
Retired	0.039*** (0.011)	-0.000 (0.008)	0.114*** (0.016)
Unemployed	0.055*** (0.013)	0.038*** (0.009)	0.068*** (0.023)
In education	0.015 (0.012)	0.010 (0.013)	-0.007 (0.021)
Homemaker	-0.004 (0.022)	0.008 (0.015)	-0.001 (0.028)
Other	0.027 (0.019)	0.019 (0.020)	0.027 (0.028)
Kids aged 0-5	-0.020*** (0.007)	0.005 (0.006)	-0.013 (0.012)
Kids aged 6-15	-0.003 (0.004)	0.004 (0.003)	0.001 (0.005)
First generation immigrant	-0.000 (0.013)	0.008 (0.013)	-0.022 (0.021)
Second generation immigrant	-0.004 (0.009)	-0.009 (0.008)	0.017 (0.013)
LGBT	0.042*** (0.010)	0.023** (0.009)	0.098*** (0.019)
Adverse relationship parent	0.033*** (0.008)	0.038*** (0.005)	0.051*** (0.011)
Absent parent	0.022*** (0.005)	-0.003 (0.009)	0.009 (0.012)
Few friends during childhood	0.030*** (0.011)	0.012 (0.010)	0.039** (0.018)
Relative with illness	0.058*** (0.009)	0.025*** (0.008)	0.204*** (0.014)
Bad health as child	0.137*** (0.009)	0.061*** (0.011)	0.172*** (0.012)
N	22933	22892	20431

*Note* Standard errors clustered by country of residence in parentheses. Country fixed effects included but coefficients not displayed. *Source* EU Loneliness Survey, 2022, authors' calculations

## References

- Abdellaoui, A., Chen, H. Y., Willemsen, G., Ehli, E. A., Davies, G. E., Verweij, K. J. H., Nivard, M. G., de Geus, E. J. C., Boomsma, D. I., & Cacioppo, J. T. (2018). Associations between loneliness and personality are mostly driven by a genetic association with Neuroticism. *Journal of Personality*, 87(2), 386–397. <https://doi.org/10.1111/jopy.12397>. Epub 2018 Aug 2. PMID: 29752830. PMCID: PMC6231981.
- Anda, R. F., Whitfield, C. L., Felitti, V. J., Chapman, D., Edwards, V. J., Dube, S. R., & Williamson, D. F. (2002). Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression. *Psychiatric Services*, 53(8), 1001–1009.
- Baarck, J., d’Hombres, B., & Tintori, G. (2022). Loneliness in Europe before and during the COVID-19 pandemic. *Health Policy*, 126(11), 1124–1129. <https://doi.org/10.1016/j.healthpol.2022.09.002>
- Baarck, J., & Kovacic, M. (2022). The relationship between loneliness and health. *JRC Technical Report*, Publications Office of the European Union, Luxembourg. ISBN 978-92-76-55055-6. <https://doi.org/10.2760/90915>. JRC129972.
- Bellis, M. K., Lowey, H., Leckenby, N., Hughes, K., & Harrison, D. (2014). Adverse childhood experiences: Retrospective study to determine their impact on adult health behaviours and health outcomes in a UK population. *Journal of Public Health*, 36(1), 81–91.
- Berlingieri, F., Colagrossi, M., & Mauri, C. (2023). Loneliness and social connectedness: Insights from a new EU-wide survey. *Fairness policy brief 3/2023*. European Commission—Joint Research Centre, JRC133351.
- Beutel, M. E., Klein, E., Brähler, I., Reiner, C., Jünger, M., Michal, J., Wiltink, P. S., Wild, T., Münzel, K. J., Lackner, A. N., & Tibubos, A. N. (2017). Loneliness in the general population: Prevalence, determinants and relations to mental health. *BMC Psychiatry*, 17, 97.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. Basic Books.
- Brugiavini, A., Buia, R. E., Kovacic, M., & Orso, C. E. (2022). Adverse childhood experiences and unhealthy lifestyles later in life: Evidence from SHARE countries. *Review of Economics of the Household*, 21, 1–18.
- Burr, J. A., Han, S. H., & Peng, C. (2020). Childhood friendship experiences and cognitive functioning in later life: The mediating roles of adult social disconnectedness and adult loneliness. *Gerontologist*, 23, 60(8), 1456–1465. <https://doi.org/10.1093/geron/gnaa055>. PMID: 32573696. PMCID: PMC8243266.
- Cacioppo, J. T., & Cacioppo, S. (2018). The growing problem of loneliness. *Lancet*, 3, 391(10119), 426. [https://doi.org/10.1016/S0140-6736\(18\)30142-9](https://doi.org/10.1016/S0140-6736(18)30142-9). PMID: 29407030, PMCID: PMC6530780.
- Casabianca, E., & Kovacic, M. (2022). *Loneliness and health of older adults: The role of cultural heritage and relationship quality*, European Commission. [https://joint-research-centre.ec.europa.eu/publications/loneliness-and-health-older-adults-role-cultural-heritage-and-relationship-quality\\_en](https://joint-research-centre.ec.europa.eu/publications/loneliness-and-health-older-adults-role-cultural-heritage-and-relationship-quality_en)
- Casabianca, E., & Kovacic, M. (2024). Historical roots of loneliness and its impact on second-generation immigrants’ health. *Journal of Economic Behavior & Organization*, 224, 407–437. <https://doi.org/10.1016/j.jebo.2024.06.011>
- Case, A., Fertig, A., & Paxson, C. (2005). The lasting impact of childhood health and circumstance. *Journal of Health Economics*, 24, 365–389.
- Chang, X., Jiang, X., Mkandarwire, T., & Shen, M. (2019). Associations between adverse childhood experiences and health outcomes in adults aged 18–59 years. *PLoS One*, 14(2).
- Colman, I., Kingsbury, M., Garad, Y., Zeng, Y., Naicker, K., Patten, S., Jones, P. B., Wild, T. C., & Thompson, A. H. (2016). Consistency in adult reporting of adverse childhood experiences. *Psychological Medicine*, 46(3), 543–549. <https://doi.org/10.1017/S0033291715002032>. Epub 2015 Oct 29 PMID: 26511669.

- Courtin, E., & Knapp, M. (2017). Social isolation, loneliness and health in old age: A scoping review. *Health and Social Care in the Community*, 25(3), 799–812. <https://doi.org/10.1111/hsc.12311>. Epub 2015 Dec 28 PMID: 26712585.
- Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., & Croft, J. B. (2002). Adverse childhood experiences and alcohol abuse as an adult. *Addictive Behaviors*, 27(5), 713–725.
- Ejlskov, L., Bøggild, H., Kuh, D., & Stafford, M. (2020). Social relationship adversities throughout the lifecourse and risk of loneliness in later life. *Ageing and Society*, 40(8), 1718–1734.
- Ford, E. S., Anda, R. F., Edwards, V. J., Perry, G. S., Zhao, G., Li, C., & Croft, J. B. (2011). Adverse childhood experiences and smoking status in five states. *Preventive Medicine*, 53(3), 188–193.
- Gunstad, J., Paul, R. H., Spitznagel, M. B., Cohen, R. A., Williams, L. M., Kohn, M., & Gordon, E. (2006). Exposure to early life trauma is associated with adult obesity. *Psychiatry Research*, 142(1), 31–37.
- Guthmuller, S. (2022). Loneliness among older adults in Europe: The relative importance of early and later life conditions. *Plos One*, 17(5), e0267562. <https://doi.org/10.1371/journal.pone.0267562>. PMID: 35584108; PMCID: PMC9116676.
- Hardt, J., Vellaisamy, P., & Schoon, I. (2010). Sequelae of prospective versus retrospective reports of adverse childhood experiences. *Psychological Reports*, 107(2), 425–440. <https://doi.org/10.2466/02.04.09.10.16.21.PRO.107.5.425-440>. PMID: 21117468.
- Hawkey, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of Behavioral Medicine*, 40(2), 218–227. <https://doi.org/10.1007/s12160-010-9210-8>. PMID: 20652462. PMCID: PMC3874845.
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, 10(2), 227–237. <https://doi.org/10.1177/1745691614568352>. PMID: 25910392.
- Huber, M., Knottnerus, J. A., Green, L., Horst, H v d, Jadad, A. R., & Kromhout, D. (2011). How should we define health? *BMJ*, 343, d4163. <https://doi.org/10.1136/bmj.d4163>
- Kamiya, Y., Doyle, M., Henretta, J. C., & Timonen, V. (2013). Early-life circumstances and later-life loneliness in Ireland. *The Gerontologist*, 54(5), 773–783.
- Kovacic, M., & Orso, C. E. (2022). Trends in inequality of opportunity in health over the life cycle: The role of early-life conditions. *Journal of Economic Behavior & Organization*, 201, 60–82.
- Kovacic, M., & Schnepf, S. (2023). Loneliness, health and adverse childhood experiences, *Fairness Policy Brief 5/2023*. European Commission, Ispra, 2023, JRC134036.
- Leigh-Hunt, N., Bagguley, D., Bash, K., Turner, V., Turnbull, S., Valtorta, N., & Caan, W. (2017). An overview of systematic reviews on the public health consequences of social isolation and loneliness. *Public Health*, 152, 157–171. <https://doi.org/10.1016/j.puhe.2017.07.035>. Epub 2017 Sep 12 PMID: 28915435.
- Perissinotto, C. M., Stijacic Cenzer, I., & Covinsky, K. E. (2012). Loneliness in older persons: A predictor of functional decline and death. *Archives of Internal Medicine*, 23, 172(14), 1078–83. <https://doi.org/10.1001/archinternmed.2012.1993>. PMID: 22710744. PMCID: PMC4383762.
- Schinka, K. C., et al. (2013). Psychosocial predictors and outcomes of loneliness trajectories from childhood to early adolescence. *Journal of Adolescence*, 36(6), 1251–1260.
- van Harmelen, A. L., Kievit, R. A., Ioannidis, K., Neufeld, S., Jones, P. B., Bullmore, E., Dolan, R., NSPN Consortium, Fonagy, P., & Goodyer, I. (2017). Adolescent friendships predict later resilient functioning across psychosocial domains in a healthy community cohort. *Psychological Medicine*, 47(13), 2312–2322. <https://doi.org/10.1017/S0033291717000836>. Epub 2017 Apr 11. PMID: 28397612; PMCID: PMC5820532.
- Wang B., & Dong, X. (2018). The association between personality and loneliness: Findings from a community-dwelling chinese aging population. *Gerontology and Geriatric Medicine*, 4. <https://doi.org/10.1177/2333721418778181>

**Matija Kovacic** (Ph.D.) is a research economist and policy analyst at the Joint Research Centre of the European Commission. Dr. Kovacic holds a Ph.D. in economics from Ca' Foscari University of Venice and has a rich history of research and teaching activities. His research interests are in empirical microeconomics and health economics, with an emphasis on inequality, determinants of individual preferences, informal institutions and historical mechanisms as the roots of contemporary attitudes and choices. Dr. Kovacic's research has been published in several journals, including the *Journal of Human Resources*, the *Journal of Population Economics*, the *Journal of Economic Behavior & Organization*, *Social Choice and Welfare* and the *Journal of Peace Research*.

**Sylke V. Schnepf** (Ph.D.) is a senior policy advisor in the Science for Modelling, Monitoring and Evaluation Unit of the European Commission's Joint Research Centre (JRC) in Ispra, Italy. She is part of the Survey Methods and Analysis Centre (SMAC) team conducting research on survey design, fairness and loneliness. She also contributes to the Competence Centre on Microeconomic Evaluation through research, teaching and advisory activities on quantitative education policy evaluation. Before joining the JRC in 2014, she was an associate professor in social statistics at the University of Southampton, United Kingdom. Dr. Schnepf has a long publication record on patterns of cross-national educational inequalities and counterfactual impact evaluation of policies aimed at mitigating these inequalities. She is also a member of the Scientific Committee of the JRC and a research fellow of the IZA Institute of Labor Economics in Bonn, Germany.

**Zsuzsa Blaskó** (Ph.D.) is a researcher and policy expert focusing on education. With a strong interest in social and gender inequalities, her fields of expertise span the various levels of education from early childcare to higher education. Beyond the academic progress and cognitive achievements of students, Dr. Blaskó is particularly interested in children's and young people's attitudes and mental well-being. She has, for example, studied the civic and citizenship attitudes of adolescents, as well as their subjective well-being, including loneliness in schools. She is currently supporting the Equality and Values Working Group of the European Commission based in the Directorate-General for Education, Youth, Sport and Culture as an external expert. Her work has been published in books, peer-reviewed journals, policy briefs and research reports.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



# Chapter 5

## Social Media Use and Loneliness



Béatrice d’Hombres and Chiara Gentile

**Abstract** The growth in popularity of social media platforms all over the world has led to an unprecedented increase in people’s ability to communicate with one another. This has given rise to a number of concerns about the potential social impact of these platforms. The European Union Loneliness Survey contains some useful information on social media consumption in the EU. The first part of this chapter relies on this unique source of information to explore patterns of social media use across EU member states and by age group. It sheds light on the time spent on social media tools as well as on addiction patterns. The second part of the chapter examines the relationship between social media usage and loneliness.

### 5.1 Introduction

The exponential growth in the use of social media (SM) globally has resulted in an unparalleled surge in interpersonal contact within contemporary cultures. This significant transformation has raised numerous questions concerning its societal ramifications.

Social media foster global connectivity by enabling individuals to engage in conversations, collaborate and exchange thoughts, images and ideas. Virtual communications facilitate the establishment of new connections and the formation of communities, unhindered by geographical limitations or other barriers. Various SM platforms offer the possibility of constant communication with friends and family, with immediate and interactive responses. At the same time, SM usage has changed the way people communicate and spend their time. In-person communications have dropped while there has been a dramatic increase in time spent online (Hall & Liu, 2022). This has led many to question the potential impact of social media

---

B. d’Hombres (✉) · C. Gentile  
European Commission, Joint Research Centre (JRC), Ispra, Italy  
e-mail: [Beatrice.dHombres@ec.europa.eu](mailto:Beatrice.dHombres@ec.europa.eu)

C. Gentile  
e-mail: [Chiara.Gentile@ext.ec.europa.eu](mailto:Chiara.Gentile@ext.ec.europa.eu)



on well-being and loneliness, especially for young people. Social pressures and peer comparison fuelled by constant digital contact may be particularly damaging to brain development during the formative years, when a person's identity is being shaped (Crone & Konijn, 2018; Orben et al., 2022). For instance, Twenge (2017) attributes the increase in mental health issues and loneliness observed among teenagers and young adults since 2012 to smartphones and the wide range of SM applications they offer. However, empirical evidence on this question is so far mixed.

In the political arena, there is growing global interest among governments in regulating SM. The EU Digital Services Act, which came into force in 2023, provides protection for European users on matters of privacy, transparency and the removal of harmful or illegal content. Recently, the US Surgeon General issued an advisory on social media and youth mental health, in which he urged technology companies, families and policymakers to take additional steps to help young people use SM in a safe and healthy manner. Initiatives have also been taken to restrict access to social media by minors. China is aiming to cap screen time to 40 min a day for children under eight. In the United States a bipartisan bill (the Protecting Kids on Social Media Act) has been proposed that would ban access to SM for children under 13 and require companies to obtain parental consent before allowing those aged between 13 and 17 to join their platforms. Meanwhile, in France new legislation requires SM platforms to incorporate a parental control system for minors under 15. Several countries, including France, Portugal and the Netherlands, have also established policies prohibiting the use of cellphones in classrooms or at school.

Little is known about SM usage patterns in Europe. This is due to the fact that, to the best of our knowledge, there are no EU-wide statistics containing specific information on social media use. This chapter's goal is to fill that void. Indeed, the 2022 European Union Loneliness Survey<sup>1</sup> (EU Loneliness Survey) provides comprehensive data on the amount of time spent on SM and the nature of this SM usage. The survey also includes information about in-person social contact with friends and family. This wealth of data provides us with a unique opportunity to investigate SM usage trends throughout Europe, with particular consideration given to differences between birth cohorts. Finally, the data on loneliness provided by the survey are used to analyse the relationship between loneliness and social media use.

The rest of the chapter is organised as follows. Section 5.2 examines the increase in social media consumption and reviews the existing research on the possible link between excessive social media usage and feelings of loneliness. Section 5.3 provides an overview of the data and methods used in the empirical study. Section 5.4 describes trends in social media use and addiction across European birth cohorts, and also examines the connection between heavy social media use and loneliness. Section 5.5 offers some concluding remarks on issues requiring further study.

---

<sup>1</sup> See Chap. 2 for additional information on the survey.

## 5.2 Literature

### 5.2.1 *The Rise of Social Media*

The popularity of SM has risen dramatically in the past decades. In only one decade, the number of people using SM platforms globally has increased from 970 million in 2010 to more than 4.48 billion in July 2021 (Kemp, 2021). The number and features of the platforms have also increased over time. Facebook has been around since 2004 whereas Snapchat and TikTok respectively operate since 2011 and 2016 (Ortiz-Ospina, 2019). Short video content in contrast to text-based content has also gained popularity in recent times, reshaping how users produce, consume and interact with others. The way people use SM has simultaneously drastically changed. In 2010, SM was mainly meant to communicate with close friends whereas since then, it has evolved and is used all over the world for socialising, entertainment and news updates but also for job seeking and professional networking (Aichner et al., 2021).

Young generations are the most avid consumers of SM content as they grew up with instantaneous global connection and information sharing and therefore depend heavily on SM for all kinds of activities from personal to professional development. In contrast, older generations have gradually embraced these new tools. The preferred SM platforms across various age groups partly reflect these disparities in SM exposure. Platforms such as Instagram, Snapchat or TikTok with self-centered features and short-video contents are particularly popular among younger people whereas other platforms such as Facebook or WhatsApp remain the favorites of older users.

### 5.2.2 *Growing Concerns About the Impact of Social Media on Loneliness and Mental Health*

Many wonder whether there is a direct correlation between the concomitant rise of SM and loneliness, particularly among the younger generation. Since online interactions lack the closeness and quality of face-to-face relationships, SM users may experience growing loneliness as they rely on them more and more. The theory put out by Kraut et al. (1998) is called the *displacement hypothesis*. Social norms have shifted, according to Twenge and Spitzberg (2020), making online meetings more common and in-person interactions less frequent. Loneliness may hence also increase regardless of whether or not people use SM (Twenge et al., 2021). Conversely, according to the *stimulation hypothesis* (Gross, 2004; Valkenburg & Peter, 2007), SM use may alleviate feelings of loneliness by strengthening current connections and fostering the development of new ones. The benefits of social media use may vary and benefit particularly individuals with extensive social networks or those who lack the social confidence to meet new people in person (Kraut et al., 1998). Depending on the user's intentions and SM use patterns, both the stimulation and displacement hypothesis of SM may coexist (Nowland et al., 2017). The nature of the association between

loneliness and social media use may also differ by age group. In general, loneliness would rise when online social connections replace face-to-face ones whereas the opposite would be observed when SM is used to forge new friendships or deepen old ones.

People’s online behavior might also vary with the level of loneliness. Lonely people may engage in passive social comparisons or utilise the platform less actively and hence not reap the social advantages of SM compared to those who are not lonely. Finally, while it is often assumed that SM might cause more or less loneliness, the causality is also likely to go the other way around. Loneliness might precede SM, i.e. lonely people might spend more time on SM to compensate for instance for their lack of face-to-face contacts.

The empirical evidence is mixed. Meta-analyses and literature reviews report small or insignificant associations between the time spent on social media and loneliness (Blasko & Castelli, 2022; Huang, 2017; Nowland et al., 2017). Note that most of the studies reviewed focus on one specific SM platform, are cross-sectional and rely on relatively small samples of young people.

Yet, a few recent studies, based on experimental and quasi-experimental designs, appear to substantiate the assumption according to which SM use might cause more loneliness or mental health conditions. Allcott et al. (2020), using an experimental study, found that deactivating Facebook for 4 weeks improves well-being outcomes (e.g. depression, loneliness and life satisfaction). Using an experimental design, Hunt et al. (2018) also report that limiting the time spent on social media platforms lead to a reduction in loneliness. Similarly, Braghieri et al. (2022) show using a quasi-experimental setup, that the staggered introduction of Facebook on university campuses in the United States resulted in an increase in mental problems.

Some studies have also been looking into whether the way people use SM might influence its impact on feelings of loneliness. Passivity and lurking on SM (i.e. scrolling through feeds without participating) have been linked to upward social comparison (i.e. overestimating other people’s successes) and more loneliness, according to an experiment by Verduyn et al. (2015). Along the same line, Deters and Mehl (2012), report that interacting online and using SM regularly helps people keep in touch with each other, make new contacts and is associated with lower levels of loneliness.<sup>2</sup> Roberts and David (2023) similarly conclude that excessive utilisation of SM has a detrimental influence on social connectedness when used in a passive manner, but has a positive effect when employed actively.

---

<sup>2</sup> As explained in Krause et al. (2022), an active use can also improve well-being if it makes people think about positive aspects of themselves.

When examining the frequency of SM usage and its potential correlation with loneliness, it is important to consider patterns of SM addiction. As notifications such as likes, shares and comments on SM elicit a release of dopamine in the brain, it is reasonable to presume that excessive SM use would result in the development of a psychological dependency, potentially associated with adverse consequences. While SM addiction is difficult to comprehend or quantify, recent research indicates that the overuse of SM may be motivated by a desire to evade the reality of the offline world and may result in heightened feelings of isolation (Blasko & Castelli, 2022). Bayat et al. (2021) and Marttila et al. (2021) using cross-sectional data conclude that after controlling for a number of respondents' sociodemographic characteristics, SM addiction is positively and significantly related to loneliness.

### 5.3 Data, Methods and Limitations

#### 5.3.1 Data

The 2022 EU Loneliness Survey has a section dedicated to SM, in addition to the one focusing on loneliness. In particular, the survey provides information on the time spent on social media and on SM addiction.<sup>3</sup> To the best of our knowledge, there are no other EU wide data sets with such information and hence, this is the first time that it is possible to monitor SM patterns in Europe.

#### 5.3.2 Measuring Social Media Consumption and Loneliness

To examine the patterns of SM use in Europe, we will more specifically rely on the following indicators. First the EU Loneliness Survey includes a measure of *the time spent per day on social media*. More specifically, respondents were asked how much time they spend *per day* using respectively social network sites (SNS) and instant messaging tools (IMT), with eight potential responses ranging from 'never' to 'more than 5 h'.<sup>4</sup> SNS are online applications that allow users to create and share personal profiles.<sup>5</sup> IMT, on the other hand, are web services that enable individuals

---

<sup>3</sup> The survey additionally includes data regarding the modalities of SM usage, the motivations that underlie such usage, and the respondents' perception of SM as a way to tackle loneliness. This information is not exploited in the context of this chapter.

<sup>4</sup> More specifically, the eight answer categories are 'never', 'Less than 10 min per day', '10–30 min per day', '31–60 min per day', '1–2 h per day', '2–3 h per day', '4–5 h per day' and 'More than 5 hours per day'.

<sup>5</sup> SNS may be centred on images (such as Instagram and TikTok), text (such as X), or both (such as Facebook).

to have private, real-time conversations online.<sup>6</sup> However, because of the increasing convergence of functionalities and the evolution of communication platforms and hence the potential difficulty for the respondents to clearly distinguish between SNS and IMT, we opted to regroup these two variables together in order to derive a single and overall measure of *intensive SM use*.

More specifically, the measure of intensive SM use is a variable equal to 1 if the respondent indicates to spend 4 hours or more per day on SNS or/and IM, between 2 and 3 hours on both SNS and IM, 0 otherwise. The cut-off chosen to define intensive SM use might seem somehow arbitrary. For this reason, we will also discuss the robustness of the conclusions to alternative definitions of intensive SM use. Second, the survey includes a measure of *SM addiction*. More precisely, respondents were asked with which frequency they neglect work, school or family related duties because of the time spent on SM. The six answer categories range from 'never' to 'several times a day'. We consider that those who indicate to neglect work, family or school several times *per week or more* exhibit patterns of SM addiction.<sup>7</sup> Excessive SM use can lead to problematic SM use. Hence the second indicator on SM addiction complements the first one on intensive SM use.<sup>8</sup>

The EU Loneliness Survey measures loneliness directly and indirectly, as explained in Chap. 2 of this book.<sup>9</sup> This chapter's reminder mostly uses the direct loneliness measurement. The latter asks about the frequency of loneliness in the four weeks prior to the interview. Participants who report feeling lonely most or all the time are considered as lonely.<sup>10</sup> However, when assessing the relationship between loneliness and SM use, we will test the robustness of the conclusions to alternative loneliness measures.

### 5.3.3 *Methods*

The analysis presented in the first part of Sect. 5.4 of this chapter is descriptive and aims at showing SM patterns across EU countries and by birth cohorts. As explained earlier, we expect different SM use across generations. For the purpose of the analysis, the sample has been divided into 4 generations, namely the Baby Boomers

---

<sup>6</sup> IM typically rely on text messages, e.g. WhatsApp, MSN Messenger (Facebook), and Snap messaging.

<sup>7</sup> Multidimensional scales of SM addiction have been developed in the literature. The Bergen Social Media Addiction Scale measures six addiction factors: salience, mood modulation, tolerance, withdrawal, conflict, and relapse whereas the Compulsive Internet Use Scale includes 14 items to capture symptoms such as loss of control, preoccupation, withdrawal symptoms, coping or mood modification, and conflict. See Marttila et al. (2021).

<sup>8</sup> Note that the item non-response of two variables measuring SM use is low with 1% or less of non-respondents.

<sup>9</sup> See Chap. 2 for additional information on the loneliness scales included in the survey.

<sup>10</sup> The answer categories are 'All of the time', 'Most of the time', 'Some of the time', 'A little of the time' and 'None of the time'.

(birth years: 1946–1960), Generation X (birth years: 1961–1980), Generation Y (birth years: 1981–1996) and Generation Z (birth years: from 1997 onwards).<sup>11</sup> Berezan et al. (2018) and Leung (2013) show how Baby Boomers, Generation X and Generation Y perceive themselves differently in their experiences of SM. Baby Boomers lack the familiarity with recent SM platforms and technology compared to more recent generations, whereas Generation X individuals are more accustomed to SM and may strive to ensure that their online profile accurately reflect who they are. Generation Y individuals are more likely to shop online and use SM than those of any preceding generation and they are acutely aware of how the communications revolution is changing every aspect of society.

In the second part of Sect. 5.4, we rely on some multivariate regression analysis to assess the association between intensive use of SM and loneliness conditional on respondents' characteristics.

### 5.3.4 *Limitations*

There are some limitations to the empirical analysis. First, all the information on SM use is based on self-reported information. It is indeed difficult in the context of a cross-national online survey to gather objective information on SM habits through digital apps installed on respondents' digital tools. Self-reported measures may contain systematic measurement errors and correlate only modestly with objective SM trace measures. Yet Sewall et al. (2020) find that the association between the time spent on SM and well-being is similar irrespective of whether self-reported indicators or SM trace measures are used. Second, our findings might be subject to bias driven by confounding factors or reverse causality. Indeed, the survey does not have a longitudinal component and does not include an experiment such as in Braghieri et al. (2022) or Allcott et al. (2020). Therefore, we should be careful before drawing any causal.<sup>12</sup>

---

<sup>11</sup> Respondents born before 1946 are excluded from the sample (307 observations).

<sup>12</sup> It is also worth noting, as described in previous chapters, that the 2022 EU Loneliness Survey is based on an opt-in consumer panel. Although quota have been used during data collection and post stratifications weights are employed for the statistical analysis, we do not have a probability-based sample.

## 5.4 Results

### 5.4.1 *Intensive Use of Social Media and Social Media Addiction*

#### **Cross-country patterns**

In the following section, we discuss the share of intense social media use and social media addiction.<sup>13</sup> More specifically, we examine cross-country and generational patterns for these two indicators.

Despite the fast expansion of SM in many countries, how people use them may change according to their social and cultural environment, since core values differ between cultures (Kim et al., 2011; Sheldon et al., 2017). This is investigated in Figs. 5.1 and 5.2. The percentage of intensive SM users is depicted in Fig. 5.1. SM use is particularly intense in various Southern and Eastern EU nations, including Malta, Bulgaria, Greece, Romania, Spain and Cyprus. Over 15% of respondents in these nations report spending at least 4 hours per day using SM. Slovenia, Austria, Finland, Sweden, Italy, Czechia, Croatia, the Netherlands, France and Estonia, on the other hand, have lower levels, below 10%, of intense SM use. When looking at cross-country variations for each of the 4 generations described above, overall, we observe similar patterns: the highest share of intense SM users tends to be observed in southern and eastern EU countries whereas lower figures are reported in northern EU nations (see Fig. 5.7 in appendix).

Figure 5.2 reports the percentage of respondents indicating to neglect work, school or family several times a week or more, our proxy for SM addiction. Spain has the largest percentage of SM addicted respondents (24%), followed by Bulgaria, Luxembourg, and Ireland, all of which have levels above 20%. On the other hand, Austria exhibits the lowest figures (less than 10%) followed by Poland, Hungary, Croatia, Italy, Denmark, and Lithuania. Macro-regional figures suggest that SM addiction oscillates between 13.9% in eastern EU nations and 17.2% in southern EU nations.

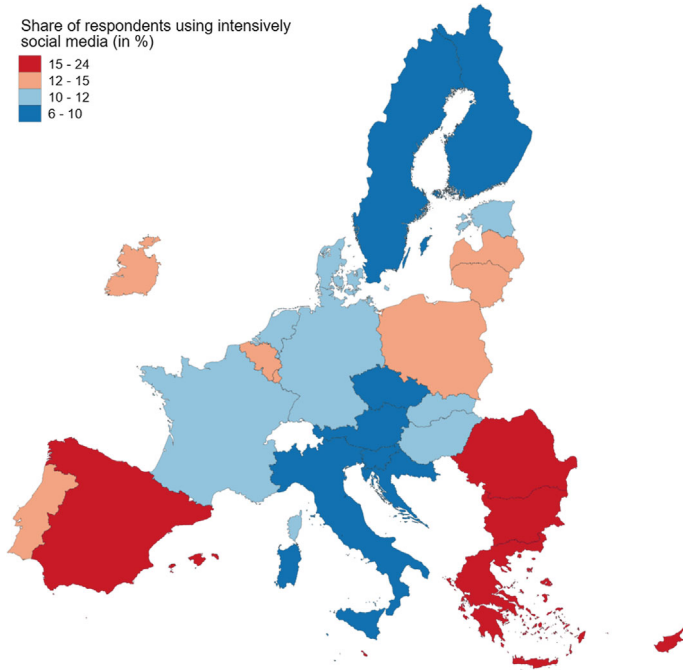
The correlation between intensive SM use and SM addiction is positive indicating that as the percentage of respondents who spend more time on SM tools increases, so does the share of SM addicted respondents. However, while the correlation at country level is moderate (0.44), this correlation at individual level is quite weak (0.22), suggesting that perceived SM addiction may be associated with the nature of SM use or the characteristics of respondents in addition to the amount of time spent on SM.

#### **Generational patterns**

Figure 5.3 depicts intense use of SM platforms by birth generation. Specifically, the figure indicates that 3.9% and 8.5% of Baby Boomers and people from the Generation

---

<sup>13</sup> Measures defined in the paragraph 'Measuring social media consumption'.



**Fig. 5.1** Share of people reporting intense SM use, by country. *Note* The map depicts the percentage of respondents indicating to spend per day at least 4 hours on SM. *Source* EU Loneliness Survey, 2022, authors' calculations

X, respectively, use intensively SM. Generation Y and Z respondents exhibit higher figures, with 16.5% and 28.7% respectively, of them engaging in intensive use of SM.

Figures 5.8 and 5.9 in Appendix provide more information on generational variations with respect to the utilisation of both SNS and IMT. A similar pattern emerges: whereas less than 3% of Baby Boomers spend 2 hours or more per day on IMT, almost 28% of Generation Z do so. Likewise, 6.8% of the oldest age spend over 2 hours a day on SNS. Among the most recent cohort, this number soars to 38%.

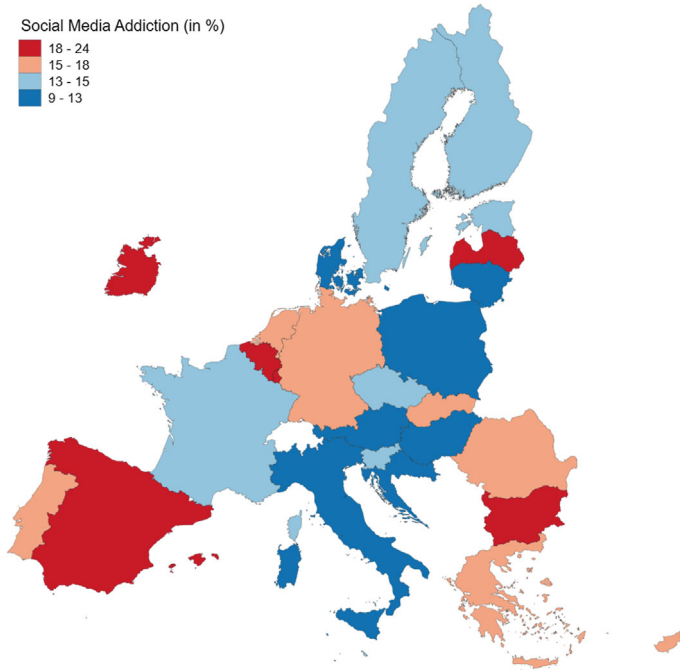
Figure 5.4 shows SM addiction, by birth generation. Specifically, the figure indicates that 5.7% of baby boomers and 10.9% of Generation X neglect work, family or school several times a week or more to spend time on SM tools. A sharp increase is observed with Generations Y and Z, of whom 24% and 34.3% report SM addiction, respectively (for more detailed information, see Fig. 5.10 in the appendix).

**Loneliness prevalence by birth generation<sup>14</sup>**

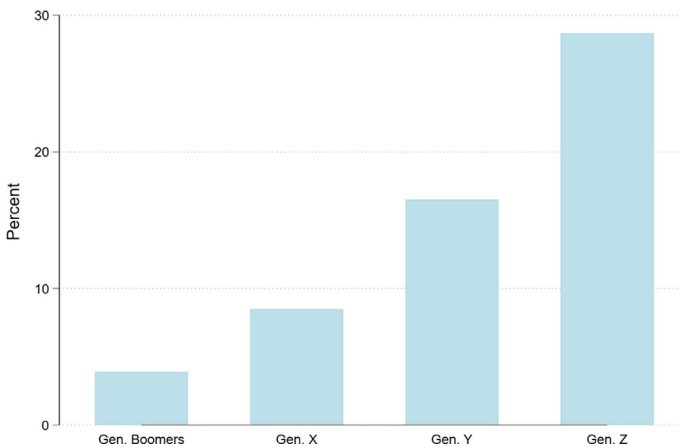
Figure 5.5 displays loneliness prevalence by birth generation. The figure indicates that 7.5% of the Baby Boomers feel lonely most of the time or all of the time, whereas

<sup>14</sup> Chapter 2 discusses in detailed loneliness prevalence across countries and hence this is not addressed in this chapter.

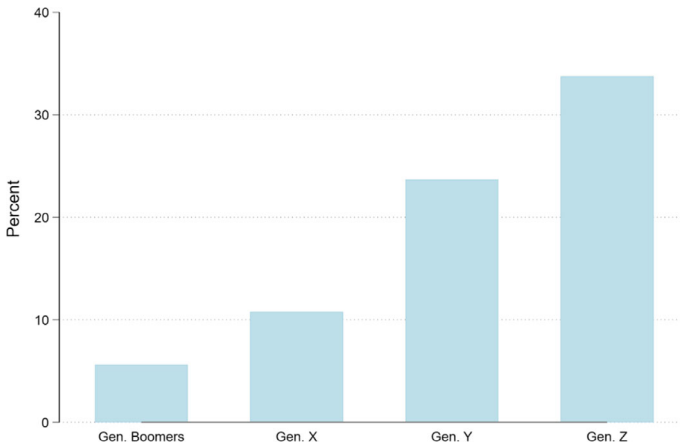




**Fig. 5.2** Share of people reporting SM addiction, by country. *Note* The map depicts the percentage of respondents reporting to neglect work, school or family several times a week or more because of the time spent on SM. *Source* EU Loneliness Survey, 2022, authors’ calculations



**Fig. 5.3** Share of people reporting intense SM use, by birth generation. *Note* The graph depicts the percentage of respondents indicating to spend per day at least 4 hours on SM, by birth generation. Generations are defined as follows: Baby Boomers, (birth years: 1946–1960), Generation X (birth years: 1961–1980), Generation Y (birth years: 1981–1996), Generation Z (birth year: from 1997 on). *Source* EU Loneliness Survey, 2022, authors’ calculations



**Fig. 5.4** Share of people reporting SM addiction, by birth generation. *Note* The graph depicts the percentage of respondents reporting to neglect work, school or family several times a week or more because of the time spent on SM, by birth generation. Generations are defined as follows: Baby Boomers (birth years: 1946–1960), Generation X (birth years: 1961–1980), Generation Y (birth years: 1981–1996), Generation Z (birth year: from 1997 on). *Source* EU Loneliness Survey, 2022, authors’ calculations

12.9%, 15.7% and 19.6% of respectively Generations X, Y and Z share this feeling. Although not reported for brevity, loneliness prevalence using indirect measures of loneliness reveals comparable birth cohort differences. These findings are consistent with the findings reported in Chap. 2 which shows that loneliness prevalence declines with age.

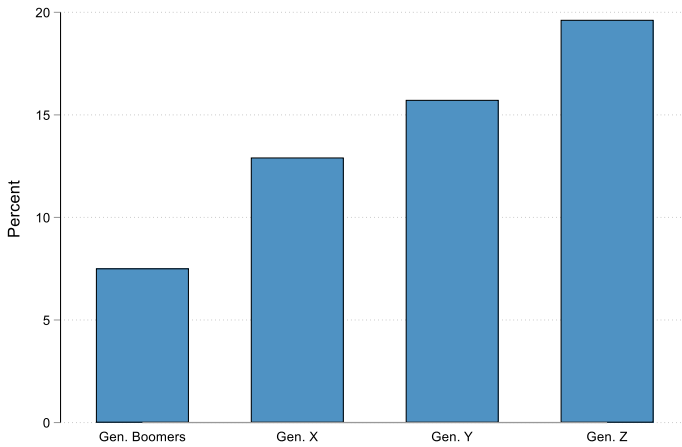
The statistics on loneliness prevalence and SM addiction by generation suggest that both loneliness and intense SM use or SM addiction are the highest for the youngest generation.

### 5.4.2 Multivariate Analysis

#### Relationship between SM and loneliness

In this section, we adopt a multivariate setting in order to assess the relationship between intense SM use and loneliness. The estimations are carried out on the full sample (N = 22,883).

Figure 5.6 displays the effect of using SM technologies for at least 4 hours per day on the likelihood of feeling lonely most of the time or all of the time. The blue and green dots represent the effect sizes whereas the blue and green lines indicate the 95% confidence intervals. Table 5.1 in the appendix reports the estimates corresponding to Fig. 5.6. The blue dots display the point estimates associated with intensive SM use and SM addiction when accounting for the respondents’ location (country), key



**Fig. 5.5** Share of lonely people in the European Union, by birth generation. *Note* The graph depicts the share of respondents who report feeling lonely most or all the time, by birth generation. Generations are defined as follows: Baby Boomers, (birth years: 1946–1960), Generation X (birth years: 1961–1980), Generation Y (birth years: 1981–1996), Generation Z (birth year: from 1997 on). *Source* EU Loneliness Survey, 2022, authors' calculations

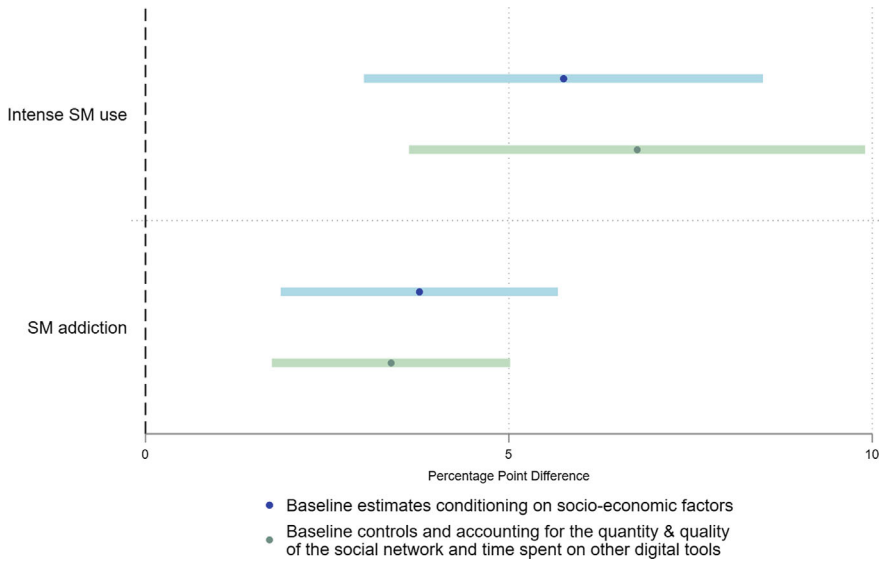
socio-demographic characteristics (age, gender, educational level and occupational status) and health status. The choice of the covariates is driven by Barjaková et al. (2023) who review the loneliness risk factors. The green dots correspond to the point estimates when additional controls (discussed later) are included in the specification.

According to the blue dot on the upper right hand side of Fig. 5.6, spending at least 4 hours or more per day on SM is associated with a 5.7 percentage point increase in loneliness. This finding supports the displacement hypothesis, i.e. that intensive usage of SM may displace offline connections. Similarly, the bottom left hand side of the graph indicates that SM addiction is associated with a 3.8 percentage point rise in loneliness.

### Robustness of the findings

It is important to examine the strength and reliability of the previous findings, specifically to determine how much omitted factors, the selection of loneliness measures and the criteria used to define intensive SM usage and SM may impact the conclusions.

First, respondents who report spending 4 hours or more on SM are likely to be major users of digital technologies overall. Therefore, it is possible that what we observe is the result of digital tools rather than an SM effect. Also, since their social circle might be narrower, lonely individuals may not interact with others as much as those who are not lonely. In a same vein, those who are not lonely may spend more time on SM, either maintaining or growing their existing network. The green dots (and confidence intervals) displayed in Fig. 5.6 show the impact of intensive SM use and SM addiction after we take into consideration the quantity and quality of respondents' networks, which includes their number of close friends and relatives, how often they



**Fig. 5.6** Association between intensive SM use and SM addiction and the probability to feel lonely. *Note* Blue and green dots represent the effect sizes; blue and green lines indicate the 95% confidence intervals. All estimates control for the socio economic characteristics of respondents (age, gender, education, occupational status), the health status and the country of residence of the respondents. The estimate underlying the green dots also account for respondents’ network quality and quantity and time spent on other digital tools (video games and TV streaming). Intense SM use is a variable equal to 1 if the respondent indicates to spend 4 hours or more per day on SNS or/and IM, between 2 and 3 hours on both SNS and IM, 0 otherwise. SM addiction is equal to 1 if the respondent reports to neglect work, family or school several times per week. *Source* EU Loneliness Survey, 2022, authors’ calculations

meet in person, whether they are in a committed relationship and how they rate the quality of their relationship with their partner. We also take into consideration the fact that respondents use various digital tools often, including streaming television and video games. The results are very similar to the previous ones. Both intensive use of SM and SM addiction are positively associated with loneliness and the magnitude of the effects is basically the same. The fact that the conclusions remain unchanged when accounting for the quality and quantity of the social network suggests that the relationship between SM and loneliness is more complex than the displacement hypothesis implies. This will require further research.

Second, the positive association between the intensity of SM use or SM addiction with loneliness might be sensitive to the loneliness indicator employed in the empirical analysis. However, using an indicator of loneliness based on the indirect loneliness scales covered in Chap. 2 (Figures 5.10 and 5.11 in the appendix) yields the same results.

As a third point, this chapter's definition of 'intensive SM use' is subjective. We were unable to find a consensus on what constitutes heavy SM usage. Therefore, it is critical to determine how much the results change when a different metric or threshold is used. Figure 5.12 displays the results when those who say they spend '1–2 h per day' on one SM platform and '2–3 h per day' on the other are also considered intensive SM users. Once again, the results that were previously mentioned did not change.

## 5.5 Conclusions

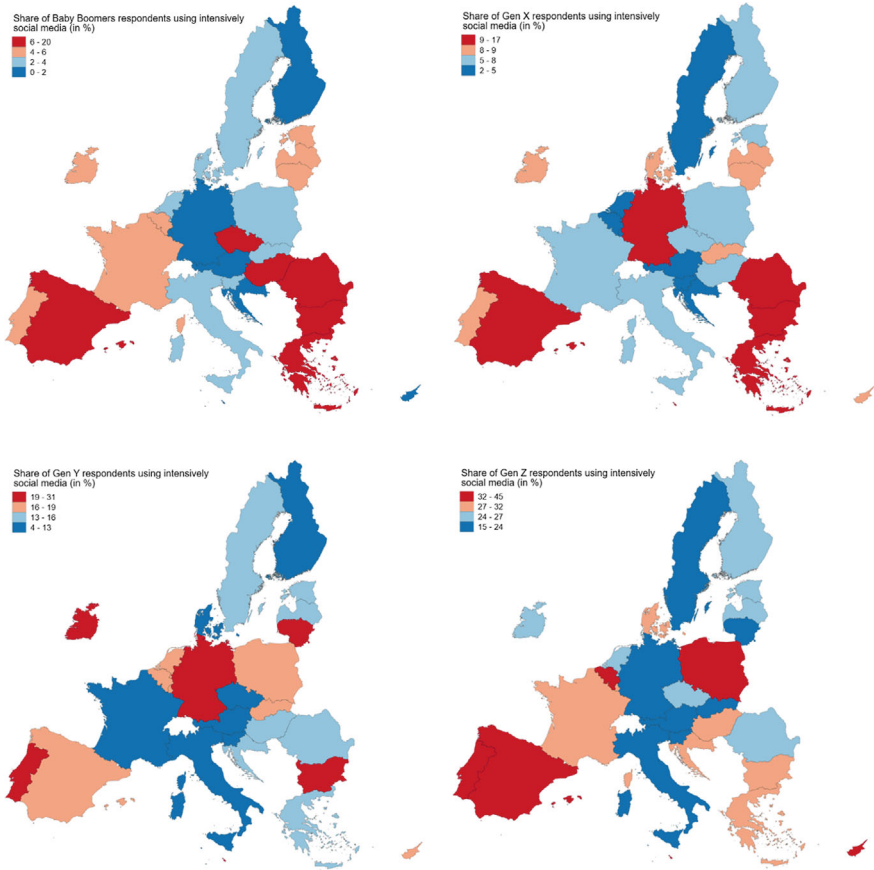
This chapter investigates patterns of SM usage across the European Union and explores the connection between these patterns and feelings of loneliness. The EU Loneliness Survey shows that southern and eastern EU nations have the highest proportion of intensive SM users, while northern EU states have the lowest figures. There are also significant differences between generations, with almost 29% of Generation Z spending more than 4 hours on social media every day, compared with only 3.9% of Baby Boomers. Young people are also far more likely than older generations to be addicted to SM.

The survey results suggest that intensive use of SM is associated with a significant increase in loneliness. This finding holds after controlling for individual socio-demographic characteristics, health, the quantity of in-person encounters and time spent daily on other digital tools (video streaming, videogames). Last but not least, this association is robust to alternative definitions of excessive SM usage and measures of loneliness.

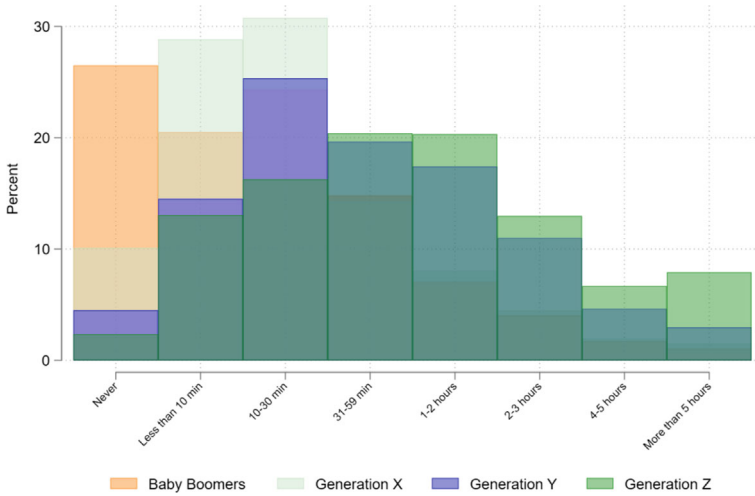
However, a word of caution is required before drawing any definitive conclusions. This chapter's findings are based on self-reported information about the use of SM. In addition, respondents are not monitored over time. It is therefore not clear whether excessive SM precedes or follows feelings of loneliness. Future longitudinal data collections and experimental studies would provide the information needed for an analysis of the direction of causality.

## Appendix

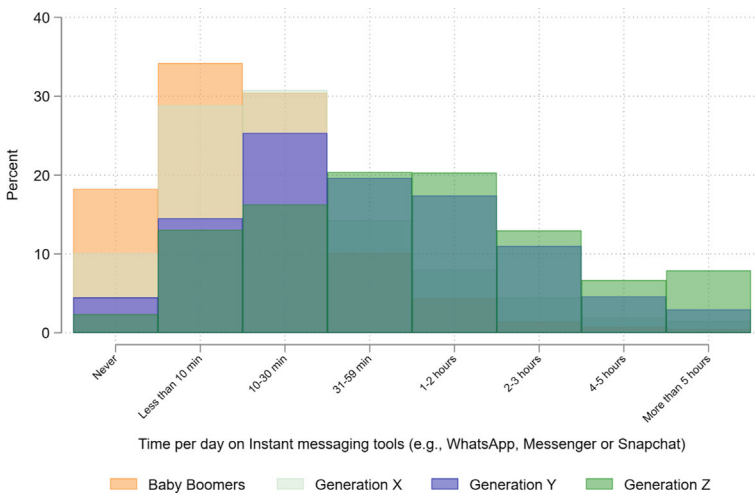
See Figs. 5.7, 5.8, 5.9, 5.10, 5.11, 5.12, 5.13 and Table 5.1.



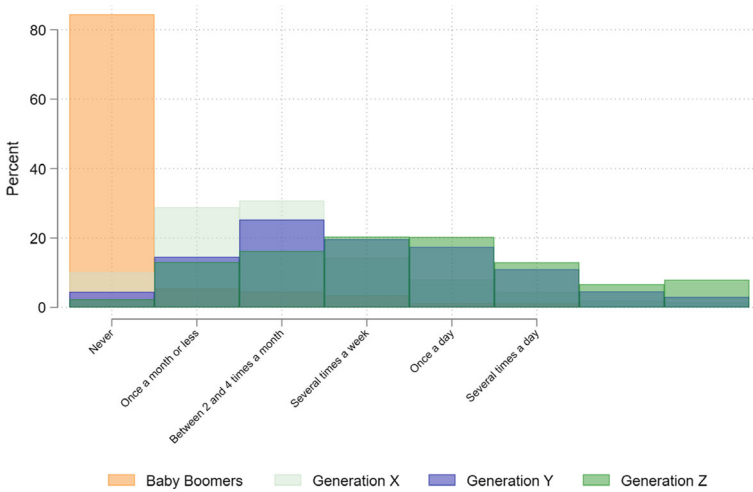
**Fig. 5.7** Share of people reporting intensive SM use, by country and birth generation. *Note* The maps depict the percentage of respondents indicating to spend at least 4 hours on SM per day. Generations are defined as follows: Baby Boomers, (birth years: 1946–1960), Generation X (birth years: 1961–1980), Generation Y (birth years: 1981–1996), Generation Z (birth years: from 1997 on). *Source* EU Loneliness Survey, 2022, authors’ calculations



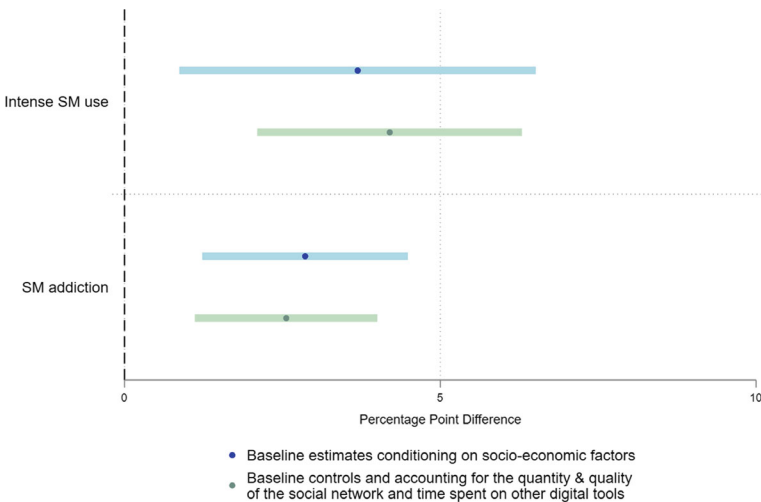
**Fig. 5.8** Time spent on SNS per day, by birth generation. *Note* Generations are defined as follows: Baby Boomers, (birth years: 1946–1960), Generation X (birth years: 1961–1980), Generation Y (birth years: 1981–1996), Generation Z (birth year: from 1997 on). *Source* EU Loneliness Survey, 2022, authors’ calculations



**Fig. 5.9** Time spent on IMT per day, by birth generation. *Note* Generations are defined as follows: Baby Boomers, (birth years: 1946–1960), Generation X (birth years: 1961–1980), Generation Y (birth years: 1981–1996), Generation Z (birth year: from 1997 on). *Source* EU Loneliness Survey, 2022, authors’ calculations

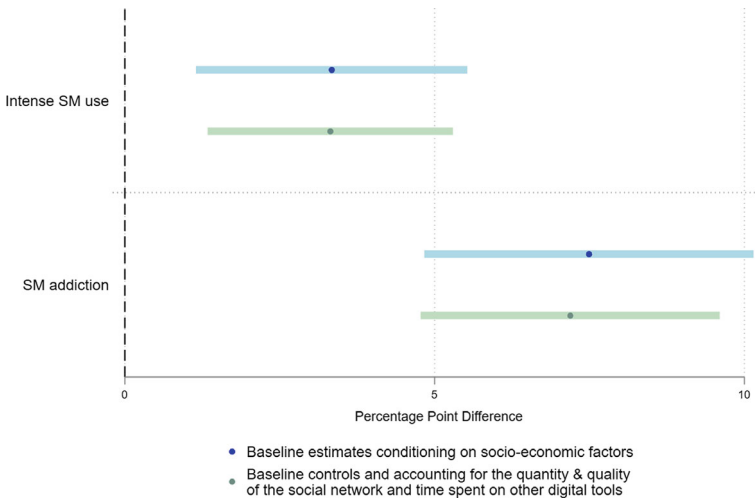


**Fig. 5.10** Neglecting work, school or family because of SM use, by birth generation. *Note* Generations are defined as follows: Baby Boomers, (birth years: 1946–1960), Generation X (birth years: 1961–1980), Generation Y (birth years: 1981–1996), Generation Z (birth year: from 1997 on). *Source* EU Loneliness Survey, 2022, authors’ calculations

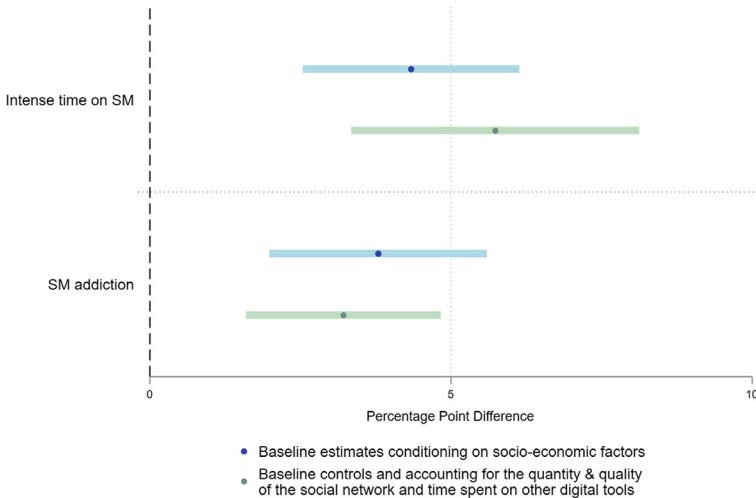


**Fig. 5.11** Effect of intensive SM use and SM addiction on the probability to feel lonely using the De Jong-Gierveld (DJG) 6-item scale. *Note* Blue and green dots represent the effects size; blue and green lines indicate the 95% confidence intervals; all estimates control for the socio economic characteristics of respondents (age, gender, education, occupational status), the health status and the country of residence of the respondents. The estimate underlying the green dots also accounts for respondents’ network quality and quantity and time spent on other digital tools (video games and TV streaming). See Chap. 2 for the definition of loneliness based on the De Jong-Gierveld (DJG) 6-item scale. *Source* EU Loneliness Survey, 2022, authors’ calculations





**Fig. 5.12** Effect of intense SM use and SM addiction on the probability to feel lonely using the University of California Los Angeles (UCLA) 3-item scale. *Note* Blue and green dots represent the effects size; blue and green lines indicate the 95% confidence intervals; all estimates control for the socio economic characteristics of respondents (age, gender, education, occupational status), the health status and the country of residence of the respondents. The estimate underlying the green dots also accounts for respondents’ network quality and quantity and time spent on other digital tools (video games and TV streaming). Intense SM use is a variable equal to 1 if the respondent indicates to spend 4 hours or more per day on SNS or/and IM, between 2 and 3 hours on both SNS and IM, 0 otherwise. SM addiction is equal to 1 if the respondent reports to neglect work, family or school several times per week. See Chap. 2 for the definition of loneliness based on the UCLA 3-item scale. *Source* EU Loneliness Survey, 2022, authors’ calculations



**Fig. 5.13** Effect of intense SM use and SM addiction on the probability to feel lonely—*Alternative definition of intensive SM use*. Note Blue and green dots represent the effects size; Blue and green lines indicate the 95% confidence intervals; All Estimates control for the socio economic characteristics of respondents (age, gender, education, occupational status), the health status and the country of residence of the respondents. The estimate underlying the green dots also accounts for respondents’ network quality and quantity and time spent on other digital tools (video games and TV streaming). Intensive SM use is a variable equal to 1 if the respondent indicates to spend 4 hours or more per day on SNS or/and IM, between 2 and 3 hours on both SNS and IM or 1–2 hours per day on one SM platform and 2–3 hours per day on the other platform. *Source* EU Loneliness Survey, 2022, authors’ calculations

**Table 5.1** Determinants of loneliness—the role of intensive SM use and SM addiction

	Determinants of loneliness: baseline estimate	Determinants of loneliness: estimate with additional controls
<i>SM use</i>		
Intense SM use	0.043 <sup>***</sup> (0.009)	0.057 <sup>***</sup> (0.012)
SM addiction	0.038 <sup>***</sup> (0.009)	0.032 <sup>***</sup> (0.008)
<i>Socio-demographic characteristics</i>		
<i>Gender (ref: Male)</i>		
Female	0.010 (0.022)	0.005 (0.019)
Other	0.057 (0.058)	0.029 (0.069)
<i>Education (ref: less than up Secondary)</i>		
Up to secondary	0.011 (0.009)	0.001 (0.006)
Postgrad	0.006 (0.006)	0.014 <sup>**</sup> (0.006)
<i>Occupational status (ref: working)</i>		
Studying	0.007 (0.020)	−0.006 (0.018)
Unemployed	0.060 <sup>***</sup> (0.017)	0.012 (0.015)
Retired	−0.057 <sup>***</sup> (0.007)	−0.061 <sup>***</sup> (0.007)
House person	−0.007 (0.024)	−0.007 (0.021)
Other	0.020 (0.023)	−0.009 (0.019)
<i>Health (ref: (Very)Poor)</i>		
(Very)Good/Average	−0.201 <sup>***</sup> (0.017)	−0.145 <sup>***</sup> (0.014)
<i>Quality and quantity of social network</i>		
<i>Partner relationship quality (ref: not in a relationship)</i>		
In relationship, happy		−0.067 <sup>***</sup> (0.017)
In relationship, unhappy		0.055 <sup>***</sup> (0.013)
<i>Number of close relatives (ref: less than 2)</i>		
2–4		−0.043 <sup>***</sup> (0.014)
5 or more		−0.066 <sup>***</sup> (0.010)
<i>Number of close friends (ref: less than 2)</i>		
2–4		−0.090 <sup>***</sup> (0.015)
5 or more		−0.108 <sup>***</sup> (0.017)
Meeting friends face-to-face once week or more		−0.039 <sup>***</sup> (0.005)
Meeting family members face-to-face once week or more		−0.027 <sup>***</sup> (0.005)
<i>Use of other digital tools</i>		
More than 2 h per day on Video games		0.016 (0.013)
More than 2 h per day watching TV/ content on streaming platforms		−0.012 (0.009)
Country fixed effects	Yes	Yes
Observations	22883	22437

*Note* Logistic models. Standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . The table reports the marginal effects. Intense SM use is a variable equal to 1 if the respondent indicates to spend 4 hours or more per day on SNS or/ and IM, between 2 and 3 hours on both SNS and IM, 0 otherwise. SM addiction is equal to 1 if the respondent reports to neglect work, family or school several times per week. *Source* EU Loneliness Survey, 2022, authors’ calculations

## References

- Aichner, T., Grünfelder, M., Maurer, O., & Jegeni, D. (2021). Twenty-five years of social media: A review of social media applications and definitions from 1994 to 2019. *Cyberpsychology, Behavior, and Social Networking*, 24(4), 215–222. <https://doi.org/10.1089/cyber.2020.0134>
- Allcott, H., Braghieri, L., Eichmeyer, S., & Gentzkow, M. (2020). The welfare effects of social media. *The American Economic Review*, 110(3), 629–676. <https://doi.org/10.1257/aer.20190658>
- Barjaková, M., Garnero, A., & D'Hombres, B. (2023). Risk factors for loneliness: A literature review. *Social Science & Medicine*, 334, 116163. <https://doi.org/10.1016/j.socscimed.2023.116163>
- Bayat, N., Fokkema, T., Mujakovic, S., & Ruiter, R. A. C. (2021). Contextual correlates of loneliness in adolescents. *Children and Youth Services Review*, 127, 106083. <https://doi.org/10.1016/j.chidyouth.2021.106083>
- Berezan, O., Krishen, A. S., Agarwal, S., & Kachroo, P. (2018). The pursuit of virtual happiness: Exploring the social media experience across generations. *Journal of Business Research*, 89, 455–461. <https://doi.org/10.1016/j.jbusres.2017.11.038>
- Blasko, Z., & Castelli, C. (2022). Social media use and loneliness. *JRC Technical Report, EUR 31092 EN, JRC129042* Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-53092-3. <https://doi.org/10.2760/700283>
- Braghieri, L., Levy, R., & Makarin, A. (2022). Social media and mental health. *The American Economic Review*, 112(11), 3660–3693. <https://doi.org/10.1257/aer.20211218>
- Crone, E. A., & Konijn, E. A. (2018). Media use and brain development during adolescence. *Nature Communications*, 9(1). <https://doi.org/10.1038/s41467-018-03126-x>
- Deters, F. G., & Mehl, M. R. (2012). Does posting facebook status updates increase or decrease loneliness? An online social networking experiment. *Social Psychological and Personality Science*, 4(5), 579–586. <https://doi.org/10.1177/1948550612469233>
- Gross, E. F. (2004). Adolescent internet use: What we expect, what teens report. *Journal of Applied Developmental Psychology*, 25, 633–649. <https://doi.org/10.1016/j.appdev.2004.09.005>
- Hall, J. A., & Liu, D. (2022). Social media use, social displacement, and well-being. *Current Opinion in Psychology*, 46, 101339. <https://doi.org/10.1016/j.copsyc.2022.101339>
- Huang, C. (2017). Time spent on social network sites and psychological well-being: A meta-analysis. *Cyberpsychology, Behavior, and Social Networking*, 20(6), 346–354. <https://doi.org/10.1089/cyber.2016.0758>
- Hunt, M. G., Marx, R., Lipson, C., & Young, J. (2018). No more FOMO: Limiting social media decreases loneliness and depression. *Journal of Social and Clinical Psychology*, 37(10), 751–768. <https://doi.org/10.1521/jscp.2018.37.10.751>
- Kemp, S. (2021). *Digital 2021 October Global Statshot Report*. Retrieved from DataReportal—Global Digital Insights: <https://datareportal.com/reports/digital-2021-october-global-statshot>
- Kim, Y., Sohn, D., & Choi, S. M. (2011). Cultural difference in motivations for using social network sites: A comparative study of American and Korean college students. *Computers in Human Behavior*, 27(1), 365–372. <https://doi.org/10.1016/j.chb.2010.08.015>
- Krause, H., Deters, F. G., Baumann, A., & Krasnova, H. (2022). Active social media use and its impact on well-being—An experimental study on the effects of posting pictures on Instagram. *Journal of Computer-Mediated Communication*, 28(1). <https://doi.org/10.1093/jcmc/zmac037>
- Kraut, R. E., Patterson, M. J., Lundmark, V., Kiesler, S., Mukhopadhyay, T., & Scherlis, W. L. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, 53(9), 1017–1031. <https://doi.org/10.1037/0003-066x.53.9.1017>
- Leung, L. (2013). Generational differences in content generation in social media: The roles of the gratifications sought and of narcissism. *Computers in Human Behavior*, 29(3), 997–1006. <https://doi.org/10.1016/j.chb.2012.12.028>
- Marttila, E., Koivula, A., & Räsänen, P. (2021). Does excessive social media use decrease subjective well-being? A longitudinal analysis of the relationship between problematic use, loneliness and

- life satisfaction. *Telematics and Informatics*, 59, 101556. <https://doi.org/10.1016/j.tele.2020.101556>
- Nowland, R., Necka, E. A., & Cacioppo, J. T. (2017). Loneliness and social internet use: Pathways to reconnection in a digital world? *Perspectives on Psychological Science*, 13(1), 70–87. <https://doi.org/10.1177/1745691617713052>
- Orben, A., Przybylski, A. K., Blakemore, S., & Kievit, R. A. (2022). Windows of developmental sensitivity to social media. *Nature Communications*, 13(1). <https://doi.org/10.1038/s41467-022-29296-3>
- Ortiz-Ospina, E. (2019). *The rise of social media*. Retrieved from Our World in Data: <https://ourworldindata.org/rise-of-social-media>
- Roberts, J. A., & David, M. E. (2023). On the outside looking in: Social media intensity, social connection, and user well-being: The moderating role of passive social media use. *Canadian Journal of Behavioural Science*, 55(3), 240–252. <https://doi.org/10.1037/cbs0000323>
- Sewall, C., Bear, T., Merranko, J., & Rosen, D. (2020). How psychosocial well-being and usage amount predict inaccuracies in retrospective estimates of digital technology use. *Mobile Media & Communication*, 8(3), 379–399. <https://doi.org/10.1177/2050157920902830>
- Sheldon, P., Rauschnabel, P. A., Antony, M. G., & Car, S. (2017). A cross-cultural comparison of Croatian and American social network sites: Exploring cultural differences in motives for Instagram use. *Computers in Human Behavior*, 75, 643–651. <https://doi.org/10.1016/j.chb.2017.06.009>
- Twenge, J. M., Haidt, J., Blake, A. B., McAllister, C., Lemon, H., & Roy, A. L. (2021). Worldwide increases in adolescent loneliness. *Journal of Adolescence*, 93(1), 257–269. <https://doi.org/10.1016/j.adolescence.2021.06.006>
- Twenge, J. M., & Spitzberg, B. H. (2020). Declines in non-digital social interaction among Americans, 2003–2017. *Journal of Applied Social Psychology*, 50(6), 363–367. <https://doi.org/10.1111/jasp.12665>
- Valkenburg, P. M., & Peter, J. (2007). Online communication and adolescent well-being: Testing the stimulation versus the displacement hypothesis. *Journal of Computer-Mediated Communication*, 12(4), 1169–1182. <https://doi.org/10.1111/j.1083-6101.2007.00368.x>
- Verduyn, P., Lee, D. S., Park, J., Shablack, H., Orvell, A., Bayer, J. B., Ybarra, O., Jonides, J., & Kross, E. (2015). Passive facebook usage undermines affective well-being: Experimental and longitudinal evidence. *Journal of Experimental Psychology: General*, 144(2), 480–488. <https://doi.org/10.1037/xge0000057>

**Béatrice d'Hombres** (Ph.D.) leads the Survey Methods and Analysis Centre (SMAC) within the Science for Modelling, Monitoring and Evaluation Unit at the Joint Research Centre (JRC) of the European Commission. She is the coordinator for the European Parliament Pilot Project on Loneliness at the JRC. With over 17 years of experience as a researcher and policy analyst at the JRC, Dr. d'Hombres has worked in various fields, including labour economics, health economics and education economics, using applied econometric statistics and survey data analysis methodologies. Her research has been published in international journals such as the *European Economic Review*, *Health Economics*, *Social Science & Medicine*, the *B.E. Journal of Economic Analysis & Policy* and *Social Indicators Research*.

**Chiara Gentile** (M.Sc) is a data scientist at the Joint Research Centre (JRC) of the European Commission. She works in the Disaster Risk Management Knowledge Centre (DRMKC), focusing on global conflicts models and trends. She pursued her university studies in economics at the University of Rome Tor Vergata and the Solvay Brussels School of Economics and Management. She first joined the JRC as a member of the Survey Methods and Analysis Centre (SMAC), contributing to research on quality of life in cities and loneliness in the European Union.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter’s Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter’s Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



# Chapter 6

## Loneliness, Societal Preferences and Political Attitudes



Alexander Langenkamp and Elena Stepanova

**Abstract** Loneliness and social and civic behaviours are intertwined in complex ways, and only a limited number of studies have explored these relationships. This chapter explains why loneliness and social isolation not only have implications for the health of the individuals affected (which is the focus of Chap. 4) but also can be seen as a threat to the well-being of our societies and to the vitality of our democracies. The chapter illustrates that loneliness and isolation are not just conceptually distinct but are associated with divergent outcomes. We find that behavioural preferences reported by lonely individuals differ widely from those reported by socially isolated individuals for many societal contexts, highlighting that being *alone* is different from being *lonely*. Loneliness and social isolation are both correlated with low interpersonal trust and reduced political efficacy (the extent to which a person thinks their voice counts in politics). However, lonely individuals tend to be more inclined to engage in risk-taking behaviours, potentially impacting community safety. Moreover, in contrast to socially isolated individuals, lonely individuals exhibit a greater willingness to donate to good causes and volunteer for charities and non-profit organisations. They also show a more long-term orientation, saying that they prioritise long-term benefits over short-term gains.

### 6.1 Introduction

Loneliness has been studied predominantly within psychology and its sub-disciplines. Only recently has this psychological research been explored in the field of economics, where loneliness has mainly been viewed as a public health issue due to its negative health outcomes, notably increased risk of early mortality and

---

A. Langenkamp  
Goethe University Frankfurt, Westend-Nord, 60323 Frankfurt am Main; PEG Building Room  
3G151, Frankfurt am Main, Germany  
e-mail: [Langenkamp@soz.uni-frankfurt.de](mailto:Langenkamp@soz.uni-frankfurt.de)

E. Stepanova (✉)  
European Commission, Joint Research Centre (JRC), Ispra, Italy  
e-mail: [Elena.Stepanova@ec.europa.eu](mailto:Elena.Stepanova@ec.europa.eu)

higher likelihood of reporting depression (see Chap. 4). However, there has been a lack of research on the links between loneliness and social preferences and political attitudes, a gap this chapter aims to address (Yang, 2019).

Social preferences are crucial as many theories of human behaviour, in economics and neighbouring disciplines, assume that a set of preferences drives individual decision-making. This includes preferences about risks, altruism and trust. Studying associations between loneliness and these preferences helps address the gap in the literature on the topic.

The analyses conducted in this chapter focus on differences in social and political preferences between individuals who are lonely and those who are socially isolated. As explained in Chap. 2, loneliness is conceptually and empirically distinct from related concepts such as objective social isolation. Being isolated does not necessarily mean that a person experiences the unmet desire for interactions that characterises feeling of loneliness. We therefore surmised that there might be detectable differences in the way these two groups interact with their communities.

This is important as studies have repeatedly found only a small overlap between the two groups, which implies that these are two distinct, albeit related, phenomena. However, direct comparisons between the two groups and their social and political attitudes are scarce.

Data from the European Union Loneliness Survey, the first EU-wide survey on loneliness (see Chap. 2 for a detailed description), allow us to shed light on the relationship between social and political preferences and loneliness.

## 6.2 Literature Review

### 6.2.1 *Socio-Behavioural Preferences*

Social preferences are universally observed attitudes, beliefs or behavioural tendencies that influence socio-economic decision-making across various cultures and societies. Key preferences include: trust, altruism and prosocial behaviour, attitudes towards risks, uncertainty avoidance and long-term versus short-term time orientation—how people view and value time, whether they prioritise long-term benefits over short-term gains (Falk et al., 2018).

In the literature, the most studied concept is the one of trust. Scholars from different fields have investigated the role of trust as a key driver of social and economic progress within a specific society (Algan & Cahuc, 2014, for a review). For example, it is commonly agreed that a considerable extent of economic inequality in the world can be explained by the lack of mutual confidence and trust. High levels of trust have also been linked to higher economic growth and prosperity (Ahn & Hemmings, 2000; Knack & Keefer, 1997; Putnam, 2000; Temple, 2000), lower crime rates (Buonanno et al., 2009) and better subjective well-being (Boarini, 2012; Helliwell & Wang, 2010). Importantly, social trust is associated with a higher legitimacy of political and



social institutions as well as citizens' policy compliance (Jäckle et al., 2023; Marien et al., 2011). As such, social trust is considered a vital societal resource for modern democracies.

Political theory suggests that social trust stems from social interactions and cooperation (Putnam, 2000). On the other hand, high levels of interpersonal trust are likely to result in higher intensity of social interactions. Many studies have focused on this relationship both in causal and correlational designs (Delhey & Newton, 2003; Glanville et al., 2013; Sturgis et al., 2009; Welch et al., 2007). The theorised mechanisms assume that positive experiences in social interactions, form views that social cooperation is beneficial and that most people have mutual interests in mind.

Several studies in sociology and psychology have demonstrated the negative relation between loneliness and trust (Bellucci, 2020; Langenkamp, 2023; Rotenberg et al., 2010). Importantly, as loneliness can occur independently from social isolation, these authors do not assume that social cooperation or relationships drive this association, but that loneliness exerts its influence on distrust through a perception bias. Namely, as loneliness signals a dissatisfaction with the personal relationship, lonely individuals develop hyper vigilant mindsets for socially threatening signals (Qualter et al., 2015; Spithoven et al., 2017). This leads, in the long run, to a perception bias emphasising more negative than positive social experiences. Consequently, it is then assumed that this negative perception bias, ultimately, leads to lower social trust. Low trust among lonely individuals could result in a concerning self-reinforcing cycle, where lack of trust in others determines a lower number of interactions (or worsens their quality) hence increasing loneliness. When loneliness is widespread, this could impact societal cohesion and trust. While the existing literature suggests that isolation as well as loneliness contribute to the development of distrust, the concepts are mostly investigated independently from each other and most studies do not compare the association of loneliness and social isolation.

Given the link between distrust and loneliness, scholars argued that lonely individuals should be characterised by a self-preservation mindset and risk avoidance in social settings (Spithoven et al., 2017). However, as Spithoven et al. (2017) point out, the literature linking loneliness to self-protective behaviour is inconclusive and characterised by mixed results.

Given the association of loneliness with low trust, one might assume that loneliness is also linked to reduced prosocial behaviour. However, results of the limited empirical literature are inconsistent. For instance, Bellucci, 2020 finds a strong propensity of lonely individuals to help and support others. He argues that '*lonely individuals might engage in behaviours signalling positive social qualities (e.g. altruistic motives) that could help them increase the chances to establish meaningful and long-lasting social ties with others*' (Bellucci, 2020, p. 4). In contrast, other studies found that episodes of loneliness are negatively associated with prosocial behaviour (Archer Lee et al., 2022). While more research is needed to fully understand the association between loneliness and prosocial behaviour, research concerned with social exclusion suggests that this might stem from an attitude-behaviour bias. Studies found that social exclusion decreases prosocial behaviour in anonymous game settings, but fosters reported prosocial behaviour when individuals were aware that they are

observed (Mead et al., 2011; Twenge et al., 2007). In the context of loneliness, lonely individuals might use prosocial attitudes to connect with others in public settings, but avoid such behaviour if they cannot expect reciprocal benefits from it. Still, the impact of loneliness on intended prosocial and actual behaviour is underexplored. Overall, the existing literature on the relationship between loneliness and prosocial behavioural is scarce and usually limited to experimental designs (in contrast to studies using representative, cross-national datasets).

## 6.2.2 *Political Preferences*

Research exploring the impact of loneliness on political attitudes and behaviour is limited as well. Electoral research has produced a good foundation of studies showing the importance of individuals' social ties for voter turnout (Bhatti et al., 2020; Glaser, 1959). Many authors linked drastic changes in social relationships due to greater mobility opportunities and changes in communication due to technological innovations to outcomes such as political alienation and reduced electoral turnout (Kornhauser, 2013; Southwell, 2008). However, relatively little attention has been paid to the individuals' *perceived* lack of social ties, i.e. the feeling of loneliness. Scholars just recently introduced loneliness as an additional and independent predictor of electoral abstention (Langenkamp, 2021a, 2021b). These studies observe an association between perceived loneliness and reported voter turnout (controlling for social inclusion) in several representative samples from all around Europe at the cross-sectional level.

Langenkamp (2021a) found that every additional standard deviation in loneliness reduced individuals' probability to vote by about 4 percentage points in Germany and 2 percentage points in the Netherlands. The author found that one of the channels linking loneliness to reduced electoral turnout is a reduced perception of voting as a civic duty: in his empirical analysis, every additional standard deviation in the loneliness measure decreased the probability to perceive voting as a civic duty by roughly 4 percentage points in both countries. Furthermore, this reduction in the perception of voting as a civic duty was responsible for a significant share of the drop in voting turnout. More precisely, participants' sense of duty accounted for over 20% of the relationship between loneliness and voting behaviour. A key point made by the study is that the role of loneliness goes beyond poor social embeddedness, as the analysis also controls for household size and the frequency of meetings with friends. Langenkamp (2021b) builds on this previous work and explores the link between loneliness and other types of political participation. Using data from the European Social Survey (34 European countries) the study finds that loneliness decreases the probability to participate in elections, sign petitions and contact politicians (suppression hypothesis). However, loneliness seems to be positively associated with participation in protests and no significant association was found between loneliness and party membership. The author hypothesised that being part of a political group requires a level of social commitment which might be discouraging for

socially anxious and lonely individuals. As for the magnitudes, the strongest relation was found for the probability of voting, as every additional standard deviation in the loneliness scale decreased the probability to vote by 1.9%.

Some authors as well as politicians<sup>1</sup> drew the connection between changes in social relationships and the rise of populism, stating that lonely individuals are a vulnerable target group for extremist and populist parties (Buechler, 2013; Gaffney, 2020; Hertz, 2021). Despite the uncontested view that social relationships play an important role in voter mobilisation and political decision-making, a person's social belonging is only rarely considered in empirical models explaining populist party preference (Stockemer et al., 2018). Using four waves of the European Social Survey, Langenkamp and Bienstman (2022) find that while social belonging on the individual level is just weakly and inconsistently associated with support for the populist left, it plays an important and homogeneous role in voting populist parties on the right. While this study did not measure loneliness directly and conceptualised belongingness more broadly, other studies focused on loneliness directly even though they are still scarce. One German study focussing on individuals between 16 and 26 years found that lonely participants hold more authoritarian and antidemocratic views and were more likely to believe in conspiracy theories (Küpper & Luhmann, 2023). An US American study found similar correlations showing that lonely individuals hold more xenophobic and authoritarian views (Floyd, 2017). Still, the correlative evidence linking loneliness to populism is limited and no study so far explored the association between loneliness and populism directly in a multinational sample.

### 6.2.3 *Value Added of This Chapter to the Literature*

While there is initial evidence that loneliness is associated with certain social and political preferences, the body of empirical studies is very small and partially inconclusive. Overall, loneliness seems to be reliably associated with lower social trust and alienation and, consequentially, less political participation. The results linking loneliness to other social preferences such as prosocial behaviour or risk avoidance are mixed. These initial findings, therefore, need replication and extension. Importantly, existing cross-national studies are mostly based on the European Social Survey which operationalised loneliness using a single item question measuring loneliness (in contrast to social isolation). As such, existing findings linking loneliness to preferences such as altruism, volunteering or donation need replication using different measures of loneliness and varying target populations across Europe. Likewise, most studies do not compare and contrast socially isolated and lonely individuals empirically.

---

<sup>1</sup> See for example, 'Weaponization of Loneliness' in *The Atlantic* by Hillary Clinton (August 2023), <https://www.theatlantic.com/ideas/archive/2023/08/hillary-clinton-essay-loneliness-epidemic/674921/>.

In this chapter, we investigate the association between loneliness and several dimensions of social preferences and political attitudes (trust, altruism, volunteering and risk taking as well as political efficacy and voting behaviour) and contrast socially isolated and lonely individuals in a large, cross-national sample. Furthermore, by measuring loneliness using the UCLA scale (see Chap. 2 for an introduction into the scale), we show that the previously found pattern can be replicated using this different empirical approach.

### 6.3 Data, Methods and Limitations

Our analysis relies on the data from EU Loneliness Survey which was introduced already in Chap. 2. The survey was conducted in November and December 2022 and targeted the general population aged 16 and above in all 27 EU member states. Respondents, were recruited from established consumer panels, with approximately 1,000 respondents per country except for Cyprus, Luxemburg and Malta (503, 370 and 529 respondents respectively). Quotas based on the population of each member state were used for sample selection from the online consumer panels. Quotas reflected the target population in terms of age, gender, educational attainment and NUTS region of residence based on available data from Eurostat. Moreover, ex-post weights were calculated to account for possible further underrepresentation of the mentioned socio-demographic groups. All numbers and results reported are obtained using EU 27 weights.

*Lonely* individuals are defined as those who reported feeling lonely most or all of the time over the 4 weeks preceding the EU Loneliness Survey. The overall share of lonely individuals according to this measure in the dataset is 13.1%. Loneliness can be also defined using indirect measures, such as the UCLA scale (see Chap. 2). Based on the UCLA scale, individuals are defined as lonely if they score 8 or 9 out of a total score to be reached being 9. The overall share of lonely individuals according to this measure in the dataset is 11.5%.

*Socially isolated* individuals are defined as those who reported having no friends with whom they have a close relationship. The overall share of socially isolated respondents in the dataset is 7.7%. Only 2.5% of respondents in the dataset are socially isolated and feeling lonely at the same time highlighting the fact that loneliness is not equivalent to social isolation.

With respect to outcome variables, we focus on a selection of social attitudes and preferences (comprising trust beliefs, altruistic motives and volunteering, willingness to take risks and wait for future benefits) and political attitudes (comprising political efficacy and voter orientation).

### 6.3.1 *Socio-Behavioural Preferences*

The following questions were used to measure individuals' social preferences and attitudes (following the literature on the topic, (Dohmen et al., 2011; Falk et al., 2018):

- *Interpersonal trust.* 'In general, how much do you trust most people?' Answer options were on a Likert scale from 1 ('not at all') to 10 ('completely'). Respondents who selected options 1, 2 or 3 were classified as having *low trust*, while those who selected options 8, 9, or 10 were classified as having *high trust*.
- *Altruism.* 'How well do the following statements describe you as a person? I'm willing to give to good causes without expecting anything in return'. Answers options were on a Likert scale with 1 ('It does not describe me at all') to 10 ('It describes me perfectly'). A respondent is classified to have *high willingness to donate* if he selected options 8, 9 or 10.
- *Volunteering (self-reported prosocial behaviour).* 'How well do the following statements describe you as a person? I'm willing to volunteer my time to a charity or a non-profit organisation.' Answers options were on a Likert scale with 1 ('It does not describe me at all') to 10 ('It describes me perfectly'). A respondent is classified to have *high willingness to volunteer* if he selected options 8, 9 or 10.
- *Risk-taking.* 'Are you more of a risk-taking person or do you try to avoid risks when it concerns each of the following areas: (a) driving, riding a bike etc., (b) taking financial decisions, (c) with your health'. Answers options were on a Likert scale with 1 ('Not at all willing to take risks') to 10 ('Fully prepared to take risks'). *High risk-taking* means selecting option 8, 9 or 10.
- *Long-term Orientation.* 'How well do the following statements describe you as a person? I'm willing to give up something that is beneficial for me today in order to benefit more from that in the future.' Answers options were on a Likert scale with 1 ('It does not describe me at all') to 10 ('It describes me perfectly'). A respondent is classified to have *high long-term orientation* if he selected options 8, 9 or 10.

The associations presented in this chapter remain when moving the cut-off point of 8 by plus or minus one point indicating that the choice of the threshold is unlikely to have an impact on the results.

### 6.3.2 *Political Preferences*

The following two survey questions were used to characterise political attitudes. First, we examine the relationship between loneliness and internal political efficacy. We use a direct question that inquiries about the extent to which respondents believe they have the ability to influence government actions:

- *Perceived influence on politics*. ‘To what extent do you agree with the following statement? People like me don’t have any say about what the government does?’ Answers options were on a Likert scale with 1 (‘Not at all’) to 10 (‘To a great extent’). *Perceived low influence on politics* means selecting option 8, 9 or 10.

Furthermore, respondents were asked about their voting intentions, specifically which party they would support if an election were held the following day, or whether they would choose to abstain from voting.

- *Voting (self-reported civic behaviour)*. ‘If there were a general election tomorrow, which party would you support?’ Among the answer options, a most recent list of country specific political parties was provided (399 parties in total) and one of the answer options was ‘Most likely I wouldn’t vote’. We used this variable to generate a dummy variable indicating whether a person reports a tendency to abstain from voting.

17.3% of respondents chose ‘Don’t know’ or ‘Prefer not to say’ answer options for the voting question, hence are considered as non-respondents. High non-response rate to voting question is a common issue in all surveys aiming to measure voting behaviour. Excluding non-respondents from the analysis, we get that 13.3% of respondents reported that most likely they wouldn’t vote, 0.9% vote in another country, 4.5% vote parties not represented in the 9th European Parliament (42 parties in total), and the remaining 81.3% of respondents can be classified into political groups of the 9th European Parliament based on the party they support:

- Identity and Democracy (ID)
- European Conservatives and Reformists (ECR)
- European People’s Party (EPP)
- Renew Europe (Renew)
- Greens–European Free Alliance (Greens–EFA)
- Progressive Alliance of Socialists and Democrats (S&D)
- The Left in the European Parliament (GUE–NGL)
- *Non-inscrits*—non-attached members, abbreviated NA, are Members of the European Parliament (MEP) who do not belong to one of the recognised political groups.

Summary statistics Table 6.1 reports the prevalence of preferences, non-response rate for specific question and total number of collected responses in our dataset.

Our analysis is based on several multivariate logistic regressions, one for each socio-behavioural preference or political preference of an individual as an outcome variable and *feeling lonely* dummy variable as the main explanatory variable. We differentiate between two loneliness measures, the direct (single item) and indirect loneliness measures (UCLA scale) to show that conclusions are robust to the choice of the measure. Our set of control explanatory variables includes: age, gender, education attainment, household composition, employment status, migration status; and country fixed effects. Additionally, set of control variables includes childhood experiences: presence of close friends and close relations with parents at young age (see Chap. 4 for more information on these variables).

**Table 6.1** Summary statistics on the prevalence of the preferences in EU Loneliness Survey dataset (in terms of percent of respondents)

	Percent of respondents	Total number of respondents	Percent of non-respondents
<i>(a) Social and other behavioural preferences</i>			
Low trust	17.0	22725	1.5
High willingness to donate	38.8	22468	2.6
High willingness to volunteer	27.1	22452	2.6
Long-term orientation	32.3	22419	2.8
High risk-taking in all three domains	7.9	21738	5.7
<i>(b) Political preferences</i>			
Perceived low influence on politics	35.8	22491	2.5
Most likely I wouldn't vote	13.3	19601	17.3
<i>Voting</i> Identity and Democracy (ID)	10.0	19601	17.3
<i>Voting</i> European Conservatives and Reformists (ECR)	7.7	19601	17.3
<i>Voting</i> European People's Party (EPP)	18.4	19601	17.3
<i>Voting</i> Renew Europe (Renew)	11.7	19601	17.3
<i>Voting</i> Greens—European Free Alliance (Greens—EFA)	5.0	19601	17.3
<i>Voting</i> Progressive Alliance of Socialists and Democrats (S&D)	15.6	19601	17.3
<i>Voting</i> The Left in the European Parliament (GUE-NGL)	7.7	19601	17.3
<i>Voting Non-inscrits</i> —non-attached members	5.0	19601	17.3
<i>Voting</i> parties not represented in the European Parliament	4.5	19601	17.3
<i>Voting</i> in another country	0.9	19601	17.3

*Note* The first column provides the share of respondents having specific preference. The second column displays the total number of respondents who answered specific question. The third column provides the share of respondents not answering the question out of the total number of respondents to the survey, 23061. *Source* EU Loneliness Survey, 2022, authors' calculations

The data of the EU Loneliness Survey doesn't allow us to establish causal relationships. Furthermore, since the EU Loneliness Survey is not a true probability sample, this restricts the generalisability of our results, especially in terms of cross-countries comparison. In addition, for some questions, especially those on voting behaviour, item non-response decreases the sample probably not at random. Despite these constraints, we believe that the associations identified are valuable in their own regard. Moreover, the alignment of our findings with existing literature reinforces their credibility.

## 6.4 Results

### 6.4.1 *Social Preferences*

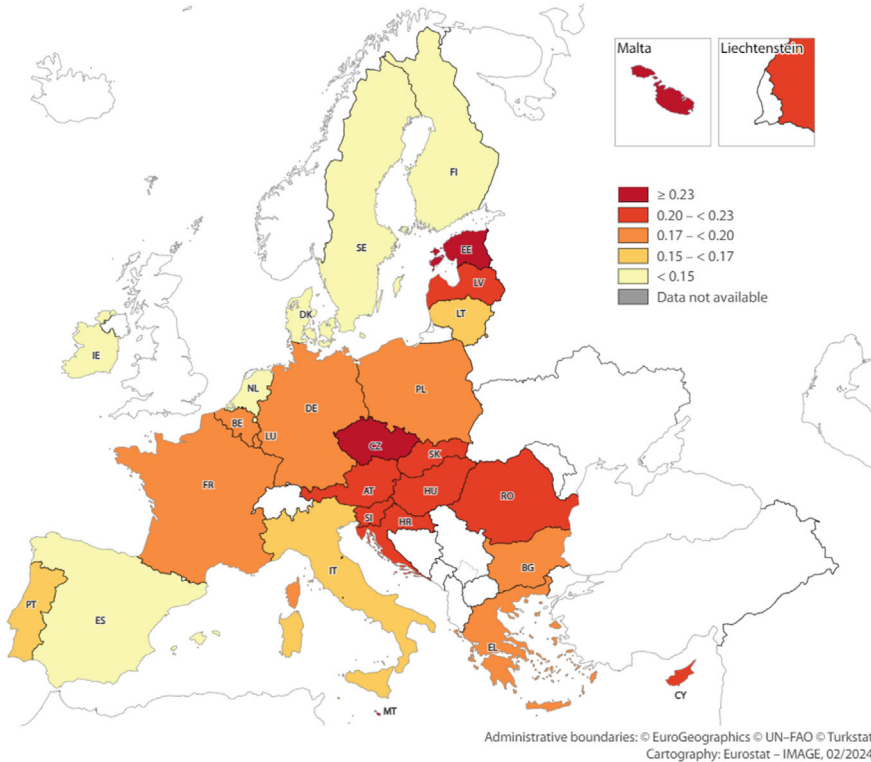
We start our analysis investigating the link between loneliness and social preferences. We first look at trust as its role of a key driver of social and economic progress within a specific society was extensively outlined in the literature (see Algan & Cahuc, 2014, for a review). Our data reveals a geographical divide in the prevalence of trust across countries, which aligns broadly with previous studies. Northern EU countries exhibit high levels of interpersonal trust, whereas Eastern European and Baltic countries display low levels (Fig. 6.1).

The precise mechanism linking loneliness and trust remains elusive. Some scholars posit that loneliness may stem from a deficiency in trust towards others (Rotenberg et al., 2010), a foundation established in early childhood. The EU Loneliness Survey also gathered information on respondents' childhood experiences. On a bivariate level, the EU Loneliness Survey data shows that both lonely individuals and those reporting low levels of trust tend to have fewer close friends and fewer close family relations than others (Fig. 6.2a, b). As depicted in Fig. 6.2c, d, a lower percentage of lonely individuals and those with low trust beliefs had close friends in childhood (54.9% and 62.7%, respectively) and good relationships with parents during childhood (55.3% and 61.9%, respectively). In contrast, respondents not feeling lonely and those with high trust in others had higher levels of social connectedness in childhood, with more than 70% reporting positive experiences in both categories (close friends in childhood and good relationships with parents during childhood). These findings underscore the intricate interplay between social connections during childhood, loneliness and trust later in life. The data suggests that individuals with lower levels of social integration in their formative years may be more susceptible to both loneliness and diminished trust in adulthood.<sup>2</sup> To what extent the association between loneliness and trust is bidirectional, however, is beyond the scope of this analysis.

---

<sup>2</sup> Chapter 4 provides a detailed examination of the childhood module of the survey, emphasising the significance of childhood experiences on later life aspects, such as health.

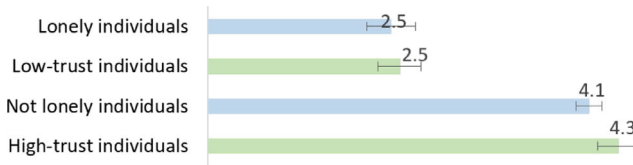
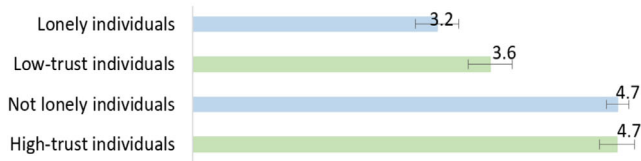
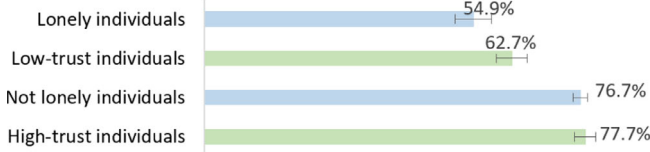
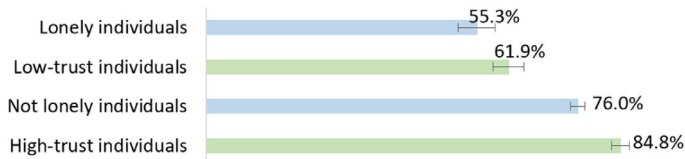




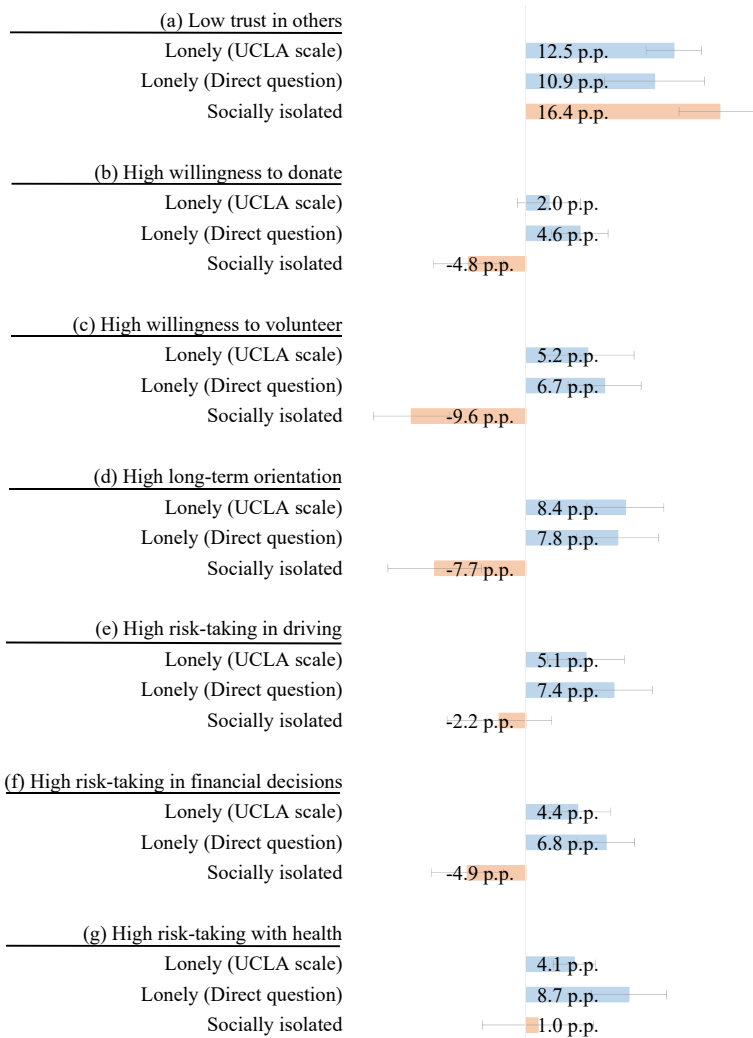
**Fig. 6.1** Prevalence of low trust across countries (in percentage of respondents in a country). *Note* Respondents selecting options 1, 2 or 3 on a Likert scale from 1 (‘not at all’) to 10 (‘completely’) as an answer to the question ‘In general how much do you trust most people?’ were classified as having low trust. 22,725 respondents answered the question. *Source* EU Loneliness Survey, 2022, authors’ calculations

To delve deeper into the connection between loneliness, social connection and trust, Fig. 6.3 illustrates the relation between feeling lonely and the probability of holding low trust beliefs. This analysis takes into account respondents’ individual socio-economic characteristics and geographic location in a context of multivariate logistic regression. As depicted in Fig. 6.3, respondents feeling lonely (according to the direct measure) have a 10.9 percentage point higher likelihood of low trust beliefs compared to other survey participants. This observation aligns with existing literature which suggests that lonely individuals tend to exhibit lower levels of trust (Cuccu & Stepanova, 2021, for an in-depth review).

Intriguingly, despite the previous findings that lonely individuals are more negatively biased toward others and more socially withdrawn as they report lower trust in others and fewer close friends, data from the EU Loneliness Survey reveals that those experiencing loneliness have stronger willingness to behave altruistically and support

**(a) Average number of close friends****(b) Average number of family members with whom one has close relationships****(c) Share of respondents reporting a presence of close friends in childhood****(d) Share of respondents reporting good relationship with parents in childhood**

**Fig. 6.2** Social connectedness by loneliness status and trust beliefs, in present and in childhood. *Note* The quality of the relationship with parents is captured by the following question: ‘How would you describe your relationship with your parents when you were growing up?’ with answers expressed on a scale ranging from 1 (not close at all) to 10 (very close). Respondents choosing answer options higher than 7 are classified as reporting good relationship with parents in childhood (22,554 respondents answered the question). The study measures social connectedness in childhood by asking individuals whether they had a close group of friends they felt comfortable spending the time with during their school times. Respondents choosing ‘Most of the time’ or ‘Always’ as answer options were classified as reporting a presence of close friends in childhood (22,657 respondents answered the question. Answer options were ‘Always’, ‘Most of the time’, ‘Sometimes’, ‘Rarely’, ‘Never’). The survey inquired on the number of close friends and the number family members with whom one has close relationship as open input questions (21,795 answered the question on the number of friends and 21,956 answered the question on the number of family members). Bars also show the 95% confidence intervals of the population estimates. *Source* EU Loneliness Survey, 2022, authors’ calculations



**Fig. 6.3** Association between *feeling lonely*, being socially isolated and the likelihood of having certain preferences. *Note* The figure shows predicted values based on multivariate regressions for the increase (in percentage-points) in the likelihood of reporting a certain preference associated with (1) being lonely (vs not being lonely) according to the UCLA scale, (2) being lonely according to the direct single item question or (3) being socially isolated. The set of control explanatory variables includes: age, gender, educational attainment, household composition, employment status, migration status, presence of close friends and close relations with parents at young age and country fixed effects. Regressions sample size for loneliness measures (direct and indirect): (a) 22,725, (b) 22,468, (c) 22,452, (d) 22,419, (e) 21,883, (f) 22,447, (g) 22,504; for social isolation measure: (a) 21,534, (b) 21,323, (c) 21,312, (d) 21,292, (e) 20,756, (f) 21,289, (g) 21,339. 95% confidence intervals are displayed. *Source* EU Loneliness Survey, 2022, authors' calculations

others. Figure 6.3 illustrates the association between feeling lonely and the likelihood of exhibiting a high willingness to donate and volunteer. This analysis accounts for respondents' socio-economic characteristics and geographical location. Lonely individuals (according to the direct measure) demonstrate a 6.7 percentage point higher probability to report willingness to volunteer and 4.6 percentage point higher probability to report willingness to donate compared to other survey participants.

One possible explanation is that feelings of loneliness are supposed to work as warning signal to prompt individuals to seek out social connections.<sup>3</sup> Loneliness might motivate prosocial behaviours that help build meaningful social ties and fulfil one's need to belong. Individuals who experience transient feelings of loneliness might crave for social interaction (Baumeister & Leary, 1995). Notably, while this analysis indicates that lonely individuals report more willingness to show prosocial behaviours, we do not know whether this translates into actual behaviour. As reviewed in the theory section, past studies concerned with social exclusion and prosocial behaviour suggest a strong attitude-behaviour gap, and our analysis should be interpreted in light of this limitation.

Overall, these findings seems to support previous research on the topic (Bellucci, 2020) suggesting that lonely individuals might tend to resort to alternative methods of engaging with others (such as volunteering activities) to seek contacts and might engage in behaviours signalling positive social qualities (such as donating).

#### **6.4.2 Risk-Taking Preferences and Long-Term Orientation**

In addition to social preferences, Fig. 6.3 shows the association of feeling lonely and the likelihood of reporting long-term orientation (willingness to wait for future benefits), which turns out to be 7.8 percentage points higher among lonely individuals than among other survey respondents. In contrast, we find that socially isolated individuals tend to show less long-term orientation, indicating that socially isolated individuals prefer immediate benefits while lonely individuals tend to wait longer.

In the context of risk-taking behaviour, the EU Loneliness Survey data reveals that lonely individuals have inclinations towards risk-taking in areas such as health,<sup>4</sup> driving and financial decisions. As shown in Fig. 6.3 the effect of feeling lonely most of the time or all of the time is associated with a 7.4 percentage-points higher likelihood of risk-taking while driving. This result might be influenced by the heightened social withdrawal experienced by lonely individuals, which could make them less attentive to the safety of others. Figure 6.3 shows a 6.8 percentage points higher likelihood of risk-taking in financial decisions and an 8.7 percentage points higher

---

<sup>3</sup> Studies (Cacioppo & Cacioppo 2018) suggest that this warning signal is an evolutionarily developed alert, similar to hunger or thirst. It's a natural signal that the human body sends when it lacks something essential for survival. Thousands of years ago, when humans were hunters and gatherers, separation from a group significantly lowered chances of survival.

<sup>4</sup> Examples of risk-taking behaviour in health matters include smoking, alcohol and drug abuse.

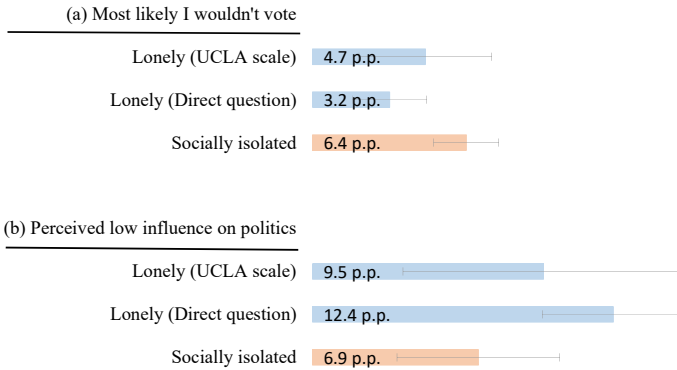
likelihood of risk-taking in health for lonely. As reviewed in the literature section, the findings linking loneliness to self-preservation are mixed. Still, the consistent tendency of lonely individuals to report willingness to take risks across domains is surprising.

We don't see significant differences in results when an indirect measure of loneliness (UCLA scale) is used instead of the direct question. At the same time, we observe drastic differences between loneliness and social isolation in terms of reported preferences. Even if both groups of respondents report lower trust levels, they differ in all other preferences analysed. Socially isolated respondents report lower willingness to donate (minus 4.8 percentage points) or volunteer (minus 9.6 percentage points) compared to other survey participants. They appear to be less ready to wait for future benefits (minus 7.7 percentage points) and to be willing to take risks (minus 2.2 percentage points in driving and minus 4.9 percentage points in taking financial decisions) compared to other survey participants. This finding highlights the fact that loneliness is not equivalent to social isolation as the two groups, respondents feeling lonely and the ones being socially isolated, report opposite attitudes and beliefs possibly resulting in different behavioural outcomes.

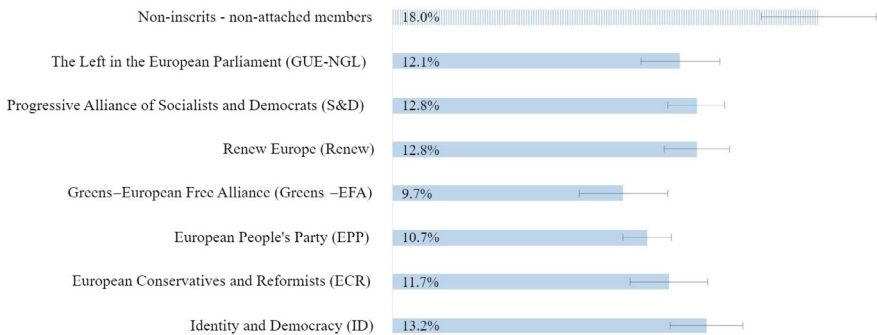
### 6.4.3 *Political Preferences*

Lonely respondents exhibit withdrawal from political participation, and this finding is in line with the literature (Langenkamp, 2021a, 2021b). They are more likely to think that they don't have any say in what government does, and they are more likely not to vote. The EU Loneliness Survey data seems to confirm these associations. As shown in Fig. 6.4 feeling lonely (according to the direct measure) is associated with a 12.4 percentage points higher likelihood of perceiving that one doesn't have any say about what the government does and with a 3.2 percentage-points higher likelihood of not voting. This analysis takes into account respondents' individual socio-economic characteristics and geographic location in a multivariate regression analysis. The finding is broadly in line with scholars' opinion that affirms abstentious political behaviour of the lonely.

Figure 6.5 shows the share of lonely individuals among supporters of each political group of the 9th European Parliament. If lonely individuals voted in the same way as non-lonely, then 13.1% of each political party's supporters would consist of lonely individuals, corresponding to the average percentage of lonely in the sample. However, the share is marginally lower for political groups in the centre of the political spectrum (for example, it is 9.7% for 'Greens-European Free Alliance' and 10.7% for 'European People's Party'). The share of lonely individuals is high among supporters of non-inscrits, who do not belong to one of the recognised political groups and as a whole have no specific ties to each other. 18.0% of supporters of non-inscrits are respondents who feel lonely. Newly formed political parties that are not at the moment represented in the 9th European Parliament have lower share of lonely individuals among their supporters (5.9% of their supporters are respondents who feel lonely).



**Fig. 6.4** Association between *feeling lonely* and the likelihood of abstentious civic behaviour. *Note* The figure shows predicted values of increases in percentage points in the likelihood of reporting low civic engagement associated with (1) being lonely (vs not being lonely) according to the UCLA scale, (2) being lonely according to the direct question, or (3) being socially isolated. Predicted percentage points are based on multivariate regressions. Set of control explanatory variables includes: age, gender, education attainment, household composition, employment status, migration status, presence of close friends and close relations with parents at young age and country fixed effects. Regressions sample size for loneliness measures (direct and indirect): (a) 19,061, (b) 18,140; for social isolation measure: (a) 22,491, (b) 21,341. 95% confidence intervals are displayed. *Source* EU Loneliness Survey, 2022, authors' calculations



**Fig. 6.5** Percentage of lonely individuals among supporters of European Parliament political groups. *Note* Non-response rate to the voting question is 17.3%. The figure shows the share of lonely individuals (defined as such based on the direct question) among supporters of each political group of the 9th European Parliament. Bars also show the 95% confidence intervals of the population estimates. Among the answer options to voting question, a most recent list of country specific political parties was provided to respondents (399 parties in total). The parties were then mapped to political groups of the 9th European Parliament. *Source* EU Loneliness Survey, 2022, authors' calculations

### 6.4.4 *Limitations*

Our findings need to be interpreted in light of some limitations. Most importantly, due to the nature of the data we cannot draw any conclusions about the causal direction of the association. While we can say, for instance, that loneliness is associated with a lower willingness to vote, we do not know whether loneliness inhibits voting or whether political abstention causes a sense of loneliness. In a similar fashion, we cannot rule out unobserved confounders or self-selection. For instance, it is possible that individuals with specific personality predisposition are more likely to be socially isolated as well as are more likely to avoid volunteering. To ensure that no such self-selection causes the observed empirical pattern, further studies are advised to utilise longitudinal or experimental data.

## 6.5 Conclusions

We find that loneliness is associated with lower levels of interpersonal trust and a greater readiness to take risks. Loneliness is also correlated with greater willingness to volunteer for charities and non-profit organisations and to donate to good causes, as well as a readiness to prioritise long-term benefits over short-term gains.

Loneliness is not the same as being alone: the social and political preferences of lonely individuals differ markedly from those of socially isolated individuals. Socially isolated individuals show less inclination for such prosocial behaviour as volunteering and donating and display a more short-term orientation. It is therefore important to study the two groups separately to ensure that correct policy conclusions are drawn.

This chapter also sheds light on the association between loneliness and important societal resources and, as such, on the role of loneliness and isolation for social and political stability. We find that lonely individuals are more withdrawn from political life, in that they exhibit a low degree of *political efficacy* (i.e. they tend to agree that their voice does not count in the political life of their country). Correspondingly, loneliness is associated with a lower level of willingness to take part in elections.

On a practical level, our analysis replicates previous findings showing that loneliness weakens democratic institutions by eroding citizens' social trust and political efficacy and inhibiting voter turnout. While the direction of causality was not tested and a bidirectional relationship is possible—in particular with respect to trust and loneliness—we interpret our findings as additional evidence on the association between loneliness and declining turnout and political participation. Public policies aimed at preventing and combating loneliness therefore do not just foster health and well-being, but could also be regarded as promoting democracy.

The findings are only a first step towards understanding the potential impact of loneliness on European societies. Our analysis relies on conditional correlations and some causal evidence is still needed. Given the nature of the EU Loneliness

Survey data (i.e. self-reports), it was only possible to test an association between individual attitudes and subjective feelings of loneliness in this exercise. Individual attitudes have been shown to predict actual behaviours, even if there are disparities between attitudes and behaviours in different situations. Future longitudinal and experimental studies are hence needed to examine the relationships between loneliness and actual behaviour. A good example is Stepanova et al. (2024), in which the authors measure the actual trusting and trustworthiness behavior of lonely individuals in an incentivized trust game setting.

## References

- Ahn, S., & Hemmings, P. (2000). Policy influences on economic growth in OECD countries. OECD Economics Department Working Papers (246).
- Archer Lee, Y., Lay, J. C., Pauly, T., Graf, P., & Hoppmann, C. A. (2022). The differential roles of chronic and transient loneliness in daily prosocial behavior. *Psychology and Aging*.
- Algan, Y., & Cahuc, P. (2014). Trust, growth, and well-being: New evidence and policy implications. In *Handbook of economic growth* (Vol. 2, pp. 49–120). Elsevier.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.
- Bellucci, G. (2020). Positive attitudes and negative expectations in lonely individuals. *Scientific Reports*, *10*(1), 18595.
- Bhatti, Y., Fieldhouse, E., & Hansen, K. M. (2020). It's a group thing: How voters go to the polls together. *Political Behavior*, *42*, 1–34.
- Boarini, R. (2012). What makes for a better life?: The determinants of subjective wellbeing in OECD countries—Evidence from the Gallup world poll. OECD Economics Department Working Papers (3).
- Buechler, S. M. (2013). Mass society theory. In *The Wiley-Blackwell encyclopaedia of social and political movements*.
- Buonanno, P., Montolio, D., & Vanin, P. (2009). Does social capital reduce crime? *The Journal of Law and Economics*, *52*(1), 145–170.
- Cacioppo, J. T., & Cacioppo, S. (2018). Loneliness in the modern age: An evolutionary theory of loneliness (ETL). In *Advances in experimental social psychology* (Vol. 58, pp. 127–197). Elsevier.
- Cuccu, L., & Stepanova, E. (2021). Loneliness & social and civic behaviours, EUR 30929 EN, Publications Office of the European Union, Luxembourg. ISBN 978-92-76-45408-3. <https://doi.org/10.2760/802268>, JRC126983.
- Delhey, J., & Newton, K. (2003). Who trusts?: The origins of social trust in seven societies. *European Societies*, *5*(2), 93–137.
- Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., & Wagner, G. G. (2011). Individual risk attitudes: Measurement, determinants, and behavioral consequences. *Journal of the European Economic Association*, *9*(3), 522–550.
- Falk, A., Becker, A., Dohmen, T., Enke, B., Huffman, D., & Sunde, U. (2018). Global evidence on economic preferences. *The Quarterly Journal of Economics*, *133*(4), 1645–1692.
- Floyd, K. (2017). Loneliness corresponds with politically conservative thought. *Research in Psychology and Behavioral Sciences*, *5*(1), 13–21.
- Gaffney, J. (2020). *Political loneliness: Modern liberal subjects in hiding*. Rowman & Littlefield Publishers.
- Glanville, J. L., Andersson, M. A., & Paxton, P. (2013). Do social connections create trust? An examination using new longitudinal data. *Social Forces*, *92*(2), 545–562.



- Glaser, W. A. (1959). The family and voting turnout. *Public Opinion Quarterly*, 23(4), 563–570.
- Helliwell, J. F., & Wang, S. (2010). Trust and well-being. Technical report, National Bureau of Economic Research.
- Hertz, N. (2021). *The lonely century: How to restore human connection in a world that's pulling apart*. Penguin Random House.
- Jäckle, S., Trüdinger, E. M., Hildebrandt, A., & Wagschal, U. (2023). A matter of trust: How political and social trust relate to the acceptance of Covid-19 policies in Germany. *German Politics*, 32(4), 618–642.
- Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics*, 112(4), 1251–1288.
- Kornhauser, W. (2013). *Politics of mass society*. Routledge.
- Küpper, B., & Luhmann, M. (2023). Extrem einsam? Die demokratische Relevanz von Einsamkeitserfahrungen unter Jugendlichen in Deutschland. <https://www.progressives-zentrum.org/publication/extrem-einsam/>
- Langenkamp, A. (2021a). Lonely hearts, empty booths? The relationship between loneliness, reported voting behavior and voting as civic duty. *Social Science Quarterly*, 102(4), 1239–1254.
- Langenkamp, A. (2021b). Enhancing, suppressing or something in between—Loneliness and five forms of political participation across Europe. *European Societies*, 23(3), 311–332.
- Langenkamp, A., & Bienstman, S. (2022). Populism and layers of social belonging: Support of populist parties in Europe. *Political Psychology*, 43(5), 931–949.
- Langenkamp, A. (2023). The influence of loneliness on perceived connectedness and trust beliefs—Longitudinal evidence from the Netherlands. *Journal of Social and Personal Relationships*, 40(7), 2298–2322.
- Luhmann, M., Buecker, S., & Rüsberg, M. (2023). Loneliness across time and space. *Nature Reviews Psychology*, 2(1), 9–23.
- Marien, S., & Hooghe, M. (2011). Does political trust matter? An empirical investigation into the relation between political trust and support for law compliance. *European Journal of Political Research*, 50(2), 267–291.
- Mead, N. L., Baumeister, R. F., Stillman, T. F., Rawn, C. D., & Vohs, K. D. (2011). Social exclusion causes people to spend and consume strategically in the service of affiliation. *Journal of Consumer Research*, 37(5), 902–919.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon and Schuster.
- Qualter, P., Vanhalst, J., Harris, R., Van Roekel, E., Lodder, G., Bangee, M., et al. (2015). Loneliness across the life span. *Perspectives on Psychological Science*, 10(2), 250–264.
- Rotenberg, K. J., Addis, N., Betts, L. R., Corrigan, A., Fox, C., Hobson, Z., Rennison, S., Trueman, M., & Boulton, M. J. (2010). The relation between trust beliefs and loneliness during early childhood, middle childhood, and adulthood. *Personality and Social Psychology Bulletin*, 36(8), 1086–1100.
- Spithoven, A. W., Bijttebier, P., & Goossens, L. (2017). It is all in their mind: A review on information processing bias in lonely individuals. *Clinical Psychology Review*, 58, 97–114.
- Southwell, P. L. (2008). The effect of political alienation on voter turnout, 1964–2000. *Journal of Political & Military Sociology*, 131–145.
- Stepanova, E., Alt, M., & Hopfensitz, A. (2024). *Loneliness and trust: Evidence from a large-scale trust game experiment (forthcoming)*.
- Stockemer, D., Lentz, T., & Mayer, D. (2018). Individual predictors of the radical right-wing vote in Europe: A meta-analysis of articles in peer-reviewed journals (1995–2016). *Government and Opposition*, 53(3), 569–593.
- Sturgis, P., Patulny, R., & Allum, N. (2009). Re-evaluating the individual level causes of trust: A panel data analysis. *British Journal of Sociology*.
- Temple, J. (2000). Growth effects of education and social capital in the OECD countries. OECD Economics Department Working Papers (263).

- Twenge, J. M., Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Bartels, J. M. (2007). Social exclusion decreases prosocial behavior. *Journal of Personality and Social Psychology*, 92(1), 56.
- Welch, M. R., Sikkink, D., & Loveland, M. T. (2007). The radius of trust: Religion, social embeddedness and trust in strangers. *Social Forces*, 86(1), 23–46.
- Yang, K. (2019). *Loneliness: A social problem*. Routledge.

**Alexander Langenkamp** (Ph.D.) is a research associate at the Goethe University Frankfurt in Germany. His research lies at the intersection between political sociology, social psychology and social inequality research. His most recent research projects have focused on the link between facets of social deprivation and political attitudes and behaviour. His work has been published in journals such as *European Societies*, *Political Psychology*, *Social Science Quarterly* and the *Journal of Social and Personal Relationships*.

**Elena Stepanova** (Ph.D.) is a researcher and socio-economic analyst in the Science for Modelling, Monitoring and Evaluation Unit at the Joint Research Centre of the European Commission. She obtained research master's degrees in applied mathematics from Paris I Panthéon-Sorbonne University and in economics from Ca' Foscari University of Venice, as well as a Ph.D in economics from the Sant'Anna School of Advanced Studies in Italy, where she additionally worked as a post-doctoral researcher on topics related to cultural economics. She also worked as a consultant for the United Nations Industrial Development Organization. Her research has been published in the *Journal of Cultural Economics*, *Journal of Economic Behavior & Organization*, *European Journal of Political Economy*, *Physica A*, *Empirical Economics* and other journals.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



**Part III**  
**Loneliness Interventions and Conclusions**

# Chapter 7

## Counteracting the Effects of Loneliness: Empirical Research and Policy Interventions



Elizabeth J. Casabianca and Minna Nurminen

**Abstract** This chapter focuses on policy interventions to tackle loneliness and is divided into three main parts. The first part of the chapter showcases results on loneliness interventions based on the EU Loneliness Survey, which collected information about respondents' awareness of loneliness interventions in their country and their views about the role different actors should play in supporting lonely people. Findings related to social stigma surrounding loneliness and measures used by lonely people to mitigate their feelings of loneliness are also discussed. The second part of the chapter provides an overview of existing loneliness interventions using categorisations proposed by the literature. To gain insight on how loneliness is addressed in practice, this section also presents examples from the EU-wide Mapping of Loneliness Interventions. The third and final part of the chapter tackles the issue of the effectiveness of loneliness interventions. This section is informed by the literature and exchanges with experts and practitioners in the field, and includes a non-exhaustive list of common success factors in effective loneliness interventions.

### 7.1 Introduction

As the previous chapters have illustrated, loneliness has far-reaching implications at both individual level (Chaps. 3–5) and societal level (Chap. 6). Effective actions to prevent and mitigate the problem are therefore urgently needed and requested by individuals, communities and countries across the EU. Yet, while interventions to tackle loneliness have attracted increasing attention in research and the media, data and robust evidence on what works to reduce loneliness are still scarce. The existing literature has increased understanding of the range of possible loneliness interventions by distinguishing between different types of interventions and target groups.

---

E. J. Casabianca (✉) · M. Nurminen  
European Commission, Joint Research Centre (JRC), Ispra, Italy  
e-mail: [Elizabeth.Casabianca@ec.europa.eu](mailto:Elizabeth.Casabianca@ec.europa.eu)

M. Nurminen  
e-mail: [Minna.Nurminen@ec.europa.eu](mailto:Minna.Nurminen@ec.europa.eu)

Encouragingly, effective loneliness interventions have been identified in studies, but it has not been possible to identify a one-size-fits-all solution. This is probably to be expected given that loneliness interventions take place in different contexts and among different target groups, for instance. However, there is a clear need for a better understanding of what works in tackling loneliness in particular groups and in specific contexts.

An important perspective in the discussion on interventions is also the reality of experiences on the ground and how these often differ from theory. Organisations that design and implement loneliness interventions do important work in communities by interacting directly with people experiencing loneliness. Yet they often struggle with scarce resources (both time and financial), while knowledge from research about best practices does not always filter down to grassroots level, hampering rigorous evaluation and development. Additionally, at the EU level, too little is known about people's views on loneliness interventions. What do lonely individuals actually do to mitigate their feelings of loneliness? Are they aware of existing loneliness interventions? Such knowledge is essential for the design and implementation of policy measures that can serve the targeted population best.

In this context, the work on loneliness interventions carried out by the European Commission's Joint Research Centre (JRC) adds value on multiple fronts. First, the European Union Loneliness Survey (EU Loneliness Survey) offers unprecedented insights into people's views on loneliness interventions (see more information on the survey in Chap. 2). Second, the JRC's Mapping of Loneliness Interventions provides an overview of the measures and activities that address loneliness on the ground across the EU. Finally, the JRC's work and lessons learnt both from the literature and practice (through exchanges with experts and practitioners in the field) contribute to new knowledge on success factors for effective loneliness interventions.

The aim of this chapter is to provide readers with information about (i) people's views on loneliness interventions in the EU; (ii) the existing categorisations of loneliness interventions; (iii) the kind of loneliness interventions that are offered on the ground; and (iv) key elements of effective loneliness interventions.

The chapter is organised as follows. Section 7.2 starts with results from the EU Loneliness Survey, in particular people's views about the role that different actors in society should play in efforts to reduce loneliness. Section 7.3 gives an overview of the categorisations of loneliness interventions proposed by the literature. It is complemented by practical examples from the Mapping of Loneliness Interventions developed by the JRC. Section 7.4 discusses some of the elements of successful loneliness interventions that have been identified in the literature and in exchanges with loneliness experts and practitioners.

## 7.2 Insights on Loneliness Interventions from the EU Loneliness Survey<sup>1</sup>

### 7.2.1 *Perceptions on Loneliness and Interventions*

Understanding people's perceptions of loneliness and their strategies to alleviate it is key for the design and implementation of loneliness interventions. Interventions that overlook the diversity of loneliness experiences or neglect individual needs might not achieve their intended outcomes. To support the development of interventions aimed at reducing loneliness, the EU Loneliness Survey includes questions aimed at capturing respondents' opinions on several aspects related to loneliness interventions, including:

- Awareness of existing programmes that support lonely people within their own country;
- The role different entities play in supporting lonely people;
- Strategies that lonely people employ to feel less lonely.

This is the first survey data on individuals' views on loneliness interventions collected in a cross-EU context. The data provides unique and new insights into the actions and interventions that lonely people in reality utilise to mitigate their feelings of loneliness. In addition, respondents' awareness of and views about the role of various entities at national and local level in reducing loneliness offer guidance for future intervention design and implementation.

Moreover, the survey offers an opportunity to shed light on stigmatising views on loneliness. In particular, it asks about respondents' perceptions on loneliness and explores to which extent they believe individuals are responsible for their own loneliness. Examining stigma related to loneliness is essential not only for the understanding of the phenomenon but also for the development of interventions that can effectively reach and engage with lonely people.

It deserves highlighting that while there is no consensus on a specific definition of a 'loneliness intervention', most of them target lonely people with the objective of reducing loneliness and increasing well-being (Beckers et al., 2022). Different studies rely on different understanding on interventions and their scope. For the purpose of this chapter, a wide understanding is applied. Each part of the analysis communicates the specific nature of intervention in focus (e.g. programmes, initiatives or more personal mitigation efforts).

---

<sup>1</sup> This section is based on and further extends the analysis provided in Nurminen et al. (2023a).

## 7.2.2 *Data and Items on Loneliness Interventions*

The survey included three questions on interventions. First, the survey enquired about the awareness of interventions with the following question: ‘In several countries, programmes and initiatives provide social, emotional or other types of support for those who need it (e.g. telephone lines, online support, group activities). Have you heard or seen anything about initiatives to support those feeling lonely in [COUNTRY]?’ The answer options included ‘Yes’/‘No’/‘Don’t know’.

Second, the following question was used to understand people’s views about the role of different actors in supporting lonely individuals: ‘How much of a role, if any, should the following actors play in supporting people who feel lonely in [COUNTRY]?’ The actors included: ‘National government/Local government/Individuals and families/Employers/Non-profits and charities/Schools and educational institutions’. For each actor, it was possible to select one of the following: ‘Major role/Minor role/No role at all/Don’t know’.

Third, the activities and interventions that respondents took part in was assessed with the following question: ‘In the last 12 months, have you done any of the following to feel less lonely?’ Answer options included: ‘Seeing friends, family members, or other loved ones/Doing sports alone/Doing sports with others/Looked for self-help from books or online or called a support hotline/Sought professional help by a therapist/Contacted a specialised charity; association; Non-Governmental Organisations/Contacted a church or religious organisation/Joined a club or a group (e.g. a sport club, an association, a trade union, a party)/Volunteered/Used more social media/Took time for myself/Wanted to do something but did not know what to do/Other, not listed above/None of the above/Don’t know/Prefer not to say’. The question was addressed only to respondents who reported having felt lonely at least ‘a little of the time’ or more during the previous four weeks. Respondents could select several answer alternatives.

The EU Loneliness Survey also contributes to the understanding of social stigma of loneliness. Conceptually, there are two main definitions of ‘stigma’ (Nurminen et al., 2023a; UK Government, 2023a, 2023b). First, social stigma is defined as negative attitudes or beliefs towards an individual or group, based on experiences or characteristics, which are seen to distinguish them from other people (for instance, experiences of loneliness). This results in the person or group being devalued and/or suffering discrimination. Second, self-stigma is defined as feeling shame or embarrassment around a personal characteristic or experience (for instance, loneliness) and being inclined to conceal it from others.

The EU Loneliness Survey allows exploring the social stigma of loneliness but not self-stigma. In particular, two questions are used in the analysis to measure the social stigma of loneliness. The first one is the following: ‘Do you think that feeling lonely is [...]’, with answer alternatives: ‘An issue that has implications for the individual as well as for the wider society/An issue that is limited to the individual concerned/Don’t know’. The second one is the following: ‘In general, do you think that [...]’, answer alternatives: ‘People who feel lonely mostly have themselves to

blame for their loneliness/Feeling lonely is mostly due to factors and circumstances beyond a person's control/Both equally/Don't know'. Respondents who select either the second answer option in the first question, or the first answer option in the second question, are categorised as having stigmatising views about loneliness.

In addition, the following variable was used in the analysis concerning self-assessed loneliness frequency: 'How much of the time, during the past four weeks, have you been feeling lonely?' Answer options: 'All of the time/Most of the time/Some of the time/A little of the time/None of the time/Don't know'. Those who selected 'Most of the time' or 'All of the time' were categorised as 'very lonely'.

The main limitation of the analysis below is that it is based on a non-probability sample, thus we cannot claim its representativeness of the opinions of the EU population. Nevertheless, it does provide some important insights for policy design and implementation. Moreover, it is the first survey data on individuals' views on loneliness interventions collected in a cross-EU context.

### 7.2.3 Results

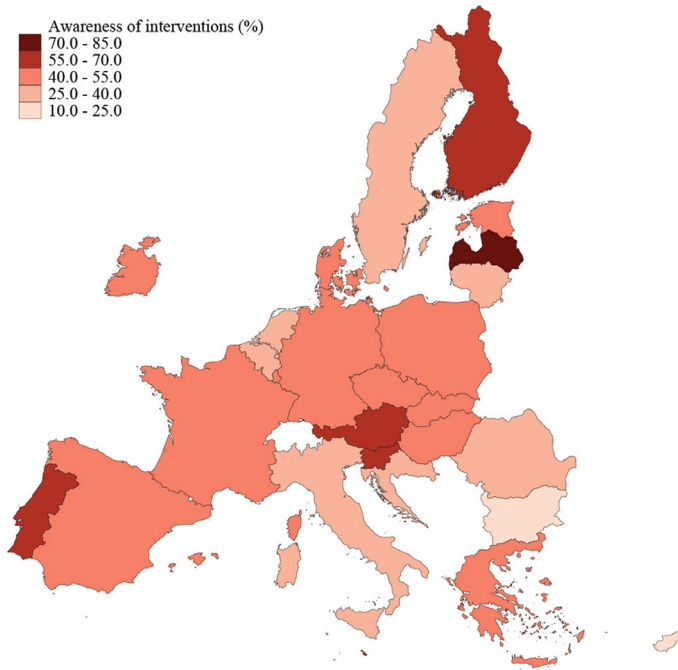
The remainder of this section presents the results of the EU Loneliness Survey as follows. First, it provides an overview of the awareness levels of loneliness interventions across countries. Second, it explains how social stigma around loneliness is captured by the survey and summarises related results. Third, it describes the respondent's views on the role different actors should play in supporting lonely people. Finally, it shows the results regarding the strategies that lonely people employ to feel less lonely.

*Awareness of loneliness interventions.* The EU Loneliness Survey asked about respondents' awareness of initiatives supporting those feeling lonely within their own country. The question inquired particularly about 'programmes' and 'initiatives' to help lonely people. Thus, 'interventions' here can be understood in a more formal sense. Public awareness of interventions available is important for a wider understanding of loneliness as a problem. Moreover, understanding the extent of awareness can serve as an indicator of the effort further needed to educate the public about the availability of loneliness interventions. This is particularly relevant for people who might need these types of services presently or in the future.

Overall, 43% of respondents report being aware of loneliness interventions in their country. However, this EU average hides important cross-country differences. In three member states, more than 60% of respondents are aware of interventions in their country: Lithuania, Portugal and Slovenia. Meanwhile, in seven countries 35% or less are aware: Sweden, Romania, Hungary, Belgium, Italy, Cyprus and Bulgaria (see Fig. 7.1).

Awareness might depend on whether loneliness has gained significant attention in public discourse or if campaigns targeting loneliness have been effectively promoted to a broader audience. For example, a 2018 cross-country survey finds that in the UK awareness about recent efforts by the government to address the issue is highest after





**Fig. 7.1** Awareness of loneliness interventions across the EU 27. *Note* The map provides descriptive results and reports for each country the share of respondents who answer ‘Yes’ when asked ‘In several countries, programmes and initiatives provide social, emotional or other types of support for those who need it (e.g. telephone lines, online support, group activities). Have you heard or seen anything about initiatives to support those feeling lonely in [COUNTRY]?’. All statistics are weighted. *Source* EU Loneliness Survey, 2022, authors’ calculations

a new loneliness minister was appointed earlier that year (KFF, 2018). Additionally, the scale of ongoing interventions plays a role. Small local initiatives often struggle with limited resources to promote their activities effectively. However, the survey does not offer a clear insight into which factors determine awareness levels across countries. Nevertheless, one might expect awareness to be greater among lonely individuals. Surprisingly, the survey reveals that among respondents who report feeling lonely ‘all of the time’ awareness is lower compared to the rest (41% and 44%, respectively). This underscores the need for more awareness-raising initiatives, especially in countries where awareness is low. It also emphasises the importance of disseminating information on existing programmes to ensure that individuals who experience loneliness know where to seek help.

*Social stigma of loneliness.* Loneliness is a stigmatised condition such that people attribute more negative characteristics to lonely than non-lonely individuals (Kerr & Stanley, 2021). Stigma can present itself in different forms, including social stigma and self-stigma as discussed above. The focus here is on social stigma (a negative, judgemental attitude towards an individual or group). Social stigma is an important

consideration when developing loneliness interventions for a number of reasons. First, when loneliness is stigmatised, people are less inclined to admit to being lonely and to seek help. Second, there may be a decreased societal willingness to offer support to those experiencing loneliness. Third, stigma adds another layer of complexity to intervention design and implementation for practitioners who will need to consider whether or not to talk directly about loneliness, or, for instance, whether explicitly labelling interventions as programmes aimed at addressing loneliness may hamper outreach.

On average, 34% of respondents have stigmatising views about loneliness, with 25% agreeing with the statement that loneliness is an issue limited to the individual concerned and 15% of respondents with the statement that lonely people have themselves to blame for their loneliness.

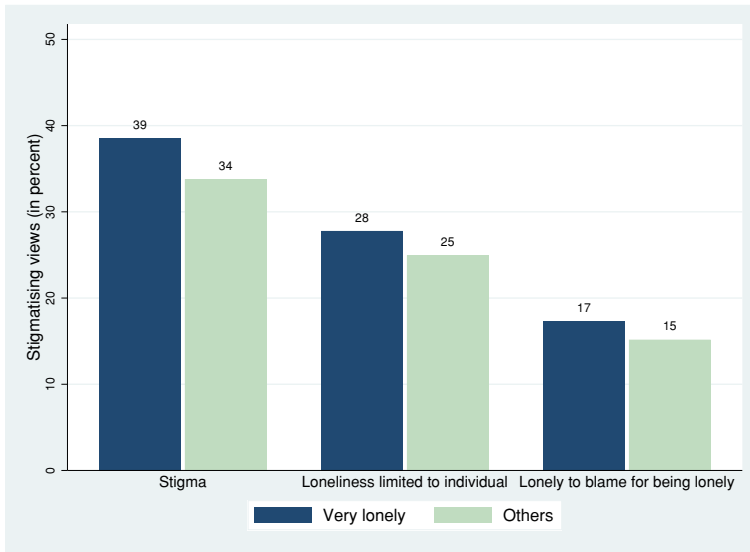
Literature suggests that stigma might be shaped by people's own feelings of loneliness, gender, age and culture (Barreto et al., 2022). Figure 7.2 reports the average share of respondents with stigmatising views by loneliness status. It shows that the largest percentage of respondents who have stigmatising judgements are those who report to feel lonely most or all of the time. In terms of gender and age, the largest percentage of respondents who have stigmatising views about loneliness are men and young people (below 45 years old) (Figs. 7.5 and 7.6 in Appendix).

With regards to culture, a useful lens for investigating its association with social stigma is Geert Hofstede's indulgence versus restraint measure of a society (Hofstede et al., 2010). This measure provides an indication of the extent to which people in a society try to control their desires and impulses and feel that their actions are constraint by social norms. Societies with a relatively weaker control over individual desires and weaker perceptions that actions are restrained by social norms are categorised as 'Indulgent'. Based on this conceptualisation, one would expect that cultures with loosely prescribed social norms might be associated with less social stigma of loneliness because more value is placed on individuals' freedom rather than moral discipline.<sup>2</sup> Figure 7.3 plots the association between social stigma and the level of indulgence of a society by country. It illustrates that respondents in more indulgent societies report lower social stigma compared to those in more restraint societies.

These results are in line with the related literature. Previous research suggests that experiences of stigma are greater for lonelier people. The more often someone feels lonely, the more likely they are to assume that loneliness is caused by an individual issue rather than a societal problem (Mental Health Foundation, 2022; UK Government, 2023a, 2023b). One reason for this is that people who feel lonely feel generally less positive about their self than people who do not feel lonely and tend to blame themselves for their own loneliness (Neves et al., 2023). In terms of gender, Barreto et al. (2022) find that loneliness is more stigmatised by men compared to women. Another study finds that men are more likely to believe that if you feel lonely

---

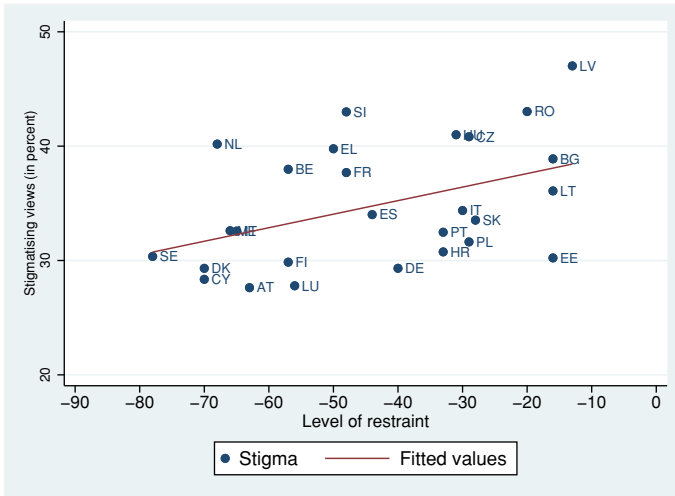
<sup>2</sup> Moreover, Casabianca and Kovacic (2024) show that individuals with cultural backgrounds characterised by stricter social norms and prohibitions are, on average, more likely to feel lonely, even after controlling for the extent of social networks, frequency of social interactions and degree of integration into social groups.



**Fig. 7.2** Stigmatising views by loneliness status. *Note* The graph provides descriptive results. ‘Stigma’ refers to the average rate of agreement with either of the two statements ‘[...feeling lonely is] An issue that is limited to the individual concerned’ or ‘People who feel lonely mostly have themselves to blame for their loneliness’ expressed as a percentage for each group ‘Very lonely’ and ‘Others’. The data is based on the subsample of 8,386, 5,742 and 4,291 respondents for the three categories, respectively. On average around 34% of respondents agree with either of the two statements, with 25% agreeing with the statement that loneliness is an issue limited to the individual concerned and 15% of respondents with the statement that lonely people have themselves to blame for their loneliness. All statistics are weighted. *Source* EU Loneliness Survey, 2022, authors’ calculations

it is ‘your own fault’ (Co-op Foundation, 2021). The fact that men are more at risk of having stigmatising views about loneliness may be driven by stereotypes about their place in society and the perception that men need to be ‘tough’ (Rice et al., 2021). To fit into these gender norms, men are less open about their feelings, especially when related to their mental health (Gough & Novikova, 2020). With regards to age, younger people are more likely to stigmatise loneliness compared to other age groups according to Barreto et al.’s (2022) results. In the authors’ view, this might reflect the (incorrect) idea that loneliness is more of a problem among the older population, while younger people ‘should not feel lonely’ because they have more opportunities to socialise. Therefore, one could anticipate that feeling lonely is less unexpected and potentially more stigmatising for younger than older people (Pikhartova et al., 2016; UK Government, 2023b).

The analysis here provides a number of implications for loneliness intervention design and implementation. As lonelier people are more inclined to have stigmatising judgements about loneliness, they are potentially more likely to feel ashamed or judged to express loneliness (Lykke & Handberg, 2019) and therefore hesitate to take



**Fig. 7.3** The association between prevalence of stigmatising views across the EU and national culture. *Note* The graph provides descriptive results. The data is based on the subsample of 8,386 respondents who agree with either of the two statements ‘[...feeling lonely is] An issue that is limited to the individual concerned’ or ‘People who feel lonely mostly have themselves to blame for their loneliness’. On the y-axis is the average rate of agreement with either of the two statements. On average around 34% of respondents agree with either of the two statements. On the x-axis is the Hofstede index indicating country values for indulgence versus restraint (−100 ↔ 0). A restraint society is characterised by strict norms impacting on individuals’ behaviour, while norms are less important for indulgent societies. The red line is the linear fit (correlation coefficient = 0.43). All statistics are weighted. *Source* EU Loneliness Survey, 2022, authors’ calculations

part in programmes to address it. In service delivery and campaigns, the language used around loneliness needs to be carefully constructed to attract those in need and so as not to perpetuate social stigma. Furthermore, social stigma varies by socio-demographic group, with men and younger people stigmatising loneliness more. Thus, these groups may need more subtle intervention approaches from outreach to implementation (see Box 7.1 for a description of an initiative tackling loneliness among men). Finally, social stigma seems to be shaped by national culture. Therefore, any intervention to reduce loneliness needs to take into account country-specific settings and cultural norms and values.

**Box 7.1 Improving well-being and loneliness among men**

‘Men’s shed’ is a community-based project, where men can come together to learn, share skills and make long-lasting friendships together. The Men’s shed movement was founded in Australia in the 1990s and expanded in other countries, including Ireland and Estonia. Members meet twice a week and engage in activities such as football, woodwork, gardening, carpentry and

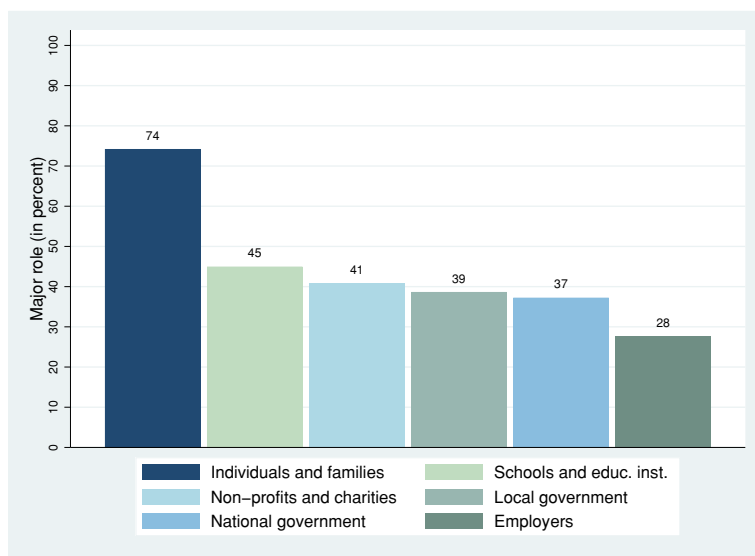
restoration work, among others. Traditionally, men face societal expectations that discourage open discussions about their mental health, including feelings of loneliness. Older men are often categorised as a ‘hard-to-reach’ group. Against this background, the project’s approach is to provide a non-clinical, informal setting where the term ‘mental health’ or ‘loneliness’ are not explicitly mentioned. Conversations about mental well-being and loneliness, instead, emerge naturally while members engage in the different activities organised within the shed. A recent review by Foettinger et al. (2022) including 52 studies analysing the effect of Men’s shed on member’s well-being, finds that the project increases the sense of belonging and reduces social isolation among participants, thus likely reducing their feeling of loneliness.

*Source* <https://menssheds.ie/>; <https://eurohealthnet-magazine.eu/breaking-the-stigma-welcome-to-the-mens-shed-movement/>

*Role of different actors in supporting lonely people* An important aspect of intervention delivery is the provider of the service. The EU Loneliness Survey collects people’s views on the role a range of actors should play in supporting lonely people. In particular, respondents are asked for each of the listed actors (‘National government’/‘Local government’/‘Individuals and families’/‘Employers’/‘Non-profits and charities’/‘Schools and educational institutions’) whether they should have a major, minor or no role at all in supporting people who feel lonely.

Overall, the large majority of respondents (74%, Fig. 7.4) thinks that individuals and families should play a major role in supporting lonely people. Similar views are expressed by people in the USA, Japan and the UK in a 2018 survey run by KFF (2018). Further, 45% of respondents consider that schools and educational institutions are highly important for supporting lonely individuals. This result possibly indicates awareness among respondents that loneliness can also affect young people. Furthermore, studies report associations between loneliness, social anxiety and bullying victimisation (Acquah et al., 2013). Research also shows that the school environment can explain about one-fifth of the total variation in loneliness among 15-year-olds (Schnepf et al., 2023). Non-profits and charities should have a major role in supporting the lonely according to 41% of respondents. Meanwhile, a relatively lower percentages of respondents think that the government, at national or local level (around 38%), and employers (28%) should play a major role.

Opinions about the role of actors vary by both loneliness status and stigmatising views about loneliness. Very lonely respondents put less weight on support from individuals and families compared to the rest of the sample. They also tend to perceive national and local governments and employers as more important for mitigating loneliness than other respondents. In this respect, lonely people might appreciate loneliness interventions delivered by public and private entities the most. Respondents with stigmatising judgements about loneliness tend to believe less overall that various actors should provide support for lonely individuals. This result speaks to



**Fig. 7.4** Role of different actors in supporting lonely people. *Note* The graph provides descriptive results. Bars represent average agreement that a given actor should play a major role. Respondents can choose several answer options. The data is based on the sample of 17,955, 11,121, 10,501, 9,213, 8,745 and 6,990 respondents for the six categories, respectively. All statistics are weighted. *Source* EU Loneliness Survey, 2022, authors' calculations

the harmfulness of social stigma in terms of development of support and loneliness interventions.

The EU Loneliness Survey reveals the high expectation for individuals and families to support lonely people. As analysed in Nurminen et al. (2023a), while loneliness is certainly relieved by supportive everyday relationships (see Chap. 3), in cases of more frequent or intense loneliness, families and individuals may need further knowledge to guide their close ones to appropriate support channels. Awareness raising thus, remains key. The survey showed that there are also expectations for other actors to provide support. Collaboration between different sectors such as schools, non-profits and charities, local and national governments and employers could be helpful in this respect. Finally, countries with higher levels of social stigma should prioritise initiatives helping to decrease stigmatisation and frame loneliness as a broader public issue.

*Strategies that lonely people employ to feel less lonely* Knowledge about specific remedies that individuals use to alleviate their own loneliness is sparse (Heu et al., 2021). The EU Loneliness Survey expands this knowledge by asking respondents who report feeling lonely at least a little of the time about their coping strategies, i.e. interventions that they turned to in order to alleviate their own loneliness. Specifically, respondents could choose one or more activities among a list of 13 options. Here the term 'interventions' refers more broadly to informal activities

and different sources of help, some of which are not interventions per se but rather personal coping mechanisms.

The most commonly reported coping mechanism is to see friends, family and loved ones (45%). This links well to the high level of appreciation individuals and families receive by respondents when asked what role these actors should play in supporting those who feel lonely, as discussed above. The second most common activity is for respondents to take time for themselves (44%). The fact that over two fifths choose to spend time alone may be a cause for concern given the established link between loneliness and social isolation (de Jong Gierveld et al., 2006). However, it might also indicate the importance of self-care (Nurminen et al., 2023a). In-depth interviews across five countries, including Austria and Bulgaria, suggest that social withdrawal and higher independence (rather than more social contact) may be important remedies to ameliorate feelings of loneliness (Heu & Brennecke, 2023; Heu et al., 2021). Third, respondents report using social media more (34%). The literature review by Blasko and Castelli (2022) suggests that lonely people are more likely to turn to social media, which can make them feel either more or less lonely depending on how it is used, the motivations for use and the specific psychological characteristics of the individual (see Chap. 5 which discusses this link in greater detail). In terms of number of interventions attempted, more than half of respondents report more than one intervention (54%), 31% just one and 15% none.

Preferences among activities and interventions vary when comparing very lonely respondents (those feeling lonely ‘all the time’ or ‘most of the time’) to the rest of the sample. To relieve their sense of loneliness very lonely individuals report to seeing friends, family and loved ones to a lesser extent (29% versus 49% of other respondents). A larger share of very lonely respondents report wanting to do something to feel less lonely but did not know what to do (15% versus 6% of other respondents for this answer category). Furthermore, very lonely respondents report to seek for professional and/or self-help more compared to the rest of the sample (12% versus 9% and 12% versus 7%, respectively). In addition, a higher share of very lonely respondents have not attempted any activity or intervention (17% versus 14% of other respondents) or report to have attempted just one strategy (37% versus 29% of the rest). Non-participation is even higher among respondents who report feeling lonely ‘all of the time’ (22%).

A few recommendations for intervention design and implementation follow. The analyses provided here show that especially those in need of support, i.e. very lonely individuals, may lack the in-person networks or the motivation to seek solutions. Therefore, this group may benefit from targeted outreach strategies. In addition, loneliness interventions should be tailored to fit different preferences of individuals with varying characteristics, including in terms of loneliness levels. All in all, the findings presented here offer important policy insights that can support practitioners and policymakers when designing and implementing loneliness interventions.

## 7.3 Loneliness Interventions: Theory and Practice

### 7.3.1 *How Interventions are Categorised*

Various interventions to reduce loneliness have been proposed, often employing a wide range of approaches. Whilst no official framework to describe loneliness interventions exists, several criteria can be applied to categorise them. For instance, interventions can be grouped by their format, such as individual or group-based, or by delivery mode, such as technology-based, i.e. where a technological device is used by the intervention, or non-technology-based. Furthermore, interventions can be classified depending on their type, i.e. with a focus on the strategy or means of the intervention to reduce loneliness. The focus here is on the latter as literature on intervention effectiveness provides suggestions on classifications specifically along intervention type. It is important to note that loneliness interventions are complex and multifaceted. They may belong to several categories within one classification criteria, especially with respect to intervention types.

Table 7.1 provides a summary of the main typologies of loneliness interventions suggested by the relevant literature. It is not an exhaustive overview, as several other categorisations exist. Yet, it provides a general overview of the types of loneliness interventions present on the ground and the variety of efforts implemented to reduce loneliness.

The varying schemes for defining intervention types present themselves along different axes. Masi et al. (2011) classify interventions depending on the strategy used to reduce loneliness, while Mann et al. (2017) propose a differentiation between direct and indirect interventions. Another review by Gardiner et al. (2018) identified six categories of interventions based on their purpose, their mechanisms of action and their intended outcomes. National and international organisations working on loneliness have also developed categorisation to serve both analytical and policy purposes, as well as to highlight the importance of the involvement of different sectors including at community and societal level (UK Campaign to End Loneliness, 2020; World Health Organization, 2021).

Masi et al. (2011) identify four primary intervention strategies: (i) *improving social skills* (ii) *enhancing social support* (iii) *increasing opportunities for social contact* and (iv) *addressing maladaptive social cognition*. *Improving social skills* involves developing and refining the abilities to interact, communicate, and connect effectively with others in various social situations. Such intervention types may emphasise one or several of the following: conversational skills, speaking on the telephone and nonverbal communication methods. *Enhancing social support* entails creating a robust system of connections that can offer assistance, encouragement and understanding in times of need. Examples include professionally initiated interventions for the bereaved or the elderly whose personal networks have been disrupted by relocation and for children whose parents have divorced. Interventions *increasing opportunities for social contact* comprise strategies aimed at creating, facilitating or encouraging interactions among individuals. These cover activities that bring



**Table 7.1** Examples of loneliness intervention categories

Author	Proposed categorisation
Masi et al. (2011)	<ul style="list-style-type: none"> <li>• Improving social skills</li> <li>• Enhancing social support</li> <li>• Increasing opportunities for social interaction</li> <li>• Addressing maladaptive social cognition</li> </ul>
Mann et al. (2017)	<ul style="list-style-type: none"> <li>• Indirect interventions</li> <li>• Direct interventions               <ul style="list-style-type: none"> <li>– Changing cognitions</li> <li>– Social skills and psychoeducation</li> <li>– Supported socialisation</li> <li>– Wider community approaches</li> </ul> </li> </ul>
Gardiner et al. (2018)	<ul style="list-style-type: none"> <li>• Social facilitation</li> <li>• Befriending</li> <li>• Psychological therapies</li> <li>• Health and social care provision</li> <li>• Animal interventions</li> <li>• Leisure/skill development</li> </ul>
World Health Organization (2021)	<ul style="list-style-type: none"> <li>• Individual and relationship-level interventions</li> <li>• Community-level strategies</li> <li>• Societal-level strategies</li> </ul>
UK Campaign to End Loneliness (2020)	<ul style="list-style-type: none"> <li>• Connector services</li> <li>• Gateway infrastructure</li> <li>• Direct solutions</li> <li>• System-level approaches</li> </ul>

people together based on shared interests or goals, such as active ageing programmes. *Addressing maladaptive social cognition* refers to identifying and modifying thought patterns that hinder healthy social interactions. Cognitive behavioural therapy stands as a commonly used approach in tackling these issues. It is important to note that (ii) and (iii) may address social isolation more than loneliness as the quantity of friends and social interactions is not as predictive of loneliness as the quality of relationships (Masi et al., 2011). In contrast, (i) and (iv) focus on quality of social interaction and therefore address loneliness more directly.

In the categorisation of Mann et al. (2017), direct interventions explicitly target loneliness, whereas indirect interventions are broader strategies focusing on health and well-being but nevertheless may have important implications for loneliness (e.g. see Chap. 4 showing the close association of health and loneliness). They further categorise direct interventions in four groups: *changing cognitions, social skills and psychoeducation, supported socialisation and wider community approaches*. Similar to Masi et al.'s (2011), intervention strategies 'addressing maladaptive social cognition' and 'enhancing social skills', Mann et al.'s (2017) first and second category aim at reducing maladaptive cognition and improve the social skills that are relevant during social interactions (e.g. conversational ability or interpreting body language), respectively. *Supported socialisation interventions* aim to form social connections by offering support in achieving social goals, finding new interests or connecting with

others. For instance, a volunteer-based programme can identify suitable community activities for an individual and support the person to attend these activities for a specific time period. The last category, *wider community approaches*, focuses on including lonely people, strengthening their confidence and reducing stigmatisation by conducting interventions in community groups. Social prescribing represents an example of such an intervention category, whereby a health professional refers individuals to non-medical activities or services (e.g. art therapy, gardening groups) within the community to reduce their feeling of loneliness.

Gardiner et al.'s (2018) categorisation includes the following intervention types: *social facilitation*, *befriending*, *psychological therapies*, *health and social care provision*, *animal interventions* and *leisure/skill development*. The first category aims to facilitate social interactions with others, usually in a group-based setting, and strives to bring mutual benefit to all the participants involved. Examples are charity-funded friendship clubs and shared interest topic groups. *Befriending* interventions aim to build new friendships and support the lonely individual, mainly employing a one-to-one delivery approach. Befriending schemes include volunteering home visits to lonely individuals on a regular basis. Interventions that use therapeutic approaches and are delivered by health professionals or trained therapists belong to the category *psychological therapies*. Interestingly, the studies included in this category by Gardiner et al. (2018) mainly involve facilitated group-based activities rather than one-to-one approaches. The *health and social care provision* category includes interventions that focus on health and social care professionals supporting older people and are delivered in a nursing home or community setting. *Animal interventions* are interventions that include interactions with a pet. *Leisure/skill development* interventions focus on building new leisure activities and developing or strengthening skills. This category includes a wide range of activities, such as gardening programmes, computer /technology use, holidays, and sports.

The World Health Organization (2021) classifies interventions to address social isolation and loneliness into three categories. First, *individual- and relationship-level* interventions focus on maintaining and improving relationships (e.g. social skills training programmes), supporting people to develop new relationships (e.g. befriending services), and changing how people think and feel about their relationships (e.g. cognitive behavioural therapy). Second, community-level strategies address the infrastructure (e.g. transportation, digital inclusion, and the built environment), but also include volunteering and initiatives promoting 'age-friendly communities'. Third, *societal-level strategies* include laws and policies to address discrimination, marginalisation and social inequality that provide a breeding ground for feelings of loneliness.

The UK Campaign to End Loneliness (2020) developed a framework for loneliness interventions where a distinction is made between *connector services*, *gateway infrastructure direct solutions* and *system-level approaches*. *Connector services* include outreach activities for the loneliest individuals and support them to access interventions available in their community. Examples include 'knock-on-the-door'

services that provide people with information and signposting to local services and support. The infrastructure needed to support people to access to the available services is the *gateway infrastructure*. It includes transport (e.g. availability of public transport), digital technology (e.g. internet connection) and the built environment (e.g. places and spaces that facilitate connections). *Direct solutions* are, strictly speaking, loneliness interventions. They reduce loneliness by doing one of the following: (i) supporting people to maintain and improve their existing relationships (e.g. social skill training) (ii) helping people to make new connections (e.g. physical activity groups or befriending schemes) (iii) enabling people to change their thinking about their social connections (e.g. psychological therapy). *System-level approaches* are the set of practices that create the environment in which loneliness can be addressed effectively. These include volunteering and initiatives to create and maintain age-friendly communities.

To sum up, the literature provides a range of different categorisations of loneliness interventions. One reason for this variety may be that categorisations are often provided in the framework of reviews that differ in the specific selection criteria of the studies included and thus, may cover different interventions by default. For example, Masi et al. (2011) identify interventions that specifically target loneliness among adults, adolescents, and/or children. Mann et al. (2017) look at interventions targeting people with mental health problems. The review by Gardiner et al. (2018) includes interventions that target social isolation and loneliness among older people. National and international organisations, apply more of a practical and policy approach to categorise loneliness interventions.

Nevertheless, some common themes among the intervention groupings can be identified. First, most categorisations emphasise the importance of supporting lonely people with their existing relationships, either by facilitating contact or improving relationship quality, for instance via social skills training. Second, another common aspect is providing lonely people with opportunities to develop new relationships, either by bringing people with common interests together or by befriending schemes. Third, the role of therapy-based approaches is also prominent, especially for addressing negative thoughts that affect social interactions.

### 7.3.2 *Mapping Loneliness Interventions on the Ground*<sup>3</sup>

After having reviewed some of the available frameworks to categorise loneliness interventions, one question arises as to how well they fit loneliness interventions

---

<sup>3</sup> The practical experiences presented in this chapter are included in the Mapping of Loneliness Interventions developed by the JRC but do not reflect an official promotion or recommendation by the European Commission.

offered on the ground. An overview of such interventions is the Mapping of Loneliness Interventions developed by the JRC (European Commission, 2022).<sup>4</sup> The repository is the result of an extensive mapping exercise primarily conducted to gain a better overview of how loneliness is addressed across the EU in practice and to share knowledge with policymakers, practitioners, researchers and the general population (Nurminen et al., 2023a, 2023b). While other intervention repositories and databases exist at local or national level, the Mapping of Loneliness Interventions is the first attempt to provide such an overview at the EU level. It is important to note that the repository is a non-exhaustive list of available initiatives and many more, especially small scale and local interventions, exist in the EU.

The Mapping currently includes over 300 interventions from nearly 290 organisations across the EU (updated in September 2023). The interventions were collected through online searches using specific keywords, as well as from relevant report and exchanges with experts. The repository allows searching interventions by country, target group (i.e. segment of the population the intervention targets, such as older adults, young people, etc.) and type of organisation (i.e. provider of the service, such as NGOs, local government, etc.). It also provides information on the intervention type offered. The majority of the interventions identified for the Mapping target older adults and are implemented by NGOs (read more in Nurminen et al., 2023b). The categorisation used does not present any official taxonomy of loneliness interventions but instead offers an informal and practical approach to the analysis as well as a source of EU-wide information for organisations that develop and work with loneliness interventions. In particular, it allows exploring how interventions aim at reducing loneliness in practice and what are the most common approaches used.

Based on the Mapping of Loneliness Interventions, the most common intervention approach is connecting people, including through group activities. Such interventions support individuals to build and/or enhance their networks by facilitating meet-ups and social interaction both one-to-one and in groups. An example is an online platform in Denmark where users can search for activities by age and interest (see Box 7.2, case study 1). Interestingly, the next most common intervention type is ‘awareness raising’. These include campaigns and/or actions with the aim of increasing knowledge and public awareness about loneliness. An example is a German project that seeks to build and share knowledge about loneliness, as well as supporting the design and implementation of solutions to address the issue (see Box 7.2, case study 2). These intervention types are less studied by the literature measuring intervention effectiveness because it is more difficult to evaluate their impact. Intervention models that aim at reducing loneliness by befriending schemes or by improving social skills instead are less common, although a few good examples exist (see Box 7.2, case study 3 and 4 respectively). Worth mentioning are also city-level strategies (or community-level interventions), an example being a long-term strategic plan to reduce loneliness in

---

<sup>4</sup> The Mapping of Loneliness Interventions is available at [https://joint-research-centre.ec.europa.eu/scientific-activities-z/loneliness/mapping-loneliness-interventions\\_en](https://joint-research-centre.ec.europa.eu/scientific-activities-z/loneliness/mapping-loneliness-interventions_en).

Barcelona (see Box 7.2, case study 5). The interest in these intervention types is increasing, possibly due to their ability to attract resources and foster collaborations at local level and thus, increasing their capacity to effectively reduce loneliness among community dwellers.

In conclusion, there are some overlapping elements between theory and practice. Most intervention categorisations put forward by the literature focus on connecting lonely people with others, either by facilitating contact with friends and family or providing opportunities to meet new people. Based on the Mapping of Loneliness Interventions, most interventions in the EU aim to connect people and organise group and social activities. Yet, other intervention types that are more common on the ground, such as ‘awareness raising campaigns’, receive less attention from the literature. This may reflect differences in the scope and definitions of interventions. Yet, while some of the categories align with the ones identified in the literature, the Mapping illustrates a potential gap between interventions that are discussed in the literature, some of which have been implemented purely for research purposes, and the ones taking place on the ground. For future research and practice, it may be useful to develop an intervention taxonomy that brings together classifications based on both the theoretical literature and practical experiences.

### **Box 7.2 Case studies from JRC’s repository of loneliness interventions**

**Case study 1 GENLYD** is a Danish online community platform specifically designed to connect people living in the municipality of Aarhus. Anyone above the age of 18 can create a profile and express their interest for a specific topic or type of activity and receive notifications about posted invitations or events that match their interests. Users can also send their own invitations. The platform is especially useful for newcomers in Aarhus who would like to connect with people. The platform was initiated and is managed by the Aarhus municipality.

*Source* <https://genlydaarhus.dk/>

**Case study 2 Kompetenznetz Einsamkeit** (‘Loneliness Competence Network’ in English) is a project aimed at raising awareness and sharing knowledge on loneliness in Germany. It combines research, networking and knowledge transfer activities. Research activities are oriented toward closing knowledge gaps on the topic of loneliness and include the use of participatory practical approaches, such as qualitative interviews. Networking activities include the organisation of events bringing together a wide range of actors working on loneliness to share knowledge and experiences. Knowledge transfer activities aim to disseminate the research findings of the network through policy papers and expert reports. The project runs until 2025 and is funded by the

German Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ).

Source <https://kompetenznetz-einsamkeit.de/>

**Case study 3 Niciodată Singur** ('Never Alone' in English) is a Romanian volunteer-based intervention to reduce loneliness and social isolation among older adults living alone or in nursing homes. It focuses on three areas of intervention. First, regular house visits to provide practical help and support to the resident. Second, organisation of group activities, workshops and holiday get-togethers in nursing homes. Third, development and coordination of activities of the senior community centre in Bucharest including sports, theoretical and practical workshops and support groups facilitated by health professionals.

Source <https://niciodatasingur.ro/>

**Case study 4 Join Us** is a Dutch foundation with the objective of both raising awareness of and reducing loneliness among young adults. To this end, the Foundation provides an opportunity for young people to meet and socialise in a safe environment under the guidance of two social workers. Join Us has developed its own evidence-based methodology to address loneliness by tackling its underlying factors, including low social skills and maladaptive social cognition. More than 60 Dutch municipalities and their social work organisations are closely working with Join Us and adopting its method to reduce loneliness among young people locally.

Source <https://join-us.nu/>

**Case study 5 Barcelona's Strategy Against Loneliness** was officially launched in 2021 to address loneliness at municipal level. It is a cross-cutting, large-scale and long-term initiative with a 10-year horizon (2020–2030). It relies on the collaboration between different municipal departments and on the contributions from the scientific, civic (citizens and social organisations) and international sphere. The Strategy is accompanied with Action Plans. One of the core objectives is to restructure the City into community spaces to address loneliness.

Source Municipal Strategy Against Loneliness 2020–2030, available at [https://ajuntament.barcelona.cat/dretssocials/sites/default/files/arxiu-documents/barcelona\\_loneliness\\_strategy\\_2020\\_2030.pdf](https://ajuntament.barcelona.cat/dretssocials/sites/default/files/arxiu-documents/barcelona_loneliness_strategy_2020_2030.pdf)

## 7.4 Success Factors of Loneliness Interventions

The previous section provided an overview of different intervention types and therefore an idea of kinds of interventions that are common. However, a key question for researchers, policymakers and practitioners is what kind of interventions are effective in reducing loneliness. There is a large body of work analysing the effectiveness of loneliness interventions (Beckers et al., 2022). While most studies find that effective interventions to reduce loneliness exist, there is still no agreement on what kind of intervention works best in alleviating loneliness. Reviews underscore the lack of high-quality evidence to draw upon. Important information about the intervention is often missing, which hampers a full understanding of their effectiveness. In addition, studies differ based on the intervention type analysed, target group and loneliness measures used, thus making it hard to compare results.

Nevertheless, a few elements of successful interventions can be identified. This section provides an overview of such characteristics. It is informed by both the literature and exchanges with experts and practitioners in the field.<sup>5</sup> The factors are listed in no particular order of importance and are not exhaustive of all possible characteristics of effective loneliness interventions.

The first element is that the intervention needs to have the explicit objective of reducing loneliness, with a clear distinction made between social isolation and loneliness (for example, see Chaps. 2 and 5 discussing the difference between these concepts). For instance, while certain initiatives, like active-ageing programmes, may tackle both social isolation and loneliness, their specific effectiveness in reducing loneliness remains unclear. Successful interventions primarily target lonely individuals for various reasons. First, they may allow a more open discussion of loneliness and the assessment of the levels of loneliness among participants throughout the intervention period may be more feasible. Second, focusing on loneliness reduction as a primary outcome may be a more efficient way to allocate scarce resources with a view to the goal as well as facilitate the evaluation of intervention effectiveness. However, challenges arise in reaching out to lonely individuals who often avoid addressing their loneliness. Another obstacle involves possessing the necessary knowledge and tools to accurately measure loneliness.

Second, there is a general agreement that interventions tailored to the needs of the target group are the most effective in reducing loneliness (Gardiner et al., 2018). For example, interventions targeted at older adults may be more successful when offering opportunities for social contact as loneliness in later stages of life is often closely tied to social isolation. Meanwhile, lonely younger adults may be more in need of social skills training to strengthen existing relationships at school and work, for instance (Beckers et al., 2022). One way to integrate this characteristic in the intervention is by involving users in the design of the programme. Indeed, a number

---

<sup>5</sup> The JRC has held various events bringing together experts and practitioners in the field of loneliness interventions (Casabianca & Nurminen, 2022a, 2022b; Nurminen & Casabianca, 2022). Moreover, it engaged in numerous bilateral meetings with loneliness practitioners to learn more about the intervention offered and factors leading to its effectiveness.

of studies find that interventions are more effective when end users are involved in the planning, design and implementation of the activities (Bartlett et al., 2013; Wylie, 2012). For instance, for the establishment of support groups, participants may provide input on the format, frequency and content of group meetings, leading to increased engagement and satisfaction. In addition, a promising approach is the use of lived experiences of loneliness to inform intervention development. However, these approaches may require more dedicated resources, both time and financial.

Relatedly, ‘adaptability’ is key to the success of loneliness interventions (Gardiner et al., 2018). This concept refers to a programme’s capacity to adjust to various contexts, be it temporal or geographical. For example, the Covid-19 pandemic necessitated the transition of in-person interventions to online platforms. A successful intervention can quickly adapt to unexpected situations and social changes that may arise. Furthermore, a successful intervention is able to adapt to different cultural contexts. While one model might effectively alleviate loneliness in one specific country, it might not in another without due adaptation to that culture.

The third element of successful interventions is that they advocate sensitively to avoid stigma around loneliness and lonely people (Victor et al., 2018). As mentioned above, people who experience loneliness have more difficulties in reaching out for help. Programmes that pay attention to stigma may be more successful in attracting lonely individuals and, therefore, at addressing loneliness. They also contribute to broader scale efforts to destigmatise loneliness, thus paving the way for other initiatives to be effective in reducing loneliness. Handling stigma in interventions goes together with tailoring approaches. For instance, more subtle approaches may work for men and young people as these groups tend to stigmatise loneliness more (Nurminen et al., 2023a).

Additionally, Cattan et al. (2005) suggest that one shared characteristic of effective interventions is a trained facilitator. The role of the facilitator can vary from observing group dynamics, in group-based interventions, to mentoring participants’ social skills. For broader scale interventions, including those employing community-level approaches, an important element is coordination and collaboration among different entities.

Last but not least, intervention success can only be evaluated when their effectiveness is assessed, ideally with the most rigorous methods available. One of the most robust methodologies to measure intervention effectiveness is the *randomised controlled trial*, whereby a cause-and-effect relationship is established by comparing a treatment group, which receives the treatment being tested, to the control group, which does not receive the treatment. However, it is not always possible to implement a randomised controlled trial either due to limited resources or ethical concerns. Other valid instruments that have been used in practice include quasi-experimental data collection such as from observational studies like surveys with participants (and, when possible, with non-participants in the context of counterfactual analysis) at the beginning and end of the programme in order to capture changes in loneliness among participants. Whatever the method employed to assess effectiveness, using well-established scales to measure loneliness is key (Maes et al., 2022).



Box 7.3 provides some practical examples of loneliness interventions that combine a number of the success factors described above. Although in most cases it is not possible to infer causality, results of the evaluation exercises performed indicate the programmes' effectiveness in reducing loneliness among their participants.

### **Box 7.3 Practical examples of successful efforts to reduce loneliness**

#### **Tackling loneliness through an individual-based approach**

'HelsinkiMissio' is a non-profit organisation based in Finland with the mission to reduce loneliness among people of all ages. To this end, the organisation developed a loneliness intervention based on a one-to-one approach and informed by Masi et al.'s (2011) finding on the effectiveness of tackling maladaptive social cognition to reduce loneliness. The participants meet a health professional in a series of five one-to-one meetings. The evaluation of the intervention effectiveness is embedded in the intervention programme. A questionnaire is distributed to the participants in the first and last meeting with the objective of understanding loneliness and well-being of participants at the beginning and end of the programme. A follow-up questionnaire is also distributed two months after the last meeting. Results of the evaluation suggest that the programme is effective in both reducing loneliness and increasing well-being among the participants and this effect lasts at least two months after the end of the programme.

*Source* <https://www.helsinkimissio.fi/en/>; Casabianca and Nurminen (2022a)

#### **Reducing loneliness among older people through a group-based approach**

'Circle of Friends' is a Finnish intervention aimed at reducing loneliness among older adults in a group setting. Eight participants and two facilitators form each group. The group meets once a week for two hours over a period of 12 weeks. Both facilitators receive training and take part in all group sessions. The effectiveness of the intervention has been studied extensively. A randomised controlled trial found that the intervention improved the well-being of the participants and decreased their use of health services (Jansson & Pitkälä, 2021). The effectiveness of the intervention continues to be monitored. For instance, before the group starts, loneliness is measured through individual interviews and pre-questionnaires distributed to the participants. Moreover, during the group process, the facilitators observe the group and a field diary is compiled. One to three-months after the facilitated group process, a post-questionnaire is distributed with the aim of measuring changes in loneliness among the participants.

*Source* <https://vtkl.fi/toiminta/ystavapiiri/circle-of-friends>; Nurminen and Casabianca (2022)

## 7.5 Conclusions

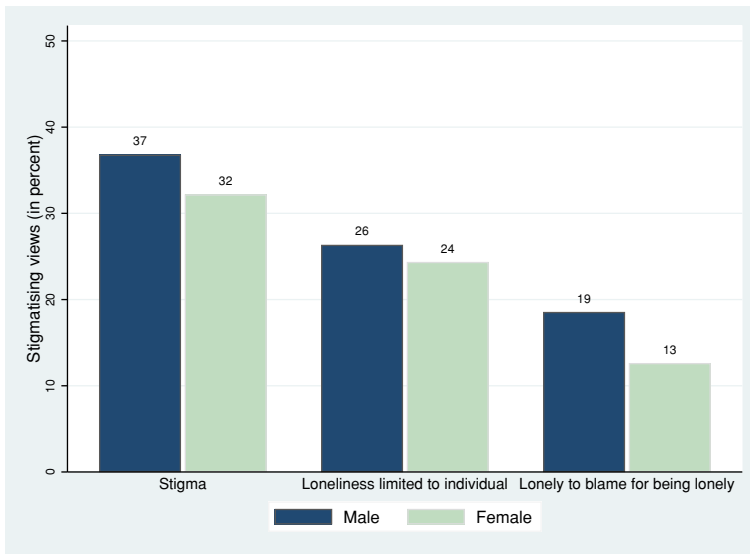
This chapter presents key elements to consider when planning, designing and implementing loneliness interventions. It provides an overview of intervention types identified in the literature and of how different categorisations have contributed to an understanding of the range of possible actions. The chapter highlights some practical examples of policy measures that are also included in the EU-wide Mapping of Loneliness Interventions.

The chapter discusses a set of success factors for effective interventions as identified in the literature and in exchanges with loneliness experts and practitioners (Casabianca & Nurminen, 2022a, 2022b; Nurminen & Casabianca, 2022). For interventions to be successful, they need to focus explicitly on the reduction of loneliness and be tailored to the needs of the target group. Such considerations may include designing a loneliness intervention for a specific age group or for people from similar cultural backgrounds. The EU Loneliness Survey shows that lonely individuals may also have different preferences for the interventions and activities they want to take part in to reduce their feelings of loneliness. In addition, the most lonely people may not have the capacity to seek help and might therefore benefit from direct outreach. At the same time, the survey highlights the important role played by individuals and families in supporting lonely people within their social circle. Interventions also need to take account of stigmatised views related to loneliness. At the same time, awareness-raising efforts that emphasise loneliness as a human experience and the sharing of information about available interventions can help to destigmatise the problem. Taken together, the findings presented here offer important policy insights that can support practitioners and policymakers when designing and implementing loneliness interventions.

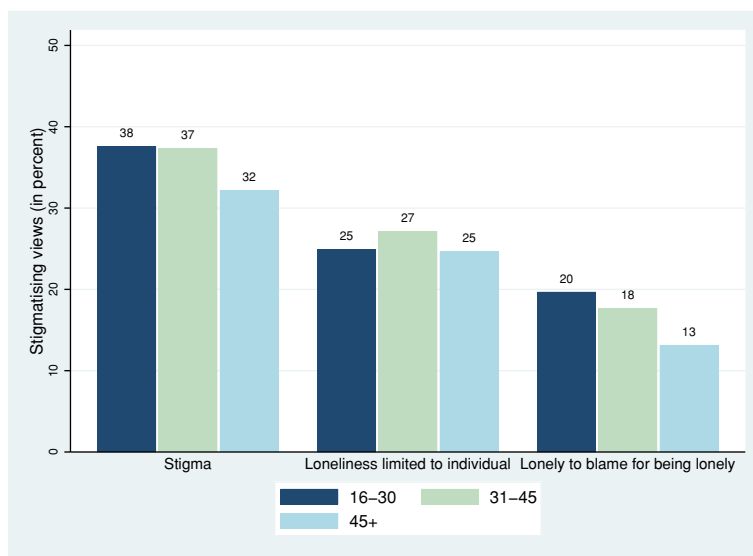
Finally, a critical aspect for the advancement of effective loneliness interventions is their evaluation, ideally through rigorous methods including but not limited to randomised controlled trials, quasi-experimental methods and interviews with participants. The sharing of knowledge, ensuring resources for evaluation and actively connecting theory with practice are essential elements for effective loneliness interventions today and in the future.

## Appendix

See Figs. 7.5 and 7.6.



**Fig. 7.5** Stigmatising views by gender. *Note* ‘Stigma’ refers to the average rate of agreement with either of the two statements ‘[...feeling lonely is] An issue that is limited to the individual concerned’ or ‘People who feel lonely mostly have themselves to blame for their loneliness’ expressed as a percentage for each group ‘Male’ and ‘Female’. The data is based on the subsample of 8,386, 5,742 and 4,291 respondents for the three categories, respectively. On average around 34% of respondents agree with either of the two statements, with 25% agreeing with the statement that loneliness is an issue limited to the individual concerned and 15% of respondents with the statement that lonely people have themselves to blame for their loneliness. All statistics are weighted. *Source* EU Loneliness Survey, 2022, authors’ calculations



**Fig. 7.6** Stigmatising views by age group. *Note* ‘Stigma’ refers to the average rate of agreement with either of the two statements ‘[...feeling lonely is] An issue that is limited to the individual concerned’ or ‘People who feel lonely mostly have themselves to blame for their loneliness’ expressed as a percentage for each age group ‘16–30’, ‘31–45’ and ‘45+’. The data is based on the subsample of 8,386, 5,742 and 4,291 respondents for the three categories, respectively. On average around 34% of respondents agree with either of the two statements, with 25% agreeing with the statement that loneliness is an issue limited to the individual concerned and 15% of respondents with the statement that lonely people have themselves to blame for their loneliness. All statistics are weighted. *Source* EU Loneliness Survey, 2022, authors’ calculations

## References

- Acquah, E. O., Topalli, P.-Z., Wilson, M., Junttila, N., & Niemi, P. (2013). Adolescent loneliness and social anxiety as predictors of bullying victimisation. *International Journal of Adolescence and Youth*, 21(3), 320–331.
- Barreto, M., van Breen, J., Victor, C., Hammond, C., Eccles, A., Richins, M. T., & Qualter, P. (2022). Exploring the nature and variation of the stigma associated with loneliness. *Journal of Social and Personal Relationships*, 39(9), 2658–2679. Retrieved from <https://doi.org/10.1177/02654075221087190>
- Bartlett, H., Warburton, J., Lui, C.-W., Peach, L., & Carroll, M. (2013). Preventing social isolation in later life: Findings and insights from a pilot Queensland intervention study. *Ageing & Society*, 33(7), 1167–1189.
- Beckers, A., Buecker, S., Casabianca, E., & Nurminen, M. (2022). *Effectiveness of interventions tackling loneliness*. European Commission. Joint Research Centre. Luxembourg: Publications Office of the European Union.
- Blasko, Z., & Castelli, C. (2022). *Social Media use and loneliness*. European Commission. Joint Research Centre. Publications Office of the European Union.
- Casabianca, E., & Nurminen, M. (2022a). *Informal expert meeting on loneliness interventions*. Office of the European Union. <https://doi.org/10.2760/951562>

- Casabianca, E., & Nurminen, M. (2022b). *Interventions to reduce loneliness among youth*. Publications Office of the European Union. <https://doi.org/10.2760/793941>
- Casabianca, E., & Kovacic, M. (2024). Historical roots of loneliness and its impact on second-generation immigrants' health. *Journal of Economic Behavior & Organization*, 224, 407–437. <https://doi.org/10.1016/j.jebo.2024.06.011>
- Cattan, M., White, M., Bond, J., & Learmouth, A. (2005). Preventing social isolation and loneliness among older people: A systematic review of health promotion interventions. *Ageing and Society*, 25(1), 41–67.
- Co-op Foundation. (2021). *We are lonely, but not alone*. Retrieved from <https://tacklinglonelinesshub.org/wp-content/uploads/2021/07/We-are-lonely-but-not-alone-Research.pdf>
- de Jong Gierveld, J., van Tilburg, T., & Dyskra, P. A. (2006). Loneliness and social isolation. In D. Perlman & A. Vangelisti (Eds.), *The Cambridge handbook of personal relationships* (pp. 485–500). Cambridge University Press.
- European Commission. (2022). *Mapping of loneliness interventions in the EU*. Retrieved from Loneliness in the EU. Joint Research Centre. [https://joint-research-centre.ec.europa.eu/scientific-activities-z/loneliness/mapping-loneliness-interventions\\_en](https://joint-research-centre.ec.europa.eu/scientific-activities-z/loneliness/mapping-loneliness-interventions_en)
- Foettinger, L., Albrecht, B., Altgeld, T., Gansefort, D., Recke, C., Stalling, I., & Bammann, K. (2022). The role of community-based men's sheds in health promotion for older men: A mixed-methods systematic review. *American Journal of Men's Health*, 16(2), 15579883221084490.
- Gardiner, C., Geldenhuys, G., & Gott, M. (2018). Interventions to reduce social isolation and loneliness among older people: An integrative review. *Health and Social Care in the Community*, 26(2), 147–157.
- Gough, B., & Novikova, I. (2020). *Mental health, men and culture: How do sociocultural constructions of masculinities relate to men's mental health help-seeking behaviour in the WHO European Region?* WHO Regional Office for Europe.
- Heu, L., & Brennecke, T. (2023). By yourself, yet not alone: Making space for loneliness. *Urban Studies*, 60(16), 3187–3197.
- Heu, L., Hansen, N., van Zomeren, M., Levy, A., Ivanova, T., Gangadhar, A., & Radwan, M. (2021). Loneliness across cultures with different levels of social embeddedness: A qualitative study. *Personal Relationships*, 28(2), 379–405.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and Organizations: Software of the mind* (3rd ed.). McGraw-Hill.
- Jansson, A., & Pitkälä, K. H. (2021). Circle of friends, an encouraging intervention for alleviating loneliness. *The Journal of Nutrition, Health & Aging*, 25, 714–715.
- Kerr, N., & Stanley, T. (2021). Revisiting the social stigma of loneliness. *Personality and Individual Differences*, 171, 110482.
- KFF. (2018). *Loneliness and social isolation in the United States, the United Kingdom and Japan: An international survey*. Kaiser Family Foundation.
- Lykke, S., & Handberg, C. (2019). Experienced loneliness in home-based rehabilitation: Perspectives of older adults with disabilities and their health care professionals. *Global Qualitative Nursing Research*, 6.
- Maes, M., Qualter, P., Lodder, G. M., & Mund, M. (2022). How (not) to measure loneliness: A review of the eight most commonly used scales. *International Journal of Environmental Research and Public Health*, 19(17), 10816.
- Mann, F., Bone, J., Lloyd-Evans, B., Frerichs, J., Pinfold, V., Ma, R., et al. (2017). A life less lonely: The state of the art in interventions to reduce loneliness in people with mental health problems. *Social Psychiatry and Psychiatric Epidemiology*, 52(6), 627–638.
- Masi, C., Chen, H., Hawkey, L., & Cacioppo, J. (2011). A meta-analysis of interventions to reduce loneliness. *Personality and Social Psychology Review*, 15(3), 219–266.
- Mental Health Foundation. (2022). *All the lonely people*. Retrieved from <https://www.mentalhealth.org.uk/sites/default/files/2022-06/MHAW22-Loneliness-UK-Report.pdf>

- Neves, B., C3lon-Cabrera, D., Sanders, A., & Warren, N. (2023). Pandemic diaries: Lived experiences of loneliness, loss and hope among older adults during COVID-19. *Gerontologist*, 63(1), 120–130.
- Nurminen, M., & Casabianca, E. (2022). *JRC conference and workshop report roundtable with experts: Effective actions to address loneliness*. Publications Office of the European Union. <https://doi.org/10.2760/718223>
- Nurminen, M., Stepanova, E., & Casabianca, E. (2023a). Policy considerations for loneliness interventions. *Fairness Policy Brief 4/2023*. European Commission. Joint Research Centre.
- Nurminen, M., Thoma-Otremba, A., & Casabianca, E. (2023b). Mapping of loneliness interventions in the EU. *Fairness Policy Brief 6/2023, JRC134255*. European Commission. Joint Research Centre.
- Pikhartova, J., Bowling, A., & Victor, C. (2016). Is loneliness in later life a self-fulfilling prophecy? *Ageing Mental Health*, 543–549.
- Rice, S., Oliffe, J., Seidler, Z., Borschmann, R., Pirkis, J., Reavley, N., & Patton, G. (2021). Gender norms and the mental health of boys and young men. *The Lancet Public Health*, 6(8), e541–e542.
- Schnepf, S., Boldrini, M., & Blask3, Z. (2023). Adolescents' loneliness in European schools: A multilevel exploration of school environment and individual factors. *BMC Public Health*, 23(1), 1917.
- UK Campaign to End Loneliness. (2020). Promising approaches revisited: Effective action on loneliness in later life.
- UK Government. (2023a). *Loneliness stigma rapid evidence assessment*. Retrieved from <https://www.gov.uk/government/publications/research-exploring-the-stigma-associated-with-loneliness/loneliness-stigma-rapid-evidence-assessment-rea>
- UK Government. (2023b). *Exploring loneliness stigma through qualitative interviews and focus groups*. Retrieved from <https://www.gov.uk/government/publications/research-exploring-the-stigma-associated-with-loneliness/exploring-loneliness-stigma-through-qualitative-interviews-and-focus-groups>
- Victor, C. M., Kay, T., Daykin, N., Lane, J., Grisby Duffy, L., Tomlison, A., & Meads, C. (2018). *An overview of reviews: The effectiveness of interventions to address loneliness at all stages of the life-course*. What works well being. Retrieved from [https://whatworkswellbeing.org/wp-content/uploads/2020/01/Full-report-Tackling-loneliness-Oct-2018\\_0151580300.pdf](https://whatworkswellbeing.org/wp-content/uploads/2020/01/Full-report-Tackling-loneliness-Oct-2018_0151580300.pdf)
- World Health Organization. (2021). Social isolation and loneliness among older people. *Advocacy Brief*.
- Wylie, S. (2012). *Social isolation and older people in canterbury*. Age Concern Canterbury.

**Elizabeth Casabianca** (Ph.D.) is a socio-economic analyst at the European Commission's Joint Research Centre (JRC). Her main interests lie in the field of applied microeconomics, fairness, well-being and gender, and she particularly focuses on research with specific policy implications. Prior to joining the JRC, Dr. Casabianca worked as an applied economist in a research and advisory company based in Italy, where she was mainly involved in analysing the implications of economic policies on income distributions. Prior to that, she held a post-doctoral position at the Polytechnic University of Marche and collaborated with UNCTAD's Trade, Gender and Development Section, where she worked on the production of a training package on trade and gender targeted at policymakers and researchers across the globe. Dr. Casabianca holds a Ph.D. in economics and regularly presents her research at international conferences.

**Minna Nurminen** (M.Sc) is a socio-economic analyst at the European Commission's Joint Research Centre (JRC). In this role, she focuses on policy-oriented research in the areas of loneliness, fairness and gender equality. Prior to joining the JRC, she gained policy and research experience in international settings including at the European Commission and the United Nations. Most recently, in her role at UN Women she supported the implementation of the UN Secretary-General's strategy on gender parity across the UN system, collected and analysed organisational

data, provided capacity-building and developed guidelines for an enabling working culture. As a social scientist, she holds an MSc in comparative social policy from the University of Oxford and a master's degree in social and public policy from the University of Helsinki.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.



# Chapter 8

## Taking Stock of Loneliness in the European Union: A Future Pathway



Sylke V. Schnepf, Caterina Mauri, and Béatrice d’Hombres

**Abstract** Looking back at the preceding seven chapters, this chapter reflects on specific features of loneliness risk factors and potential consequences and evaluates the effectiveness of loneliness interventions in the European Union. In addition, the chapter highlights the unique features of the EU Loneliness Survey and suggests avenues for future research. Finally, the authors discuss the importance of monitoring loneliness over time and reflect on policy developments in the European Union and globally.

---

S. V. Schnepf (✉) · B. d’Hombres  
European Commission, Joint Research Centre (JRC), Ispra, Italy  
e-mail: [Sylke.Schnepf@ec.europa.eu](mailto:Sylke.Schnepf@ec.europa.eu)

B. d’Hombres  
e-mail: [Beatrice.dHombres@ec.europa.eu](mailto:Beatrice.dHombres@ec.europa.eu)

S. V. Schnepf  
IZA, Bonn, Germany

C. Mauri  
Brussels Institute for Social and Population Studies (BRISPO), Vrije Universiteit Brussel, Elsene, Belgium  
e-mail: [Caterina.Mauri@vub.be](mailto:Caterina.Mauri@vub.be)



## 8.1 Introduction

In 2022, more than one third of respondents to the EU Loneliness Survey reported feeling lonely at least sometimes and 13% were lonely most of the time. This result suggests that almost 50 million Europeans feel lonely most of the time.<sup>1</sup>

The subjective nature of loneliness means that it is inherently difficult to measure, so interpreting such figures is challenging, but it is clear that loneliness has become a pressing public issue requiring attention. This book contributes to raising awareness about loneliness and provides evidence to guide informed policymaking. All the chapters of the volume make use of the 2022 EU Loneliness Survey designed by the European Commission's Joint Research Centre (JRC) and provide insights into the prevalence of loneliness, the risk factors associated with loneliness and the potential consequences of loneliness on society. The book also explores awareness of loneliness interventions among EU residents and describes existing loneliness interventions in the European Union.

The following section reflects on features and limitations of the EU Loneliness Survey and on difficulties associated with measuring loneliness. It also identifies areas where further research on the measurement of loneliness is needed. Section 8.3 then highlights some of the main findings derived from the EU Loneliness Survey and areas for further research. Section 8.4 discusses what we know about loneliness interventions and their effectiveness. Section 8.5 concludes by reflecting on the future path for loneliness research and policy interventions.

## 8.2 Measuring Loneliness: Reflections and Unanswered Questions

The EU Loneliness Survey has unique features that offer valuable insights for both research in the field and European policies.

First, the survey covers all 27 EU countries and makes it possible to focus on specific vulnerable groups. Over 27,000 respondents aged 16 and over recruited from online consumer panels filled in the questionnaire at the end of 2022. This EU-wide data collection allows country-specific analyses of loneliness and its risk factors and associated characteristics.

Second, the survey includes three different measures of loneliness generally used in isolation in the past: one direct question on loneliness and two indirect measures based on well-established psychometric scales. To the best of our knowledge, this

---

<sup>1</sup> In 2022, about 447 million people were living in the European Union, of whom around 71 million were under 16 years old (Eurostat, 2023). The survey covers people aged 16 and over, and there were about 376 million people in this age range living in the EU in 2022 (447 million minus 71 million). The calculation of the population facing loneliness assumes that the results based on the EU Loneliness Survey sample can be generalised to the entire population.

is the first time that three distinct measures of loneliness have been used in a cross-national survey, thereby allowing a meaningful comparison across these metrics.

Third, the survey is specifically designed to advance our understanding of the factors influencing loneliness and the resulting outcomes. Respondents were asked a comprehensive set of questions on their background, socio-economic status and social networks. The survey also covers in detail other topics linked to loneliness, such as social connectedness, life events, social media use, attitudes and beliefs, mental and physical health and loneliness interventions.

Fourth, in addition to the main survey covering the 27 member states, a shorter version of the questionnaire was administered to a secondary sample in four EU countries. In contrast to the main survey, this sample has the properties of a probability sample given that it was randomly selected from an existing probability-based web panel. The comparison of these two surveys is useful when discussing the robustness of the results as well as survey methodological issues related to representativeness.<sup>2</sup>

All chapters exploit some of these unique characteristics of the EU Loneliness Survey and offer evidence on specific aspects of loneliness. Beginning with the foundational aspects of definition and measurement, the discussion in Chap. 2 emphasises the importance of having reliable metrics on loneliness. The choice of data collection method, such as whether the interview takes place in person or online, may matter, especially as loneliness is still stigmatised. In a cross-country context, a country's specific cultural characteristics, the way national media report on the subject and the exact wording of the questions may also play a role.

The chapters in this volume predominantly make use of the direct measure of loneliness, which asks respondents about the frequency of any feelings of loneliness. This direct measure is a single question, making it suitable for inclusion in surveys centred on topics other than loneliness. Indeed, the direct measure has already been included in large European Union surveys, such as the Survey on Income and Living Conditions. In contrast, indirect measures, which use several questions to measure loneliness without explicitly asking respondents to report on feelings of loneliness, impose a greater burden on respondents but have the advantage of capturing different aspects of loneliness. Chapter 3 contributes to this debate by comparing the risk factors associated with loneliness when using the direct loneliness question and the two indirect ones, highlighting differences but especially similarities. The conclusions drawn in other chapters of this volume also generally emphasise that their findings are valid whatever the measure of loneliness chosen.

---

<sup>2</sup> Non-probability samples come with advantages and disadvantages (Karp & Lühiste, 2016; Schaurer & Weiss, 2020). While inexpensive and easy to collect, results from non-probability samples are typically not generalisable to the overall population. On the other hand, results based on the relationship between variables in non-probability samples may allow for population inference under certain circumstances (Jerit & Barabas, 2023). The main sample of the EU Loneliness Survey is a non-probability sample, which calls for cautions in the interpretation of the results on loneliness incidence and cross-country comparisons. This explains why all chapters in this volume do not investigate country differences in loneliness in detail, but focus on the entire sample of 27 European countries to evaluate the relationship between a huge variety of variables and loneliness.

A related, though not identical, question is who we should class as lonely. The chapters in this volume adopt a common approach by defining lonely people as those whose response to the direct question on loneliness or scores on indirect loneliness scales exceed specific thresholds. All other respondents are classified as not lonely. Although this approach simplifies analyses and results in easily interpretable statistics, it may discard potentially useful information on variances in the degrees of loneliness reported by respondents. Additionally, it also means that the results of the analysis may be affected by the threshold chosen. Chapter 2 contributes to this discussion by comparing different thresholds.

However, several unexplored issues regarding the measurement of loneliness still warrant attention and further investigation. Conducting additional research based on both the EU Loneliness Survey and future surveys collecting information on loneliness will help shed light on some of these unknowns.

Firstly, the survey mode (e.g. telephone, face to face, online) appears to influence how respondents answer questions on loneliness. Face-to-face surveys have the advantage of tending to represent the target population better than online surveys (Wolf et al., 2021). However, online surveys have the advantage of privacy: respondents may feel more comfortable reporting on their loneliness, and social desirability bias is less of a concern (see Chap. 2). The EU Loneliness Survey, which is administered as an online survey,<sup>3</sup> provides anonymity to respondents and is therefore likely to be unaffected by this reporting bias. Further data collection in the field of loneliness is needed to explore how the survey mode affects the reporting of loneliness and, specifically, how this effect differs depending on respondents' individual characteristics, for example by age, employment status or gender.

Secondly, most indirect questions on loneliness were originally designed for the elderly and may not be appropriate for other population groups. Further exploration of the EU Loneliness Survey data could help us understand whether the three loneliness metrics used in this volume are equally suitable for different age groups. In addition, while researchers have already proposed children-specific measures of loneliness, the comparability over time and across population groups of such different measures of loneliness is largely unknown.

Finally, another possible avenue for future research revolves around language considerations related to the translation of the term 'loneliness' in different languages. It is noteworthy that not all European languages have a direct equivalent for the term 'loneliness'.

---

<sup>3</sup> Note that a small share of respondents in the probability-based sample filled in the survey via telephone.

### 8.3 Novel Insights from the EU Loneliness Survey and Further Research Avenues

The EU Loneliness Survey not only confirms existing evidence but also provides novel insights into the risk factors for loneliness and potential detrimental effects.

In line with recent studies, Chap. 3 demonstrates that younger adults have a higher incidence of loneliness than middle-aged and older adults. Given that a large share of the existing loneliness literature as well as a large number of loneliness interventions focus predominantly on the elderly, this suggests that there might well be a mismatch between academic research priorities, policy actions and the current needs of the population.

The inclusion of questions on recent life events has enabled an exploration of the relationship between past events and experiences and current feelings of loneliness. Results from the analysis included in Chap. 3 show that a recent move to a new municipality increases the probability of feeling lonely. Experiencing severe conflict at home or work, recently separating from a partner and becoming unemployed also increase the risk of feeling lonely. Moreover, the large sample size of the survey makes it possible to document loneliness disparities for minority groups that have not been extensively investigated before now. In particular, a higher incidence of loneliness is found among sexual minorities and people with a migration background.

As expected, the frequency and quality of social connections play a key role too. Respondents who meet family members and friends frequently are less likely to be lonely than those who meet such acquaintances less often. However, the quality of relationships is also important: being in an unhappy partnership is more strongly associated with loneliness than not being in a relationship at all.

Furthermore, the EU Loneliness Survey contains retrospective questions on the quality of respondents' relationships with parents and friends as well as their own and their close relatives' health status during their childhood. Results reported in Chap. 4 suggest that adverse childhood experiences are not unusual across the European Union, with one in four adults reporting a bad relationship with parents and at least one in ten adults saying that they experienced poor health and a lack of friends during childhood. The association between these adverse childhood experiences and loneliness is positive, with predicted increases in the likelihood of feeling lonely in adulthood of 4–8 percentage points, after controlling for respondents' other characteristics.

Several of the associations discussed above have already been documented in other surveys. However, previous evidence using European data typically focused on specific and limited associated factors, whereas the richness of the EU Loneliness Survey offers the opportunity of exploring many risk factors for loneliness across various life stages from childhood to current circumstances.

The EU Loneliness Survey offers further novel insights, especially on the link between loneliness and some specific individual behaviours and attitudes, namely social media use, risk-taking behaviours and civic and social behaviours. The analysis in Chap. 5 adds to the growing and topical debate on the link between social media use

and loneliness. Among other results, it shows that intensive social media use, defined as 4 h or more per day, is associated with a significant increase in loneliness, even when taking account of the frequency and quality of respondents' social connections.

The survey data also reveal a link between loneliness and behaviour potentially detrimental to individuals' well-being. Chapter 6 suggests that those who feel lonely are more likely to take risks in areas such as health, driving and financial decisions. This behaviour may not only be unfavourable for lonely individuals but also for society as a whole. In a similar vein, the same chapter sheds light on the still very limited evidence on the potential associations of loneliness with social and civic attitudes. It investigates links between loneliness and interpersonal trust, pro-social behaviours such as donating or volunteering, and attitudes towards the government. Lonely people are found to be more likely to donate and volunteer but have lower interpersonal trust and are less likely to vote. These results remain robust after controlling for a large set of individual characteristics.

The editors of this volume regard the research reported and discussed above as an exploration of the key elements of loneliness research areas that the EU Loneliness Survey can shed light on. However, the survey also provides additional information on the measurement of loneliness, survey design and methodology, and on the risk factors and consequences of loneliness. The exploration of areas covered by the survey can be used to identify opportunities for additional novel research avenues that could help meet future policy development needs. In particular, future research could exploit the detailed health module of the EU Loneliness Survey which includes questions on respondents' weight and height as well as their exercise and smoking habits. Furthermore, while this volume has focused especially on the general incidence of loneliness, the survey also includes questions on social isolation at work and at school, and information on the frequency of working from home could be leveraged to further investigate the link between loneliness and employment conditions. Overall, we see the work included in this volume as an encouragement for researchers to make full use of the data gathered by the EU Loneliness Survey.

## 8.4 How to Address Loneliness Effectively

In order to reduce the incidence of loneliness, one approach is to identify factors that contribute to higher risk of loneliness and to search for ways to reduce individual exposure to these risk factors. For example, it is likely that, in addition to other desirable outcomes, loneliness in adulthood would decline if the incidence of adverse experiences during childhood could be reduced. Similarly, encouraging social interactions, creating a sense of belonging and promoting healthy use of social media have the potential to translate into lower rates of loneliness.

Other factors associated with loneliness are hard or impossible to influence. This applies especially to experiences of distressing events like the death of a partner or divorce and specific socio-economic situations such as unemployment. Nevertheless,

identifying triggering events such as separation from a partner or job loss could guide preventive interventions for those who need them the most.

Chapter 7 discusses loneliness interventions and survey respondents' views on possible remedies against loneliness in greater detail. The EU-wide Mapping of Loneliness Interventions, developed by the JRC, shows that there are already many programmes in the European Union aimed at combating loneliness. Practitioners in the field agree that there is no 'one size fits all' intervention. To be successful, loneliness interventions need to be tailored to the group of people they are meant to help, taking their cultural norms and values into account. This may explain why loneliness interventions are mostly offered by local and grassroots organisations.

The EU Loneliness Survey also asked respondents about coping strategies they see as helpful, i.e. remedies that they use to alleviate their own loneliness. 'Seeing friends, family and loved ones' and 'taking time for themselves' were the most common coping activities.

Chapter 7 shows also that the more often someone feels lonely, the more likely they are to assume that loneliness is caused by an individual issue rather than a societal problem. In other words, lonely individuals are themselves more likely to have stigmatising views on loneliness than non-lonely people. This stigmatisation represents a hurdle that has to be taken into account in the design of outreach efforts.

## 8.5 Charting the Way Forward

For the future, it is important to reflect on the steps needed to ensure that loneliness remains at the forefront of the political and research agenda, while also acknowledging the efforts made in recent years to address this issue.

First and foremost, we believe that the potential impact on loneliness and social connections should be a core consideration when carrying out impact assessments for new policy initiatives. In the next revision of the Better Regulation toolbox and guidelines (European Commission, 2021, 2023), the fostering of social connections should feature prominently among the types of impact to be assessed. By considering the loneliness dimension up front when designing EU urban, transport, labour or educational policies, we could shift from merely addressing loneliness among those already affected to proactively preventing it across the entire population (Holt-Lunstad, 2018).

Second, monitoring loneliness must become a regular practice, so that we can track progress and investigate causal mechanisms of loneliness. This involves reaching a consensus on loneliness measurement metrics but also on the need to collect data on a regular basis. To understand causal effects of specific risk factors and to comprehensively assess the societal consequences of loneliness, robust data collection mechanisms should include the possibility of collecting longitudinal information.

Third, in order to understand which strategies are effective in counteracting loneliness, there is a critical need for rigorous impact evaluations of existing interventions addressing loneliness. Understanding what works and for whom is essential to refine

and optimise future initiatives. An exchange of good practices among member states on effective loneliness interventions could be facilitated through the establishment of an archive of evaluations of loneliness interventions. As evaluating any policies including loneliness interventions requires high-quality data, this further underscores the importance of collecting adequate data on loneliness in the future.

Fourth, the joint project between the European Parliament and European Commission on loneliness has been at the forefront of fostering an interdisciplinary dialogue on loneliness. This was possible through the organisation of a number of events, in particular the high-level Loneliness in the European Union conference that took place in June 2023 in Brussels (Berlingieri et al., 2023).<sup>4</sup> This ongoing conversation must continue to bridge disciplines, bringing together academics, policymakers and practitioners to share insights, research and best practices.

Fifth, more research is needed to gain a better understanding of the impact of new ways of working and communicating, particularly the growing use of remote working and social media, on the incidence of loneliness. Additionally, while the role of the environment and infrastructure in fostering a sense of belonging and reducing loneliness is promising, this has not been discussed in this volume and more research is needed to understand the extent to which public and shared spaces are effective protective factors against loneliness.

All these efforts should serve a larger purpose: to put loneliness at the heart of public policy design. As an example, the ‘whole-school’ approach, which emphasises that educational systems have to go beyond covering academic content by fostering socio-emotional competences and resilience, should take loneliness into consideration (Schnepf et al., 2023). The same could apply to policies supporting families with young children and awareness strategies for social media. Loneliness is not just a personal issue; it is a societal one that requires collective action and commitment at all levels.

We have witnessed substantial progress, with various initiatives in EU member states, as discussed in Chaps. 1 and 7, and the establishment of the World Health Organization commission on social connection. The joint project of the European Parliament and European Commission and EU-funded interventions aimed at fostering social connections are evidence that the issue of loneliness is not only being taken seriously but is also leading to concrete policy actions. Nevertheless, while significant progress has been made, there are still challenges to be faced in the future. It is our collective duty to ensure that all policies take account of any potential negative effects on social isolation and loneliness, and that resources are allocated to data and research on loneliness, so that future efforts to tackle feelings of loneliness among EU citizens are underpinned by evidence-based decisions and multidisciplinary dialogue.

---

<sup>4</sup> See [https://joint-research-centre.ec.europa.eu/scientific-activities-z/loneliness/loneliness-events\\_en](https://joint-research-centre.ec.europa.eu/scientific-activities-z/loneliness/loneliness-events_en) for the list of events organised in the past two years.

## References

- Berlingieri, F., Casabianca, E., Colagrossi, M., D’Hombres, B., Kovacic, M., Mauri, C., Nurminen, M., Schnepf, S. V., & Stepanova, E. (2023). Key messages and policy recommendations of the one day conference on ‘Loneliness in the European Union: Policies at work.’ *Publications Office of the European Union*. <https://doi.org/10.2760/592074>
- European Commission. (2021). *Better regulation guidelines* [Commission staff working document]. [https://commission.europa.eu/law/law-making-process/planning-and-proposing-law/better-regulation/better-regulation-guidelines-and-toolbox\\_en](https://commission.europa.eu/law/law-making-process/planning-and-proposing-law/better-regulation/better-regulation-guidelines-and-toolbox_en)
- European Commission. (2023). *Better regulation toolbox*. [https://commission.europa.eu/document/download/9c8d2189-8abd-4f29-84e9-abc843cc68e0\\_en?filename=BR%20toolbox%20-%20Jul%202023%20-%20FINAL.pdf](https://commission.europa.eu/document/download/9c8d2189-8abd-4f29-84e9-abc843cc68e0_en?filename=BR%20toolbox%20-%20Jul%202023%20-%20FINAL.pdf)
- Eurostat. (2023). *Key figures on Europe—2023 edition*. Publications Office of the European Union. <https://doi.org/10.2785/42580>
- Holt-Lunstad, J. (2018). Why social relationships are important for physical health: A systems approach to understanding and modifying risk and protection. *Annual Review of Psychology*, 69, 437–458. <https://doi.org/10.1146/annurev-psych-122216-011902>
- Jerit, J., & Barabas, J. (2023). Are nonprobability surveys fit for purpose? *Public Opinion Quarterly*, 87(3), 816–840. <https://doi.org/10.1093/poq/nfad037>
- Karp, J. A., & Lühiste, M. (2016). Explaining political engagement with online panels: Comparing the British and American election studies. *Public Opinion Quarterly*, 80(3), 666–693.
- Schaurer, I., & Weiss, B. (2020). Investigating selection bias of online surveys on coronavirus-related behavioral outcomes. *Survey Research Methods*, 14(2), 103–108.
- Schnepf, S. V., Boldrini, M., & Blaskó, Z. (2023). Adolescents’ loneliness in European schools: A multilevel exploration of school environment and individual factors. *BMC Public Health*, 23(1), Article 1917. <https://doi.org/10.1186/s12889-023-16797-z>
- Wolf, C., Christmann, P., Gummer, T., Schnaudt, C., & Verhoeven, S. (2021). Conducting general social surveys as self-administered mixed-mode surveys. *Public Opinion Quarterly*, 85(2), 623–648. <https://doi.org/10.1093/poq/nfab039>

**Sylke V. Schnepf** (Ph.D.) is a senior policy advisor in the Science for Modelling, Monitoring and Evaluation Unit of the European Commission’s Joint Research Centre (JRC) in Ispra, Italy. She is part of the Survey Methods and Analysis Centre (SMAC) team conducting research on survey design, fairness and loneliness. She also contributes to the Competence Centre on Microeconomic Evaluation through research, teaching and advisory activities on quantitative education policy evaluation. Before joining the JRC in 2014, she was an associate professor in social statistics at the University of Southampton, United Kingdom. Dr. Schnepf has a long publication record on patterns of cross-national educational inequalities and counterfactual impact evaluation of policies aimed at mitigating these inequalities. She is also a member of the Scientific Committee of the JRC and a research fellow of the IZA Institute of Labor Economics in Bonn, Germany.

**Caterina Mauri** (Ph.D.) is a post-doctoral researcher at the Brussels Institute for Social and Population Studies, Vrije Universiteit Brussel, contributing to the IneqKill project—an interdisciplinary research initiative focusing on the long-term evolution of mortality inequalities from 1800 to the present day. Dr. Mauri holds a Ph.D. in economics from the University of Southern Denmark and has previously worked at the Survey Methods and Analysis Centre of the European Commission’s Joint Research Centre. Her research interests include loneliness and mental well-being, fairness and inequality perceptions, regional and urban economics, the labour market for artists and creatives, art consumption and innovation and technology in history.



**Béatrice d’Hombres** (Ph.D.) leads the Survey Methods and Analysis Centre (SMAC) within the Science for Modelling, Monitoring and Evaluation Unit at the Joint Research Centre (JRC) of the European Commission. She is the coordinator for the European Parliament Pilot Project on Loneliness at the JRC. With over 17 years of experience as a researcher and policy analyst at the JRC, Dr. d’Hombres has worked in various fields, including labour economics, health economics and education economics, using applied econometric statistics and survey data analysis methodologies. Her research has been published in international journals such as the *European Economic Review*, *Health Economics*, *Social Science & Medicine*, the *B.E. Journal of Economic Analysis & Policy* and *Social Indicators Research*.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter’s Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter’s Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

