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Loneliness in the EU

Insights from surveys and online media data

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ABSTRACT

Research shows that loneliness and social isolation have harmful repercussions on mental and physical health, as well as significant consequences for social cohesion and community trust. Both loneliness and social isolation are therefore increasingly recognised as critical public health issues that deserve attention and need to be addressed with effective intervention strategies. The COVID-19 pandemic has also dramatically reshaped Europeans' lives and social practices. Mobility restrictions and social distancing measures adopted to contain the spread of the virus have prompted public discussions about the unintended side effects of such arrangements, particularly in the form of loneliness and social isolation. Some fear that the toll of loneliness could have consequences long after the virus recedes.

This report offers an overview of the current state of knowledge on loneliness and social isolation in the EU. It presents the main findings of two empirical analyses carried out by the JRC using two complementary sources of information, namely survey and online data. The analysis based on survey data offers a picture of recent trends in self-reported levels of loneliness across the EU and identifies the prevailing socio-demographic and geographical characteristics associated with loneliness before and during the first months of the COVID-19 pandemic. Survey data show that the COVID-19 pandemic has magnified the problem. The proportion of respondents that felt lonely frequently doubled following the COVID-19 outbreak. In addition, young adults were hit more severely. The analysis based on online data looks at trends in online media reporting on loneliness and social isolation between January 2018 and January 2021. The volume of articles on these topics is measured on a monthly basis and by Member State, and the collected articles are analysed in depth to identify the prevailing sentiments contained in them and detect patterns in the underlying narratives. Online media reporting on loneliness and social isolation has doubled during the pandemic. Narratives largely concerned the health consequences of loneliness. The analysis of online media reporting catalogues also typologies and examples of policy initiatives aimed at combating loneliness and social isolation. Public initiatives vary across Member States. Overall, most interventions are designed at local level and are rarely part of more systematic programmes.

FOREWORD

Dubravka Šuica
European Commission Vice-President
Democracy and Demography

Any community is defined by, among others, the meaningful connections between its members. The COVID-19 pandemic reminded us of the importance of positive personal connections, of belonging to a community. The last year and a half brought to the fore many individual and societal challenges that existed before, but remained mostly unacknowledged or neglected. This includes the phenomenon of loneliness and social isolation in our societies.

Citizens and their lives - individually and as a community, young and old, living in rural or urban areas - are central to my work as European Commission-Vice President for Democracy and Demography. As we look at the 'demos' from different angles, we need to reflect on how the EU can improve people's lives.

There is scientific evidence that loneliness affects mental and physical health, and might reduce social cohesion and community trust and ultimately economic outcomes. Loneliness should be considered both for its individual as well as societal consequences. We must, therefore, seek ways to address loneliness together, indeed as a community. This is key for improving the resilience of our societies and our economic performance. This is a responsibility for all of us - at local, national and EU level, for authorities, society as a whole and each and every individual.

The best and most effective results are achieved when there is broad collaboration in monitoring loneliness over time, identifying and supporting effective interventions and sharing best practices. It is the role of the EU to alert and raise awareness on challenges that may undermine cohesion and promote co-operation to address them in a community-based approach.

To effectively tackle the complex issues of loneliness and social isolation, we need first of all to fully understand them. Scientific knowledge is a strong base for well-informed and evidence-based policy-making. This is why I asked for the support of the Joint Research Centre to analyse loneliness in Europe.

This report outlines evidence from survey data on how loneliness has evolved during the current pandemic for Europeans of all ages. It includes the first ever EU-wide monitoring of how the issue has been discussed by online media outlets, in different Member States.

It is the first step of a broader body of work that will include new data collection and other salient actions. Together with other initiatives, such as the Green Paper on Ageing, this work will represent an opportunity to reflect on how to build together a more resilient, cohesive society and an EU that is close to its citizens across the entire life-cycle.

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EXECUTIVE SUMMARY

Why this report?

Research shows that loneliness and social isolation have harmful repercussions on individuals' mental and physical health, as well as significant consequences for social cohesion and community trust. Both loneliness and social isolation are therefore increasingly recognised as critical public health issues that deserve attention and need to be addressed with effective intervention strategies.

The COVID-19 pandemic has dramatically reshaped the lives and social practices of Europeans. Mobility restrictions and social distancing measures adopted to contain the spread of the virus have prompted public discussions about the unintended side effects of such arrangements, particularly in the form of loneliness and social isolation. The current public debate on this issue represents an opportunity to highlight a problem that has often been unacknowledged or treated as a taboo.

Against this background, European Commission Vice-President Dubravka Šuica, who is in charge of the Democracy and Demography portfolio, asked the Joint Research Centre to provide her with scientific evidence on loneliness and social isolation in the EU.

This report represents the first product of this exercise and revolves around a series of broad thematic questions, such as:

- Is loneliness on the rise?
- Do we have reliable data to monitor loneliness in European societies?
- How much do we know about the demographics of loneliness, that is to say its prevalence by age, gender and socio-economic status?
- How is loneliness portrayed in media reporting in the different Member States?
- And what scientific knowledge exists about the consequences of loneliness for individuals' health, work, finances, social functioning and civic participation?

Role of the JRC

As the in-house science service of the European Commission, the JRC is supporting Vice-President Šuica in a reflection on a possible EU-wide approach to addressing loneliness and social isolation. This builds on previous work carried out by the JRC on this topic.

The JRC's scientific and technical support on loneliness includes interdisciplinary knowledge management on existing research, data and practices, as well as the production of novel evidence and analysis of new data sources.

This report is the first element in a broad series of activities that will take place over the next two years in the context of a European Parliament pilot project on monitoring loneliness in Europe. The European Commission Directorate-General for Employment, Social Affairs & Inclusion, in collaboration with the JRC, will carry out a number of tasks including the collection of pan-European data on loneliness, a review of existing literature and identification of knowledge gaps, and the establishment of a web platform to monitor loneliness over time and across Europe. Related activities might include further investigations on media reporting.

Content, aims and methodology of this report

This report offers an initial overview of the current state of knowledge in the EU, as a baseline for further work. In particular, the introductory **Chapter 1** briefly outlines existing scientific knowledge on loneliness and social isolation, and their societal impacts.

The report then presents the main findings of two empirical analyses carried out by the JRC. Both apply innovative methodologies and generate insights on loneliness and social isolation in the EU.

Chapter 2 examines European survey data before (2016) and during the pandemic (April-July 2020). It offers a picture of recent trends in self-reported levels of loneliness across the EU and identifies the prevailing socio-demographic and geographical characteristics (age group, economic situation, gender, place of residence) associated with loneliness before and during the first months of the COVID-19 pandemic.

Chapter 3 looks at trends in online media reporting on loneliness and social isolation in all EU Member States between January 2018 and January 2021. The volume of articles mentioning loneliness and social isolation is measured, month by month and by Member State. The chapter also includes an in-depth analysis of the collected articles to identify the prevailing sentiments contained in them, detect patterns in the underlying narratives, and examine differences in content and tone when loneliness is discussed in relation to specific themes. It also catalogues

typologies and examples of policy initiatives aimed at combating the problem.

The combination of survey and online media data offers a comprehensive and timely snapshot of loneliness and social isolation in Europe.

Definitions and issues

Loneliness, social isolation and solitude define three very distinctive forms of 'being alone' for an individual, even if the terms are sometimes used interchangeably in everyday language (as Chapter 3 illustrates).

In the literature, **loneliness** has a strong **subjective** nature. It is the perception of a discrepancy between a person's desired and actual network of relationships. It is lived as a deeply **negative** experience. It is not only about having too few social contacts per se, but also about the perception that these relationships are not satisfying enough. In other words, loneliness does not mean being alone, but **feeling** alone. In this respect, loneliness is different from **social isolation**, which has an **objective** connotation, defined by an absence of relationships with other people and/or a very small number of meaningful ties. **Solitude** describes the act of being alone voluntarily, which once again involves the objective condition of being away from others but also the possibility of pleasant and **positive** feelings about this situation.

Much attention has been paid to the relationship between loneliness and social isolation. However, there is no automatic connection between loneliness and social isolation. Socially isolated people are not necessarily lonely, and lonely people are not necessarily socially isolated.

In addition to the general concept, the academic literature identifies several forms of loneliness. Loneliness can be **transient** when it involves occasional feelings of loneliness, **situational** if triggered by specific events in life (such as the loss of a partner or moving to a new town), and **chronic** when the lack of satisfactory relationships persists for extended periods of time.

From a public policy perspective, it is **chronic loneliness** that entails the most detrimental consequences, requiring intervention and appropriate health and social care policies. In fact, while everyone feels lonely at times, there is scientific evidence that chronic loneliness can make people unwell and prompt them to withdraw even further from social interaction. We might reasonably expect that loneliness induced by the COVID-19 pandemic and the associated containment measures will prove to be mostly transient in nature. However, it would be incautious to dismiss concerns that more than a year of reduced in-person contacts might result in a rise in chronic loneliness long after the pandemic subsides.

Another important element concerns the relationship between individual concerns and issues related to the social fabric. Growing empirical evidence confirms that chronic loneliness is not simply attributable to the personality traits of a subset of individuals, but a sign of major problems in society. Overall, scholarship convincingly demonstrates that loneliness is an issue affecting Western societies with critical ramifications at societal level.

What kind of evidence is there, though, that loneliness is increasing and that the common rhetoric of an 'epidemic of loneliness' is empirically grounded?

Evidence from Eurofound survey data

Data from Eurofound's surveys *European Quality of Life* and *Living, working and COVID-19* show that, in 2016, about 12% of EU citizens felt lonely more than half of the time. The COVID-19 pandemic has magnified the problem. In the first months following the COVID-19 outbreak, this proportion doubled to around 25%.

Data analysis provides important insights on the significance of the problem for different demographic groups. Before the pandemic, older people were the age group most vulnerable to loneliness. However, social distancing measures have hit young adults most severely. The share of people aged 18-25 who reported feeling lonely almost quadrupled in the first months of the pandemic (April-July 2020).

Furthermore, being single has made social distancing measures more painful. People living alone experienced an increase in the prevalence of loneliness of more than 22 percentage points compared with levels observed in 2016. In comparison, the incidence of loneliness among those living with a partner and/or children increased by 9 percentage points over the same period.

In terms of its geographical distribution, before the pandemic, loneliness was lowest in northern Europe, with around 6% of people indicating that they felt lonely more than half of the time, while western, southern and eastern Europe exhibited higher levels of loneliness. This picture changed following the COVID-19 outbreak, with all regions reporting loneliness levels of between 22% and 26%.

The data also reveal some constant features, which were not affected by the pandemic. For example, favourable economic circumstances and good health protect against loneliness; females and males are equally likely to feel lonely; and, contrary to a common perception, there is no sign of a rural-urban divide in feelings of acute loneliness.

Evidence from media reporting

Through the JRC Europe Media Monitor system, the JRC analysed how online media in the EU report on loneliness and social isolation. The Europe Media Monitor is a JRC in-house system that processes over 300,000 articles a day, in more than 70 languages, with a wide coverage of EU national and local news sources. Its automatic processing labels each article for emotions (anger, fear, sadness, disgust, surprise, joy) and sentiment values (positive, negative and neutral).

The JRC's analysis was both quantitative (volume of reporting), and qualitative (sentiments and underlying narratives).

On the quantitative side, the numbers of articles on loneliness and social isolation both doubled at the beginning of the COVID-19 pandemic in March 2020 (compared with the previous two years). After the initial months, coverage on social isolation returned to pre-COVID-19 levels and remained there, but media reports on loneliness grew again in September-October 2020 and reached another peak around December 2020-January 2021, in parallel with the different waves of the pandemic.

Interest in the topic varied between Member States. In some countries (e.g. Italy, Spain, France, Germany and Sweden) loneliness was a big topic of discussion in the media, while in others it featured much less prominently. Interestingly, a major focus of the coverage was on young people and women.

Narratives largely concerned the health consequences of loneliness. The impact of teleworking also received substantial coverage. Discussions on the possible roots of the problem ranged from a criticism of neoliberal economic structures and their ramifications, to the impact of poor urban planning and design, and the role played by technology (as well as its potential benefits). With regard to the economic impact, media reporting focused on unemployment and the detrimental consequences of the COVID-19 crisis on young people. The media analysis also showed that loneliness remains socially stigmatised, which limits the scope for open discussion and the identification of effective interventions.

Finally, the media analysis allowed the compilation of a first inventory of initiatives addressing loneliness across Member States. The picture is diverse: numerous initiatives are designed at local level and are rarely part of more systematic programmes. The analysis also showed differences across Member States in the understanding of loneliness as a public or personal concern, and therefore on the types of suitable interventions, ranging from urban design and community support to individually targeted solutions.

Concluding remarks

This report represents the first step in a wider programme, that will include a further collection of data in 2022 and a broader analysis of policy interventions.

The combination of different methodologies used in the report provides complementary insights that point to some key arguments and conclusions.

The COVID-19 outbreak has led to an increase in the self-reporting of loneliness and social isolation and in media reporting on the topic. A possible silver lining is that the current climate has led to more open public discussions on both issues. As awareness of the societal damage of loneliness is gaining momentum, efforts to recover from the crisis also provide an opportunity to destigmatise loneliness and to develop effective interventions.

Scientific evidence may contribute to the design of such interventions, by enhancing the understanding of the problem and its effects, and by assessing which interventions work in tackling loneliness and social isolation. In keeping with its mission, the JRC is committed to supporting work at EU level and in Member States to develop evidence-based decision making and contribute to building a Europe closer to citizens.

1. Introduction

1.1. About loneliness and social isolation in Europe

In May 2020, European Commission Vice-President Dubravka Šuica stated that the COVID-19 pandemic "has highlighted a massive challenge in the form of loneliness. Social distancing has become the norm, the biting feeling of loneliness has been an unwelcome companion to far too many Europeans. [...] This is not a new phenomenon, yet it is now revealed as never before and has significant social, economic and health implications that deserve our attention" (Šuica 2020).

Already in 2018, *The Economist* described loneliness, perhaps incautiously, as the 'epidemic' of the 21st century (Fergusson 2018). Even earlier, other Western media outlets had made similar observations, without triggering much criticism or scepticism about loneliness being merely a 'vogue' term and its alleged epidemic being overstated (Lepore 2020; Alberti 2019, 1–16; Bingham 2014; White 2011)[1]. In 2018 the United Kingdom government announced the creation of a dedicated ministerial-rank figure to coordinate a loneliness reduction strategy, taking action on a problem considered to cause harmful consequences to citizens' health and increase social injustice[2]. In the Netherlands too and for several years now, the Directorate of Long-Term Care of the Ministry of Health, Welfare and Sports has been allocating considerable financial and human resources to combat loneliness, especially among the elderly (Kelders and de Vaan 2018).

Indeed, containment measures adopted by public authorities in reaction to the COVID-19 pandemic – such as enforced isolation, social distancing, curfews, lockdowns – have prompted a new wave of public discussions on the unintended side effects of such provisions. In combination with economic woes, they appear to have aggravated problems of loneliness, social withdrawal and mental health (DeMontis, and Richard 2021; Koyanagi and Santini 2021; McDonald 2021; Mullins and Hodgins 2021; Santini and Koyanagi 2021; Taylor 2020; Welle 2020). Such developments are observable worldwide: in February 2021, the Japanese government appointed for the first time in the country's history a minister to combat loneliness and alleviate social isolation among the demographics hit hardest during the pandemic, such as the elderly, working women, part-time workers and the unemployed (Skopeliti 2021; Welle 2021).

In light of the above, it seems timely to discuss loneliness and social isolation as issues of public matter with the support of the scientific community. Do we have reliable data to assess whether European societies are lonelier than in the past? What evidence is there that loneliness is increasing? How much do we know about the demographics of loneliness, that is to say its incidence and intensity by age, gender, ethnicity and socio-economic status? And what is the state of scientific knowledge about the consequences of loneliness on individuals' health, work, finances, social functioning and civic participation?

As the in-house science service of the European Commission, the Joint Research Centre (JRC) is particularly suited to take part in this conversation. Building upon previous analytical work (D'Hombres et al. 2018), this report is the first product of a series of activities on loneliness and social isolation that the JRC has been carrying out. Their main goal is to provide evidence-based scientific and technical support to Vice-President Dubravka Šuica and her staff, when considering possible policy options at European level and actions in support of Member States. Activities include high quality and interdisciplinary knowledge management on existing research, data, measuring scales of loneliness, policy initiatives and best practices. Part and parcel of this work is the production of original research that can contribute to an EU-wide approach to studying loneliness and social isolation.

In this vein, the report presents the main findings of two empirical analyses carried out by the JRC. **Chapter 2** examines European survey data before (2016) and during the pandemic (April-July 2020). It offers a picture of recent trends in self-reported levels of loneliness across the EU and identifies the prevailing socio-demographic and territorial characteristics (age groups, economic situation, gender, place of residence) associated with loneliness. **Chapter 3** is an example of how the field of Computational Social Science can contribute an investigation of loneliness and its effects, using online media and social networks data as sources. The chapter looks at trends in online media

[1] See, e.g. The Guardian's section on loneliness, holding more than 200 dedicated articles since 2014: https://www.theguardian.com/society/loneliness, last accessed 22 June 2021

[2] PM launches Government's first loneliness strategy, https://www.gov.uk/government/news/pm-launches-governments-first-loneliness-strategy, last accessed 22 June 2021.

reporting on loneliness and social isolation, between January 2018 and January 2021 in all the EU Member States. On the one side, the analysis quantified the volume of articles that mentioned loneliness and social isolation month by month and by Member States. On the other, it carried out an in-depth analysis of the collected articles to identify the prevailing sentiment associated to them. Additionally, the chapter describes patterns in the underlying narratives and examines differences in contents and tone when loneliness is discussed in relation to specific themes, such as health, employment, teleworking or the economic situation.

The rest of this introduction clarifies the key concepts employed and summarises briefly part of the scholarly knowledge on loneliness, to provide the reader with a general understanding of the topic and place the analyses presented here in context.

1.2. Key concepts: loneliness, social isolation, solitude

A first useful contribution from the scientific literature lies in the clarification of the **key concepts**. In everyday language they are sometimes used interchangeably, as Chapter 3 is going to illustrate, but **loneliness**, **social isolation** and **solitude** define three very distinct situations for an individual.

In the literature, **loneliness** has a strong subjective nature; it is the perception of a discrepancy between a person's desired and actual network of relationships. This cognitive discrepancy is lived as a deep negative experience. Loneliness is thus not only about having too few social contacts *per se*, but also about the perception that these relationships are not satisfying enough. In other words, loneliness does not mean being alone, but feeling alone. In this respect, loneliness is different from **social isolation**, which has an objective connotation, defined by an absence of relationships with other people and/or very small number of meaningful ties. **Solitude** describes the act of being alone voluntarily, which once again involves the objective condition of being away from others, but also the possibility of pleasant and positive feelings about this situation (Andersson 1998; Cacioppo, Hawkley, and Thisted 2010; Cacioppo and Patrick 2008; Hoff and Buchholz 1996; de Jong Gierveld, van Tilburg, and Dykstra 2006; Rokach 2015; D. W. Russell et al. 2013). Much attention has been paid to the relationship between **loneliness and social isolation.** Loneliness is not automatically connected to objective social isolation. Socially isolated people are not necessarily lonely, and lonely people are not necessarily socially isolated.

In addition to the general concept, the academic literature identifies several forms of loneliness. For example, loneliness is defined as **transient** when it involves occasional feelings of loneliness, **situational** if triggered by specific events in life (such as the loss of a partner or moving to a new town), and **chronic** when the lack of satisfactory relationships persists for extended periods of time. Another important distinction is that between social and emotional loneliness. The latter stems from the lack of an intimate relationship (e.g. a romantic partner), while the former is associated with the perceived absence of a broad social network (e.g. friend or neighbours). According to this approach, feelings of anxiety and isolation occur with emotional loneliness, whereas social loneliness is associated with aimlessness and marginality (Holt-Lunstad, Birmingham, and Jones 2008; Morrison and Smith 2018; Peplau and Perlman 1982; Stack 1998; Weiss and Bowlby 1973).

From a public policy perspective, it is chronic loneliness that entails the most detrimental consequences, requiring intervention and appropriate health and social care policies. In fact, while everyone feels lonely at times, scientific evidence proved that chronic loneliness can make people unwell and prompt them to withdraw even further from social interaction. In the current climate, we might reasonably expect that loneliness induced by the COVID-19 pandemic and the associated containment measures will prove to be mostly transient in nature. However, it would be incautious to dismiss concerns that more than one year of reduced in-person contacts might result in a rise in chronic loneliness long after the pandemic subsides (Pietrabissa and Simpson 2020).

As explained, loneliness is intrinsically a personal and subjective feeling. So, how do researchers detect it in the individuals that they observe? Is it possible to measure it and categorise it? Chapter 2 discusses the main issues related to survey methods and the measurement of loneliness in more detail. But it should be noted here that the task of measuring loneliness is challenging, considering that it is a condition still stigmatised in many cultures. The scientific community has not developed a commonly accepted standardised **measure of loneliness**, with agreed cut-offs corresponding to certain degrees or type of loneliness. Its measurement is not straightforward. Methodologically, the main difference is whether loneliness is researched **directly**, by explicitly mentioning the term 'lonely' or 'loneliness' and investigating people's subjective feeling as one item; or **indirectly,** by surveying the situaton of the respondents using a range of multiple indicators that never employ the terms 'lonely' or 'loneliness', but detect satisfaction or dissatisfaction with social relationships. The vast majority of scholars tend to prefer indirect indicators, in view of the multidimensional nature of loneliness and the fact that different social relationship deficiencies cause different types of loneliness. Direct, single-item approaches appear to be particularly suited to measuring the emotional and individual dimension of loneliness. However, they may be subject to

cultural-based and country-sensitive differences in people's readiness to admit negative subjective experiences and personal concerns. On the other hand, indirect, multiple-items approaches may be biased by the researchers' definitions and understanding of loneliness.

The indirect approach is also behind the two prominent **loneliness scales** developed by experts, which currently represent the most employed instruments to quantify and define loneliness: the University of California Loneliness Scale and the De Jong Gierveld Loneliness Scale (De Jong Gierveld and Kamphuls 1985; De Jong Gierveld and Tilburg 2006; Peplau and Perlman 1982; D. Russell, Peplau, and Cutrona 1980; D. Russell, Peplau, and Ferguson 1978). The UCLA Loneliness Scale has a higher number of questions (more than 20) to determine the frequency of loneliness, while the De Jong Gierveld scale uses a lower number of items for scaling, distinguishes between social and emotional loneliness and has proved particularly helpful in determining the risk factors and severity of loneliness. Both tools have contributed greatly to standardise the determinants of loneliness.

Already from this brief introduction to the key concepts, it is clear how scientific work is constantly torn between focussing on the individual – the lonely person – and broadening the perspective by looking at the disease – loneliness. Scholars are well aware that loneliness does not happen in a vacuum and growing empirical evidence confirms that chronic loneliness is not simply attributable to the personality traits of a subset of individuals, but a sign of major problems in society. The next section provides a short compendium of the current state of knowledge on loneliness and its societal consequences.

1.3. A short literature review: loneliness and its societal consequences

Natural scientists and social scientists have been studying loneliness systematically since the 1930s. However, the topic gained momentum especially since the 1990s, primarily in the neurosciences, social psychology and medical studies. Then, at least since the 2000s, interest in loneliness broadened to a wider range of disciplines within the domain of the social sciences (Morrison and Smith 2018).

Broadly speaking, scholars have been investigating loneliness from two main vantage points. One focuses on the individual-level characteristics that predispose people to become and remain lonely (e.g. personality traits and social skills, emotional map, as well as background features, such as gender, health conditions). The other moves from the major structural socio-economic and demographic changes occurring in a society to consider whether they fuel individual loneliness and if mechanisms of societal patterning are at play. The field has always been characterised by mutual cross-fertilisation between the two approaches, but a distinctive attribute of the scientific work on loneliness of the past decade has been a more systematic effort to integrate contextual and individual determinants "under an overarching cognitive theory, connecting social and economic inequality to the cognitive processes of persons' perceptions of societal fairness and trust" (de Jong Gierveld, van Tilburg, and Dykstra 2006, 493; Buecker et al. 2021).

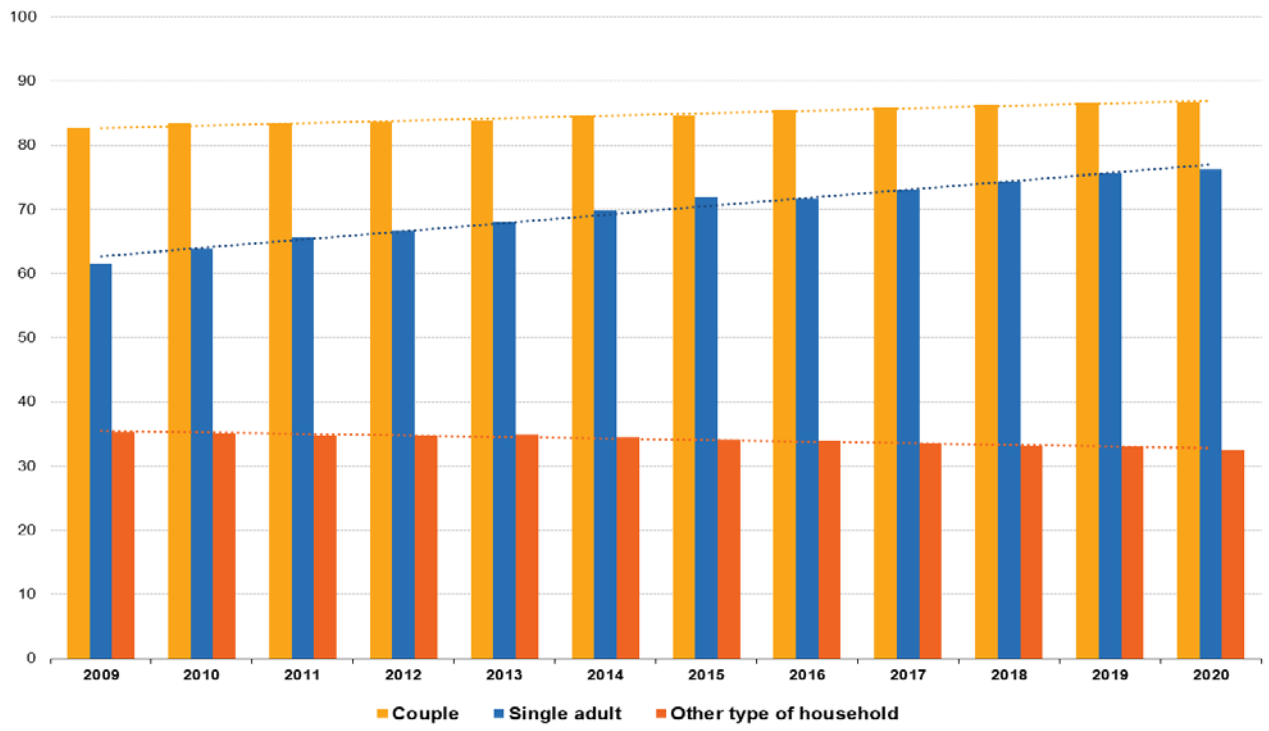
In this vein, the recent public and media interest in loneliness shares some common features with that of the academics. Both reflect upon what kind of relationship is there between loneliness and structural features of Western societies, such as the ageing of the population, the growing number of people living alone (single-person households), the atomisation of labour, the proliferation of internet-based communications replacing in-person contacts, the consolidation of market-centred and individualised models of society, which in turn have generated social and economic inequalities that affects people's perception of societal fairness and eroded the central role of the community.

Overall, scholarship convincingly demonstrates that loneliness is an issue affecting Western societies with critical ramifications at societal level. For example, two world-leading experts on loneliness found that "in industrialised countries around a third of people are affected by this condition, with one person in 12 affected severely" and that the deleterious effects of loneliness on health result in increased likelihood of premature mortality, thus making loneliness a public health problem (Cacioppo and Cacioppo 2018). What kind of evidence is there, though, that loneliness is increasing and that the common rhetoric of an 'epidemic of loneliness' is empirically grounded?

1.3.1. Growing levels of loneliness or just living alone?

As mentioned at the beginning of this introduction, the popular press seems to have no doubts in its views that Europe is becoming an increasing lonely society. Yet, the scientific community frames its considerations in a more articulated manner. The main evidence available is that there is an increasing number of people living alone, as a result both of ageing and cultural norms. In this respect, Figure 1 shows the pace at which single-person households (blue column) have been growing in the EU over the past 10 years.

FIGURE 1. Households by type in the EU, 2010-2020 (in millions)



Source: Eurostat

Research shows that living alone might be associated with loneliness, an individual-level risk factor. However, *per se*, it does not represent a meaningful indicator that the individuals in question feel lonely.

In sum, so far, **there is no substantial evidence that loneliness is on the rise** (Beutel et al. 2017; Dykstra 2009; Mund et al. 2020; Suanet and van Tilburg 2019, d'Hombres et al. 2021). In addition, scholars warn that the field "has yet to produce a convincing model that sets out the mechanisms by which loneliness in a society might increase (or decrease)" (Morrison and Smith 2018, 19). Longitudinal studies that monitor the same people over time, which are required to detect proper trends, are sparse. Meanwhile, cross-sectional surveys might offer snapshots of loneliness at different points in time, but it would be hazardous to infer anything from them about trends. However, most recent studies indicate that young adults seem to be at risk for relative increases in loneliness, particularly in the context of the current pandemic (Buecker et al. 2020; Carstensen, Shavit, and Barnes 2020; Varga et al. 2021), whereas an increase in absolute numbers of cases of loneliness is likely to be recorded among the elderly, as a consequence of the ageing of our societies.

1.3.2. Demographics of loneliness: age groups, gender, migrant status and health

A common stereotype in public discussions is that loneliness is regarded almost exclusively as a problem of older people. However, the scientific evidence is robust in finding a **non-linear relationship between age and loneliness**. In fact, its prevalence peaks among young adults and among the oldest of the elderly. In addition, studies stress that loneliness can occur at any life stage.

At the same time, research also shows that certain predictors of loneliness – poor health, lower income levels, being unmarried or widowed, living alone or not in work – represent vulnerabilities that tend to be more present or accumulate in later life. However, the association with loneliness of some of these variables, such as poor health, low household income, household size, marital status, and infrequent social contacts, does not differ with age. Thus, the conclusion is that research has reached a fairly advanced understanding of determinants of loneliness in older adults, but has yet to achieve the same level of knowledge about the sources of loneliness in young and middle-aged adults (Dykstra 2009; Gibson 2000; Hawkley et al. 2020; Luhmann and Hawkley 2016; Matthews et al. 2019; McBride and Preyde 2020; Rotenberg and Hymel 1999; von Soest, Luhmann, and Gerstorf 2020; Victor, Scambler, and Bond 2009).

When it comes to **gender differences**, the literature finds that women report higher levels of loneliness than men, only when surveys adopt single-item approaches, that is asking directly about loneliness. Studies employing multiple indicators or performing multivariate analyses that control for marital status, partner history, socioeconomic factors and social network **do not find any statistically significant difference between the two sexes in levels of loneliness** – if anything, males record higher scores. This finding holds quite consistently across different age groups too. Evidently, when loneliness is self-labelled, women are more prone to admit feelings of loneliness, while men prove to be more sensitive to the social and cultural stigma that their community of reference attaches to it. In addition, meta-analyses confirm that levels of loneliness are similar for males and females across their lifespan (Borys and Perlman 1985; Maes et al. 2019).

Research on loneliness so far tends to be centred mostly in the Western hemisphere, both in terms of the subjects conducting the work and the object of their examination. In this respect, although they cover very diverse societies, studies specifically addressing how loneliness intersects with individuals' ethnic background, migrant status and/or sexual orientation are still at an early stage. Analyses on the relationship between sexual orientation and social isolation/loneliness seem to cover mostly North American and Australian cases (Eres et al. 2021; Garcia et al. 2020; Hsieh and Liu 2021; Perone, Ingersoll-Dayton, and Watkins-Dukhie 2020), while analysis of the incidence of loneliness among ethnic minorities and migrants is slowly gaining ground in Europe. This is especially true for countries where the data landscape is particularly favourable, in that surveys and/or population data include information on ethnic minorities and migrant background. Overall, studies that were able to compare loneliness experiences of migrants and ethnic minorities with their native peers – meaning those in the same age groups – find quite consistently **higher incidence of loneliness in people with migrant background** across different age groups, with notable differences in the prevalence of loneliness depending on their origin. However, the same scholarship warns that **much more research is needed** to expand the coverage of the surveyed countries and gather insights from a comparative perspective, as well as the coverage of the surveyed groups, so far limited to a few nationalities and case studies (Fokkema and Naderi 2013; ten Kate, Bilecen, and Steverink 2020; Klok et al. 2017; Neto and da Conceição Pinto 2017; van Tilburg and Fokkema 2020; Victor, Burholt, and Martin 2012; Visser and El Fakiri 2016; Wu and Penning 2015).

Conversely, the relationship between **loneliness and health** is possibly one of the most investigated issues in the field. Overall, evidence suggests that both lonely and socially isolated older adults face substantial **increased health risks** of premature mortality (equal to smoking and obesity), developing dementia, of artery disease or stroke. By the same token, studies observe that lonelier young adults are more likely to develop poor mental health, maladaptive health behaviours, poor sleep efficiency and ability to cope with stress (Holt-Lunstad et al. 2015; Kuiper et al. 2015; Matthews et al. 2019; Paul, Bu, and Fancourt 2021; von Soest, Luhmann, and Gerstorf 2020; Valtorta et al. 2016; Achterbergh et al. 2020; Mushtaq 2014). However, the same studies are careful in defining a clear-cut direction of the underlying mechanisms that connect poor health, on the one hand, and loneliness and social isolation, on the other. In many respects, loneliness and poor health feed off each other and it is not always easy to disentangle which triggers which (Cacioppo et al. 2002; Cacioppo and Hawkley 2003; Cacioppo, Hawkley, and Berntson 2003; Hawkley and Cacioppo 2003).

From a public policy perspective, though, it is worth underlining that, when poor health and loneliness are associated, in the case of older adults, there is an increased rate of hospital admissions, longer length of hospitalisation, higher numbers of visits to physicians, all of which weigh substantially in terms of healthcare costs and stress on the system. By the same token, in the case of younger adults, findings point to poorer employment prospects, higher chances of being out of work, and financial problems in midlife. Relatively little attention has been paid to the **economic implications of loneliness and social isolation**, in terms of healthcare expenditure, the cost-effectiveness of interventions aimed at tackling the

problem and the cost of loneliness to employers. Once more, research is limited for the most part to countries that have already been addressing loneliness as an issue of public consideration. However, even in these cases, it is worth noting that it is particularly difficult to make accurate estimates of the financial costs associated with loneliness and contrasting interventions, in part because loneliness and social isolation may be discussed as important public health concerns, but they are not *per se* recorded as clinical conditions. Nonetheless, a few studies and governmental surveys offer estimations showing that costs related to loneliness in healthcare expenditure are significant (Kung, Kunz, and Shields 2021; Mihalopoulos et al. 2020). Examples range from €2 billion in extra healthcare costs per year in the case of the Netherlands to possible lifetime costs associated with loneliness of £3.6 million for a cohort of 5,000 lonely individuals in the UK. In this latter case, the government also estimated that loneliness would impose a £2.5 billion per year burden on UK employers, with £2.1 billion of this falling on the private sector (Fulton and Jupp 2015; GOV UK 2021; McDaid and Park 2021; Meisters et al. 2021).

1.3.3. A European geography of loneliness

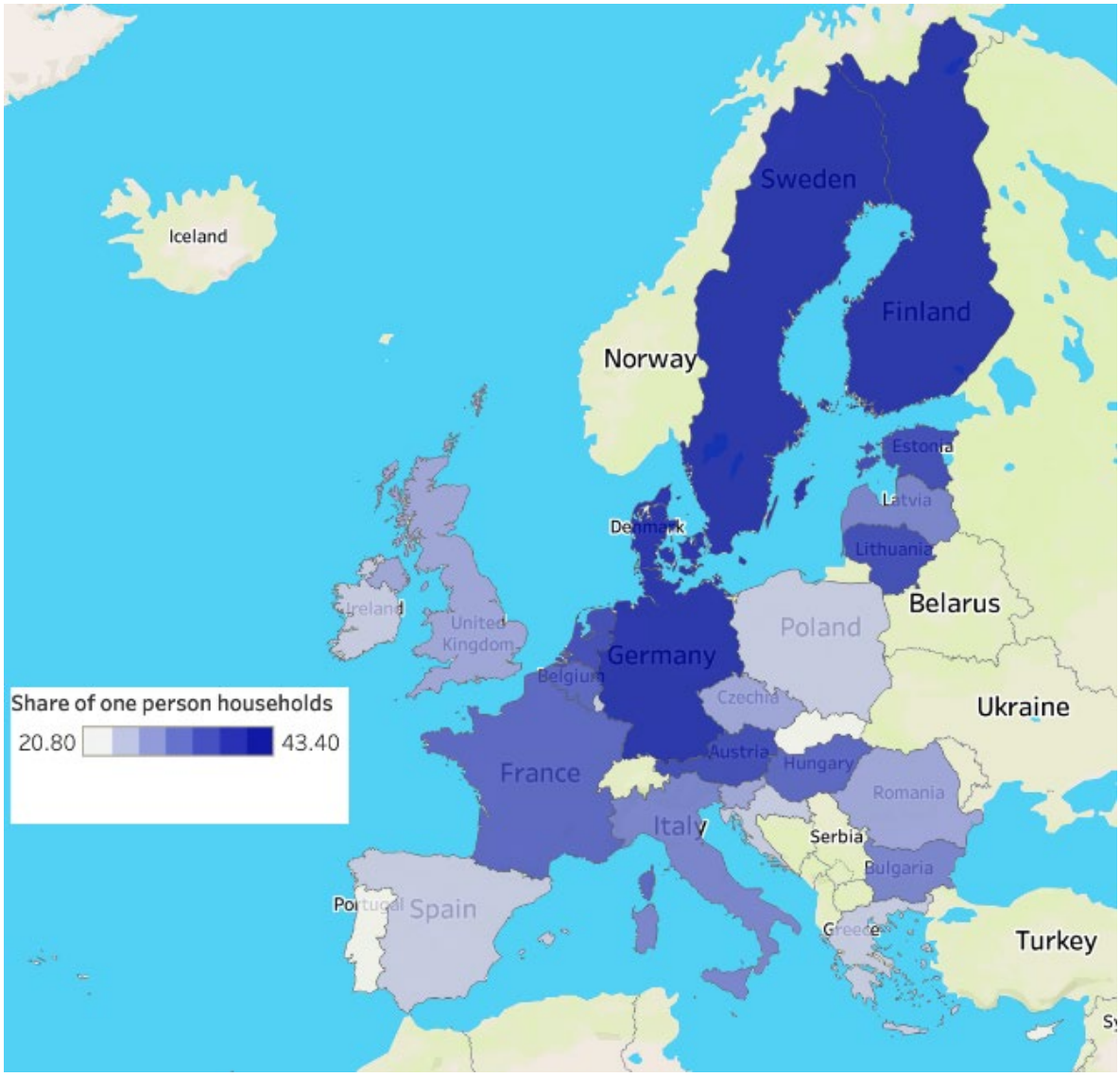
The analyses that inform this report are among the few examples of empirical research on loneliness and social isolation carried out at EU level, so they include Member States that present diverse demographic, territorial, macroeconomic and cultural characteristics. In this vein, this section touches briefly upon what the literature has to say about the relevance of these geographical and contextual differences in relation to loneliness and social isolation.

As recalled for the case of population with ethnic and migrant background, scholars identify both large cross-country comparative studies and targeted subnational/local analyses as some of the main gaps in the field, particularly in the EU context. Explicit research needs range from surveys that measure loneliness with high geographical and temporal resolution to identify demographic groups and geographic regions at risk, as well as more comparable data, especially covering Member States in Central and Eastern Europe.

One interesting finding that recurs in all papers that consider this dimension is that measured levels of loneliness show **no systematic differences between rural and urban areas.** In addition, studies that focus on the characteristics of the area found that higher levels of loneliness tend to be associated with intense population change related to mobility, objective regional remoteness and, when the neighbourhood level was considered, greater distance from public parks and sport or leisure facilities, as well as perceptions of poor neighbourhood relations (Buecker et al. 2021).

Another strand of research measures perceived loneliness among people in Europe to compare the distribution of scores across countries. As mentioned, since the relationship between age and loneliness is curvilinear, with peaks among young adults and the oldest, the demographic composition of each country would be expected to play an important role in determining the results. Another frequently mentioned predictor of loneliness is living alone. Figure 2 reports the shares of single-person households in the EU-28 in 2017. The map shows how the highest shares concentrate by far in the northern European countries. Earlier in the introduction, reference was made to how market-centred and individualised models of society may have contributed to increase loneliness and social isolation in Europe, according to a few scholars.

FIGURE 2. Shares of single-person households in the EU, 2017



Source: United Nations Database on Household Size and Composition 2018.

Perhaps, it will then come as a surprise that studies relying on surveys reveal that **adults in northern European countries are found to be less lonely than those in southern Europe**. The explanation of this apparently paradoxical outcome lies in the prevailing effect of the *normative climate*, as the literature defines it. This means that the relationship standards of individuals are influenced by norms and values absorbed through daily interactions with their communities. Thus, mainstream norms and values shape individuals' ideas about what constitutes the minimum acceptable standard of social and emotional connectedness. Research examining loneliness as a function of dominant cultural values confirmed that measurements of loneliness are higher in collectivistic and family-centred countries, where community-based and inter-personal relationships are central for the normative climate. In this respect, societal individualism may reduce the perception of loneliness, by lowering the expectations of what constitutes an optimal level of socialising. Furthermore, studies describe how collectivistic and individualistic societies differ also in the type of interactions whose absence leads more often to feelings of loneliness. In collectivistic countries, individuals are less tolerant of relational isolation, especially from the family, and of living alone. Meanwhile, in individualistic societies, emotional isolation and scarce interactions with friends or a confidant act as triggers of loneliness (Buecker et al. 2021; Lykes and Kemmelmeier 2014; Swader 2019).

This brief overview of the academic knowledge on loneliness and social isolation should equip the reader with a set of concepts that will permit a full appreciation of the analyses and findings described and discussed in **Chapter 2** and **Chapter 3.** Through original research that adopts an EU-wide approach, both aim to provide policy-oriented **key and timely insights** on loneliness and social isolation in Europe.

2. Loneliness in Europe before and during the COVID-19 pandemic

Key messages

The COVID-19 pandemic has magnified already worrying levels of loneliness in Europe. Survey data shows that, in 2016, about 12% of EU citizens felt lonely more than half of the time. In the first months following the COVID-19 outbreak, this proportion doubled to around 25%.

Young adults have been the most severely hit by social distancing measures. The share of people aged 18-25 who reported feeling lonely almost quadrupled in the first months of the pandemic (April-July 2020).

Being single has made social distancing measures more painful. People living alone experienced an increase in the prevalence of loneliness of more than 22 percentage points compared with levels observed in 2016. In comparison, the incidence of loneliness among those living with a partner and/or children increased by 9 percentage points over the same period.

Favourable economic circumstances and good health protect against loneliness. This is equally true both before and during the pandemic.

Females and males are equally likely to feel loneliness, regardless of time period.

There is no evidence of a rural-urban loneliness divide. Living in a city rather than a rural area does not make feelings of loneliness more acute.

Before the pandemic, loneliness was lowest in northern Europe, with around 6% of people indicating that they felt lonely more than half of the time, while western, southern and eastern Europe exhibited higher levels of loneliness. **This picture changed following the COVID-19 outbreak**, with all regions reporting loneliness levels of between 22% and 26%.

Concerns about a possible loneliness pandemic are gaining momentum. **This is an opportunity to destigmatise this distress and address it with effective interventions**.

2.1. Introduction

On 11 March 2020, the World Health Organization first described COVID-19 as a pandemic.[3] More than 3.5 million people have died worldwide from the virus. Since the outbreak of the pandemic, lockdowns, quarantines, curfews, distancing measures and the cancellation of community activities and events have been implemented across Europe. While these measures are needed to control the spread of the COVID-19 pandemic, they have also led to forms of social isolation unprecedented in living generations, with long-term effects on mental health that are still unclear. Some fear that the toll of loneliness could have consequences long after the virus recedes.

Loneliness has been compared to obesity and smoking in the mortality risks that it entails (Holt-Lunstad et al., 2015; Cacioppo and Patrick, 2008; Hertz, 2020). It is associated with physical and psychological health problems (Hawkley and Cacioppo, 2010). Lonely adults tend to suffer from higher levels of cortisol (the 'stress hormone'), raised blood pressure, impaired sleep, and cardiovascular resistance compared with non-lonely individuals, both in stressful

[3] https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020.

situations and when at rest (Hertz, 2020; Hawkley et al., 2010). Over time, this translates into chronic inflammation and higher morbidity and mortality rates. Loneliness is also associated with depressive symptoms and with unhealthy behaviours such as smoking and a lack of physical exercise (Cacioppo et al., 2006).

Furthermore, loneliness may drive affected individuals even further away from others (Cacioppo et al., 2017; Cacioppo and Patrick, 2008). Individuals suffering from loneliness tend to display lower levels of empathy and feel more threatened by unexpected life situations compared with their non-lonely counterparts. As Hertz (2020) argues, these risks translate into higher levels of distrust, intolerance towards others and ultimately may pose a risk to social cohesion (Mayer and Perrineau, 1992).

Against this background, loneliness is increasingly recognised as an important public health issue.

It is essential to assess which populations are vulnerable to loneliness in order to design targeted and effective intervention strategies. This chapter contributes to this assessment by using European survey data and comparing the incidence of loneliness in 2016 and during the first months of the COVID-19 pandemic (April-July 2020). We identify the socio-demographic characteristics influencing loneliness and examine whether the risk factors associated with loneliness have changed since the outbreak of the pandemic. This analysis will help anticipate the potential long-term consequences of this period of forced social isolation.

The chapter is organised as follows. Section 2.2 discusses data and measurement issues. Section 2.3 maps out the prevalence of loneliness in EU Member States before and during the COVID-19 pandemic, examines the risk factors that influence loneliness, and tests whether some groups are more vulnerable to the negative impact of social distancing measures. Section 2.4 offers some concluding remarks.

2.2. Measuring loneliness

2.2.1. Measuring loneliness through surveys

In this study, we rely on three data sources: (i) the 2016 European Quality of Life Survey, (ii) the Living, working and COVID-19 online survey, and (iii) the Oxford COVID-19 Government Response Tracker database. The 2016 European Quality of Life Survey (EQLS) is the fourth edition of a cross-national survey based on face-to-face interviews. The survey took place between September 2016 and March 2017. The Living, working and COVID-19 data (LWC) is drawn from an online survey launched in the days following the COVID-19 outbreak in Europe. The first round of the fieldwork took place between 9 April and 11 June 2020 when most Member States were in their first lockdown while the second round was carried out from 22 June to 27 July 2020 when economies and societies were gradually reopening. A third round took place in February-March 2021 and the results from this will be available later this summer. Box 1 offers additional information on these two datasets. It also discusses the limitations of the analysis inherent to the use of two data sources (EQLS versus LWC), which collected data using different sampling frames and survey modes.

Both surveys were carried out by Eurofound (https://www.eurofound.europa.eu/). They contain a direct measure of loneliness and other well-being indicators, as well as detailed information on the socio-economic status of the respondents (Eurofound, 2020, 2017). The wording of the direct question on loneliness is the following: **'[...] please tell me how much of the time during the last two weeks you felt lonely?'**. The possible answers were: 'all of the time', 'most of the time', 'more than half of the time', 'less than half of the time', 'some of the time' and 'at no time'. Following Yang and Victor (2011) or d'Hombres et al (2021), we derive from this question an indicator of loneliness. More specifically, we refer to respondents reporting that they felt lonely **'all of the time'**, **'most of the time'** and **'more than half of the time'** as **'frequently lonely'**. In the remainder of the report, we will use this indicator to monitor the prevalence of loneliness. Note that it would have been better to capture loneliness both with this direct measure as well as with the UCLA and De Jong Gierveld indirect loneliness scales described in chapter 1. Yet, the latter two scales are not available in recent cross-national surveys.

Finally, in order to explore whether government measures to contain the pandemic coincided with changes in loneliness and well-being, we integrated the LWC survey with data from the Oxford COVID-19 Government Response Tracker database. The dataset provides daily country-level information on stay-at-home requirements as a consequence of government policies in response to the COVID-19 pandemic over time.

Data and limitations of the analysis

Data

The EQLS data collection is based on a stratified random sampling design and face-to-face interviews. The sample size ranges between 1,000 and 2,000 people per country. The EQLS data cover all EU Member States, the United Kingdom and five EU candidate countries. Its target population includes all people aged above 18 and residing in private households in the countries covered by the survey.

In contrast, the LWC survey is an online survey, open to anybody aged 18 and over. The recruitment of the participants to the LWC survey was carried out through snowball sampling methods as well as via promotions on social media networks. Therefore, the LWC sample size varies substantially between countries. More than 5,000 responses were collected in each of Croatia, Germany, Hungary, Ireland, Portugal, Romania and Spain but fewer than 1,000 respondents filled in the survey in Luxembourg.

We restrict the analysis to respondents aged between 18 and 80, living in one of the 27 EU Member States. After removing respondents who provided no information on items used in the empirical analysis, the EU27 sample sizes of the EQLS and LWC surveys amount to respectively 27,605 and 72,131 observations.

Limitations of the analysis

A note of caution is necessary before moving on with some descriptive statistics. The characteristics of respondents participating respectively in the EQLS and LWC are likely to differ. This is because the two surveys are based on different sampling frames and survey modes. We partially control for it by using post-stratification weights provided by Eurofound. These weights account for country population size and the demographic characteristics of the target population. This should ensure that the weighted statistics for both surveys are similar along the dimensions used to derive the weights. Table A 2 displays summary statistics for the unweighted and weighted samples of the EQLS and LWC surveys. While the unweighted means differ substantially between the two surveys for some of the variables, this is not the case with the weighted statistics.

Despite the use of weighted statistics, there might be other unobserved differences between the participants in the two surveys which cannot be accounted for. People who answer a voluntary online survey (during the COVID-19 outbreak) are likely to be different intrinsically from those who have been randomly selected for a face-to-face interview. This is particularly true for older people. Indeed, the simple fact of answering an online survey implies that the respondents are already more likely to be connected to social media networks and/or to online media. This suggests that the estimated prevalence of loneliness (in particular for the older group) observed during to first months of the COVID-19 pandemic is likely to be a lower bound estimate of the actual figure.

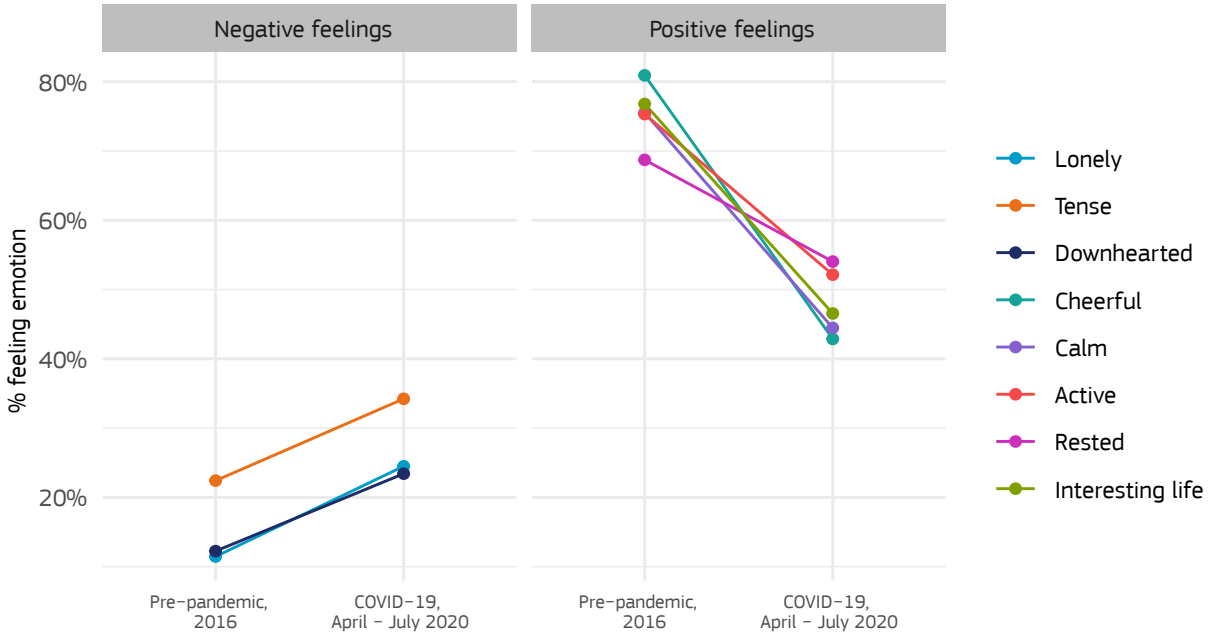
2.2.2. Loneliness before and during the COVID-19 pandemic

Below, we compare the prevalence of loneliness and well-being in Europe in the pre-pandemic period, as well as during the first months following the COVID-19 outbreak.

The prevalence of loneliness rose sharply in the first months following the COVID-19 outbreak. In 2016, around 12% of EU citizens reported feeling lonely 'more than half of the time' in the two weeks preceding the interview. In the first months of the pandemic, this proportion increased to 25%.

Other negative emotions such as feeling tense or downhearted also increased during the pandemic. At the same time, the share of EU citizens having positive emotions — such as feeling cheerful, calm, active or rested — more than half of the time dropped from 70-80% to around 50%.

FIGURE 3. Mental well-being before and during the COVID-19 pandemic



Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. 'Lonely', 'tense' and 'downhearted' measure the share of respondents who, over the two weeks preceding the interview, felt lonely, particularly tense or downhearted/depressed more than half of the time. The indicators 'cheerful', 'calm', 'active', 'rested' and 'interesting life' reflect the share of respondents who reported that they felt (respectively) cheerful and in good spirits, calm and relaxed, active and vigorous, fresh and rested, and that their daily life was filled with interesting things, more than half of the time over the two weeks preceding the interview. These items are inputs to the World Health Organization's WHO-5 Well-Being Index.

2.3. Risk factors for loneliness before and during the COVID-19 pandemic

In this section, we focus on the individual factors that influence loneliness, according to the literature. These include demographic (age, gender), social (living arrangements, martial status), economic (income, education, employment status), and health-related characteristics.[4] Beyond the individual characteristics, variations in the prevalence of loneliness also stem from country variations and the interactions between individual and country specificities (Dykstra, 2009, De Jong Gierveld and Tesch-Römer, 2012). The purpose of what follows is to discuss these risk factors and analyse whether they changed after the outbreak of the pandemic. We also pay attention to the role of stay-at-home policies on loneliness.

We rely on bivariate and multivariate analysis. In bivariate analysis, we compare loneliness levels for different subgroups (e.g. according to marital status, gender, etc.). This is useful to find out which population groups are most affected by loneliness and should thus be the focus of interventions.

In the multivariate analysis, we still compare loneliness levels for different subgroups, but we additionally control for the influence of other individual characteristics (e.g. gender, age, education, employment, etc.). This helps to disentangle the relative contribution of the different characteristics to loneliness. For example, if we are interested in the relationship between loneliness and marital status, it makes sense to control for gender, since gender can possibly affect both marital status (e.g. women live longer and are therefore more likely to be widowed) and loneliness (women may have different levels of loneliness to men). Multivariate analysis allows for a finer picture of the underlying effects of different characteristics. Nevertheless, due to the nature of our data sources, we cannot stress enough that these linkages should not be regarded as causal. We may be missing other relevant factors (unobservable and/or not measured in the data) that are correlated with both loneliness and the individual characteristics discussed below. For further information, Box 2 describes the model we estimate for the multivariate analysis and Table A.3 in the Annex displays the multivariate estimates.

[4] These types of risk factors are called distal risk factors. The distal risk factors of loneliness are defined as 'a series of factors that shape the characteristics of individuals' living conditions and consequently affect the level of social integration of individuals' (De Jong Gierveld et al., 2016). Meanwhile, Hawkley et al. (2008) also identify proximal factors which are defined as 'descriptive characteristics of the level of social integration' (ibid), and hence cover factors related to the characteristics of one's social networks (e.g. its size or functioning). Of course, none of these factors operate in isolation; feelings of loneliness are rather a result of the interplay between the risk factors.

Additional information on the multivariate analysis

For the multivariate analysis, we estimate the following equation:

$$\boldsymbol{Y}_{ict} = \boldsymbol{X}_{ict}\,\beta + \boldsymbol{Z}_{ict} D_t\, a + C_c + \epsilon_{ict}. \quad (1)$$

where $\boldsymbol{y}_{ict}$ is a binary indicator measuring frequent loneliness (someone reporting feelings of being lonely 'all of the time', 'most of the time' or 'more than half of the time') for individual *i* living in country *c* at time *t.* Equation (1) is estimated separately with data from respectively the 2016 EQLS and the 2020 LWC surveys (*t=2016, 2020*). This allows us to study whether the risk factors associated with loneliness have changed following the pandemic outbreak. $\boldsymbol{X}_{ict}$ is a vector of variables capturing the socio-economic status as well as the demographic and household characteristics of individual *i.* More specifically, $\boldsymbol{X}_{ict}$ includes information on gender, age and health status, household type (presence of children, marital status), education level, labour market status of individual *i*, the financial situation of his/her household as well as information on the area of residence (rural, large cities). Finally, C_c are country fixed effects, D_t is an indicator variable equal to one if the survey year is 2020 and zero otherwise, whereas $\boldsymbol{Z}_{ict}$ is a set of covariates specific to the COVID-19 period. $\boldsymbol{Z}_{ict}$ includes information on whether the respondent used to telework in the pre-pandemic period, and experienced a reduction of working hours or income after the COVID-19 outbreak. Finally, we control for the stay-at-home policy in place in the country of residence the day the respondents answered the survey. The strength of the stay-at-home policy ranges from 0 to 3, with 0 indicating 'no measures', 1 'recommended not leaving house', 2 'require not leaving house with exceptions for daily exercises, grocery shopping and "essential" trips' and 3 'require not leaving the house with minimal exceptions'. Since there were almost no countries implementing level 3 stay-at-home policies, we combined levels 2 and 3. Table A.1 in the Annex describes each of the variables included in equation (1) in more detail. Table A.3 in the Annex shows the estimates corresponding to equation (1). Equation (1) is estimated via maximum likelihood and a logit link. Linear probability models provide similar results.

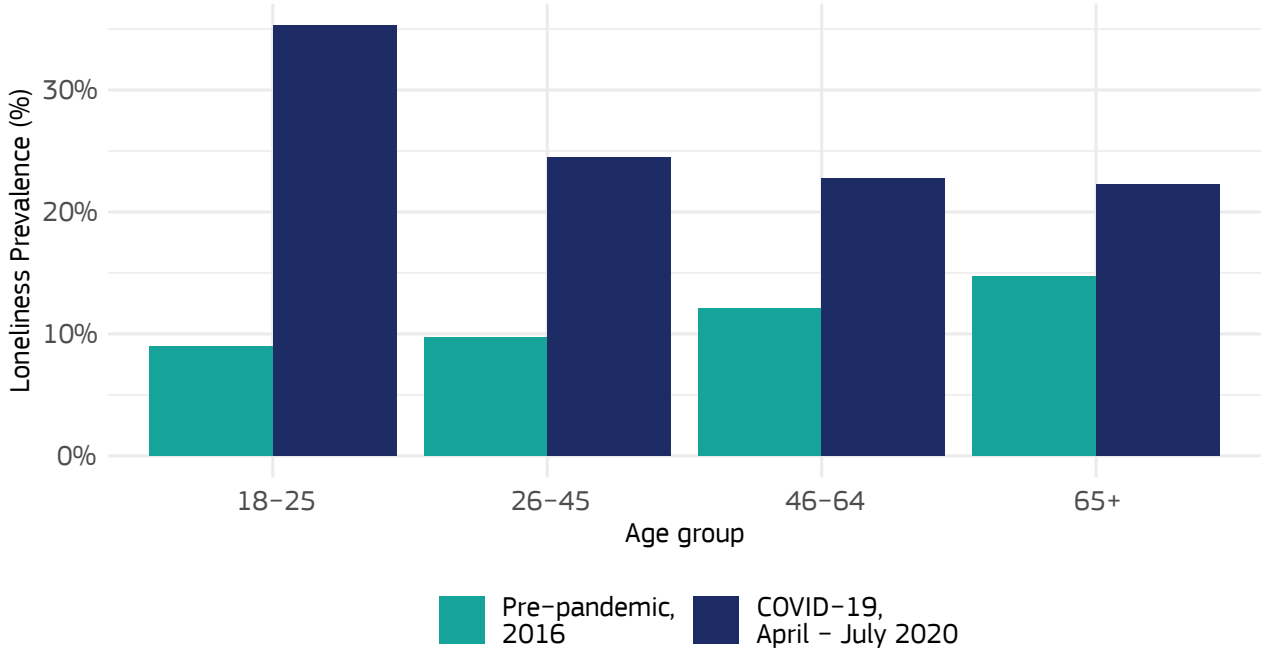
2.3.1. Demographic and social characteristics associated with loneliness

Young adults were most severely hit last spring

The descriptive analysis of the two surveys shows that the COVID-19 pandemic led to a generalised increase in levels of loneliness across Europe. Notably, the pandemic had a significant impact on the way different age groups experienced loneliness. In the pre-pandemic period, older adults displayed higher levels of loneliness compared with the other age groups. More generally, in 2016, frequent loneliness increased with age: while 9% of young adults (aged 18-25) and 10% of 26-45 year olds felt frequently lonely, the prevalence of loneliness rose to 12% among 46-64 year olds and to 15% among respondents aged 65 and above.

This was reversed during the COVID-19 pandemic. As Figure 4 summarises, in the first months of the pandemic, young adults were the loneliest group, scoring levels even higher than the oldest group before the pandemic. More specifically, the share of people experiencing loneliness among respondents aged 18-25 increased from 9% to 35% during the first months of the pandemic, and thus almost quadrupled. Among the other generations, loneliness increased less sharply; by 15, 11, and 8 percentage points respectively for the 26-45, 46-64 and 65 and over age groups. We should be cautious about reading too much into the limited increase in loneliness that we observe for the older group (65+). The LWC survey is an online survey and the respondents are therefore likely to have more connections than a representative population of this age group (see Box 1).

FIGURE 4. Loneliness by age group

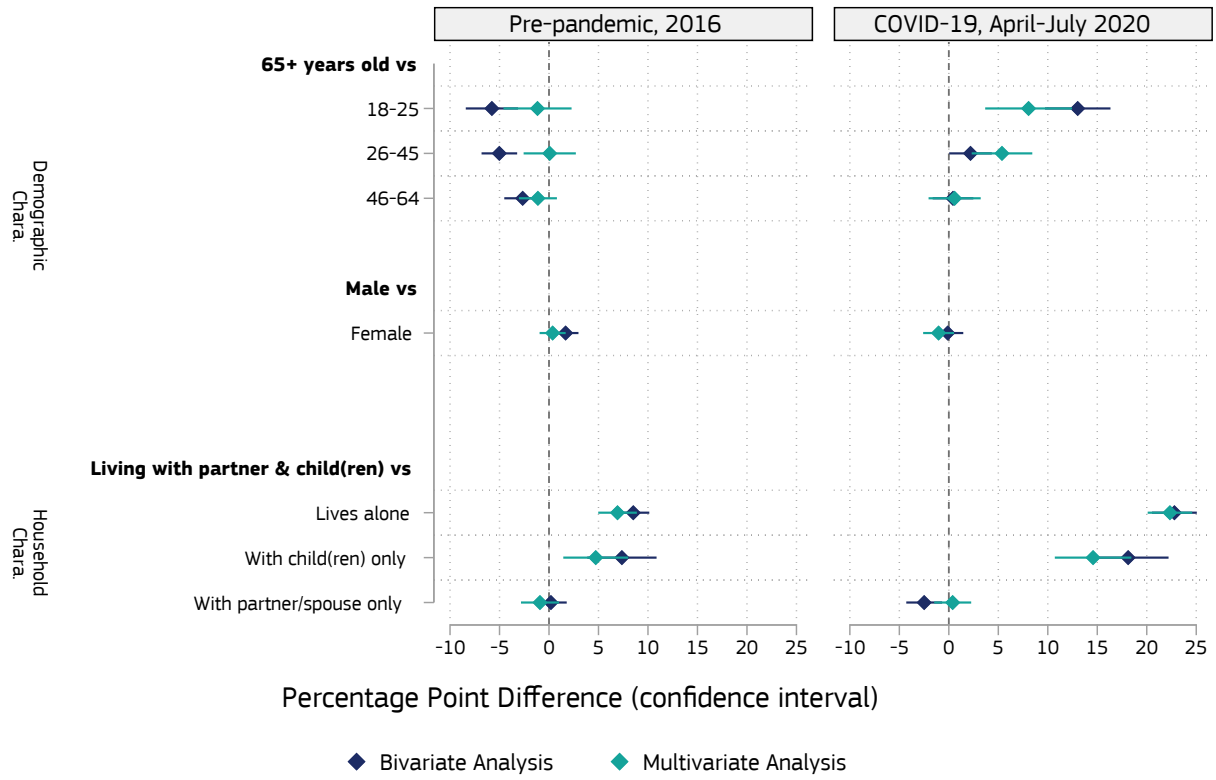


Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. The histogram displays, by age group and time period, the share of individuals who felt lonely more than half of the time over the two weeks preceding the interview.

What drives this age pattern?

The 'diamonds' in Figure 5 depict the percentage-point differences in terms of loneliness between a person with particular characteristics and a reference group. The blue and turquoise diamonds display these percentage-point differences based on, respectively, the bivariate and multivariate analysis. The horizontal lines through these diamonds represent the 95% confidence intervals.

FIGURE 5. The contribution of demographic and household characteristics to loneliness



Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. The graph displays the percentage-point differences in terms of loneliness between a person with the individual characteristics reported on the y-axis and their reference group reported in bold. The blue diamonds correspond to the results based on bivariate statistics. In contrast, the turquoise diamonds indicate the percentage-point differences net of the effect of the other variables included in the model. The left-hand graph displays the results corresponding to the pre-pandemic period while the right-hand graph reports the figures for the early months of the pandemic. Variables included in the model for the multivariate analysis but not displayed in the graph are the labour market and economic characteristics of the respondent, her/his health status, his/her localisation (country, rural or urban area) and the stay-at-home policy in place on the day of the interview (see Table A.3 in the Annex). The horizontal lines through the diamonds represent the 95% confidence intervals.

In the pre-pandemic survey, there were no noticeable differences between age groups in the prevalence of loneliness, after accounting for the other characteristics of the population (turquoise diamonds on the left-hand graph). This implies that differences in loneliness in Europe were mainly driven by the underlying characteristics of the different age groups (family arrangements, health status, income situation). This finding is in line with a recent paper by d'Hombres et al. (2021). However, it contrasts with previous research that pointed to a U-shaped relationship between loneliness and age in European countries (Yang & Victor, 2011; Dykstra, 2009, Luhmann and Hawkley, 2016).

During the pandemic, even after accounting for individual socio-economic characteristics, older people and respondents aged 46-64 were 9 and 8 percentage points less likely to feel lonely than those aged 18-25 (turquoise diamonds on the right-hand graph). These results confirm the pattern previously observed with the descriptive statistics: young adults have been the most severely hit by social distancing measures. In contrast, the older and middle-aged groups experienced limited change in loneliness despite the reshaping of social lives provoked by the COVID-19 pandemic. This result suggests that increased family time and the use of digital communication tools during the pandemic have been less efficient in alleviating loneliness among young adults. Young adults are also more likely to be in need of in-person interactions. Indeed, in normal circumstances, time spent with friends is highest among young adults whereas the amount of time alone increases with age (Ortiz-Ospina et al, 2020). It is therefore not surprising that young people suffered most from being cut off from friends.

Young adulthood crucially implies gaining autonomy and developing peer support outside the close circle of the family. Another observation is that the constraints imposed by social distancing measures are temporary and, it is therefore possible that the current level of distress of young people might be **transient**. By the same token, the pre-pandemic survey was describing a situation more in line with the specialised literature that finds **chronic** loneliness more frequent among older people. However, we are currently mapping an uncharted territory under

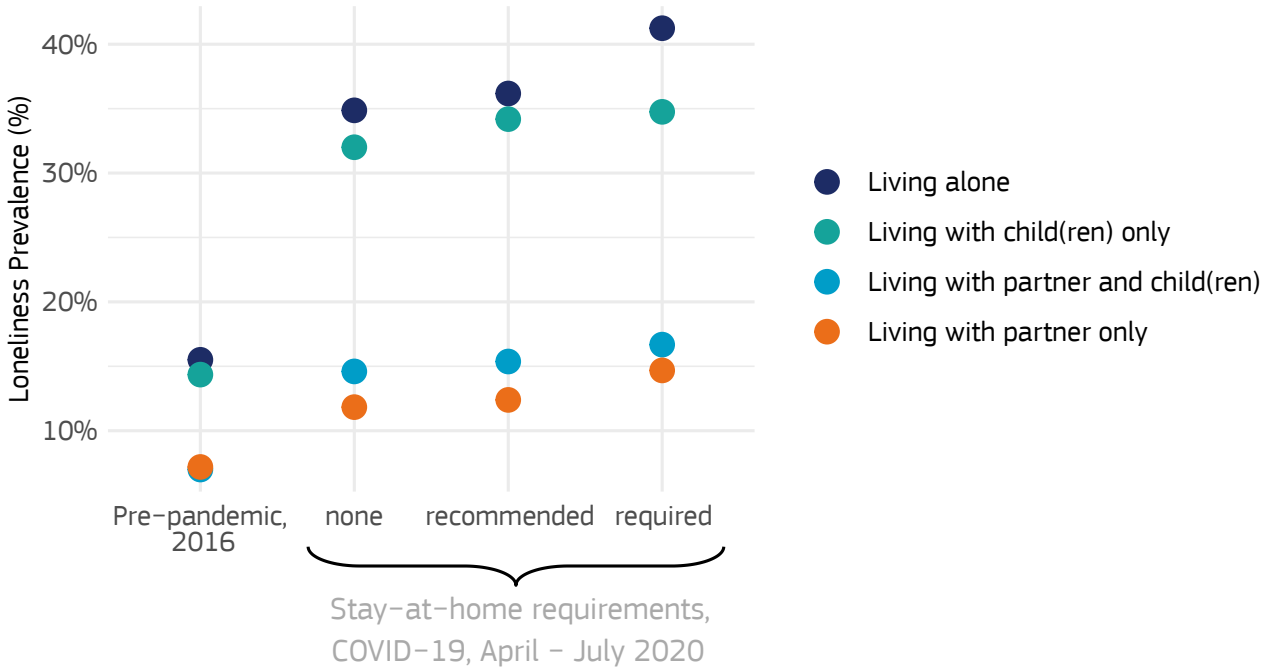
exceptional circumstances. In addition, young adulthood is almost by definition transitional and yet experiences during at this time of life can have long-term effects. Moving out of the family home, to a different city, region or country can be an isolating experience, and when this is compounded by the social distancing measures introduced to limit the spread of the virus, it could result in emotional upheaval with unpredictable future consequences for society.

2.3.2. Living alone makes social distancing measures more painful

Frequent loneliness is strongly linked to family arrangements. Face-to-face connections with close family lower the incidence of loneliness. This was true both before and during the pandemic.

In the pre-pandemic period, about 7% of respondents living with a partner, with or without children, felt lonely more than half of the time. In contrast, single parents (living only with their children) and those living alone were lonelier, with loneliness levels of 14% and 16% on average. Single parents often bear a large part of the burden of childcare by themselves while also working. This may reduce opportunities for socialising. This also suggests that having children cannot compensate for a lack of relationships with other adults.

FIGURE 6. Loneliness and family arrangements



Data sources: Eurofound 2016 EQLS and 2020 LWC surveys, Oxford COVID-19 Government Response Tracker database. The figure displays the share of individuals who felt lonely more than half of the time over the two weeks preceding the interview by type of household, time period and stay-at-home policy (during the pandemic).

As Figure 6 shows, during the pandemic, living with family became more important as a factor helping to stave off loneliness. Loneliness rose for all groups, but the gap between those who live alone and those with a partner widened, compared with the gap for the same groups in 2016. For people living alone, loneliness rose sharply compared with levels observed before the pandemic, by 19 percentage points when there were no stay-at-home requirements and by 26 percentage points when staying at home was required. In comparison, loneliness among those living only with a partner increased by 5 to 8 percentage points. For those living with a partner and children, loneliness increased between 8 and 10 percentage points under the different stay-at-home regimes. In contrast to the pre-pandemic period, single parents benefited from living with their children during the pandemic, especially under strict stay-at-home requirements: their loneliness rates increased less sharply than for those living alone.

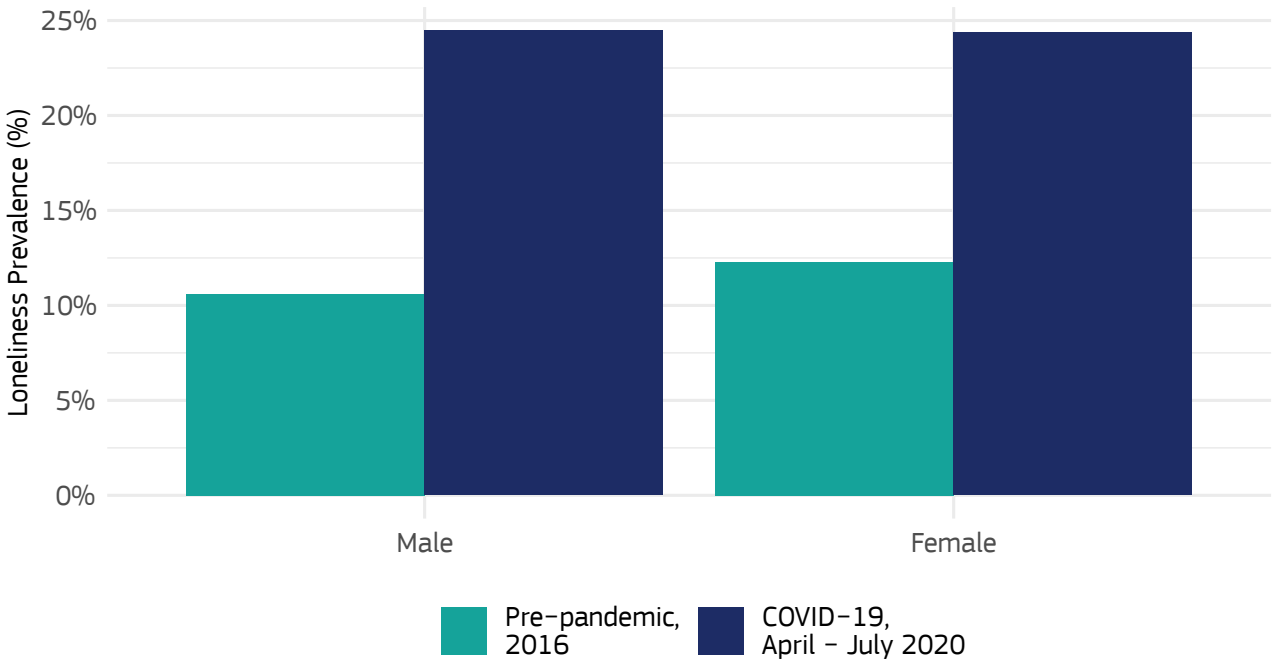
Furthermore, as already confirmed by Figure 5 above, these patterns of loneliness largely persist when controlling for other demographic, economic and health characteristics. This corroborates the evidence that a critical factor in loneliness is family status. This result is not surprising:

the enforced social isolation provoked by stay-at-home policies, school closures and social distancing measures is particularly hard on those with limited opportunities for in-person interactions within their household. Arguably, the use of digital tools during the pandemic to communicate with people living outside the household were a poor replacement for face-to-face communication.

2.3.3. Females and males do not exhibit differences in self-reported loneliness

Females and males had about the same likelihood of feeling lonely in the pre-pandemic period as at the outset of the COVID-19 pandemic. In other words, the absence of gender variations in loneliness is not specific to the time period.

FIGURE 7. Loneliness by gender

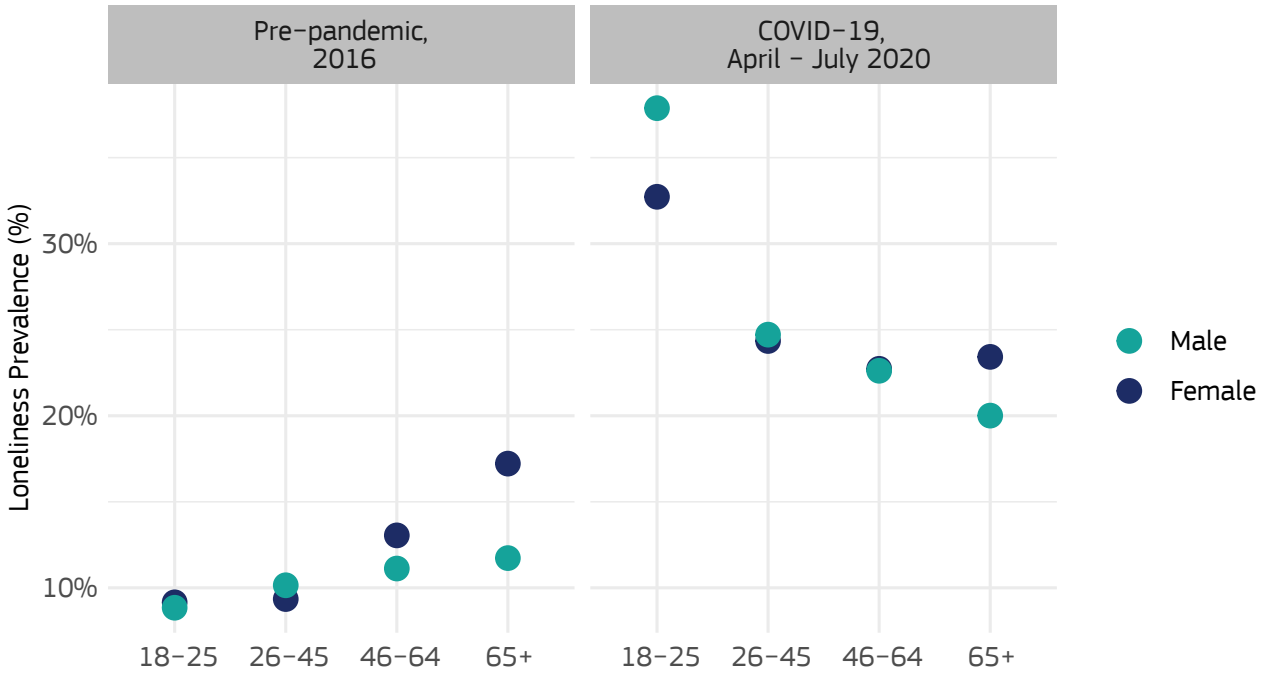


Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. The histogram displays, by gender and time period, the share of individuals who felt lonely more than half of the time over the two weeks preceding the interview.

This is true when directly comparing loneliness levels by gender, as well as when controlling for other individual characteristics. These observations are mostly in line with the recent meta-study by Maes et al. (2019) who report 'a close-to-zero overall effect'. D'Hombres et al. (2021) and Luhmann and Hawkley (2016) conclude that women are slightly more prone to loneliness than men but that these gender variations are very small.

While overall the prevalence of loneliness is not gender-specific, we observe differences between females and males among the ageing population. Before the pandemic, women aged 65 and over were 6 percentage points more likely to feel lonely than men in the same age category. The same pattern is found during the pandemic. Gender differences among the ageing population may occur because women are more likely to survive their male partner: women both have a higher life expectancy and marry at a younger age than men.

FIGURE 8. Loneliness by gender and age group



Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. The figure displays the share of individuals who felt lonely more than half of the time over the two weeks preceding the interview by gender and age group.

Indeed, the multivariate analysis suggests that once we control for other risk factors, gender differences among the ageing population are not statistically significant. This suggests that the difference between men and women in this age group is not inherent to gender, but relates to other factors.[5]

2.3.4. Health and loneliness

Poor health is associated with more loneliness

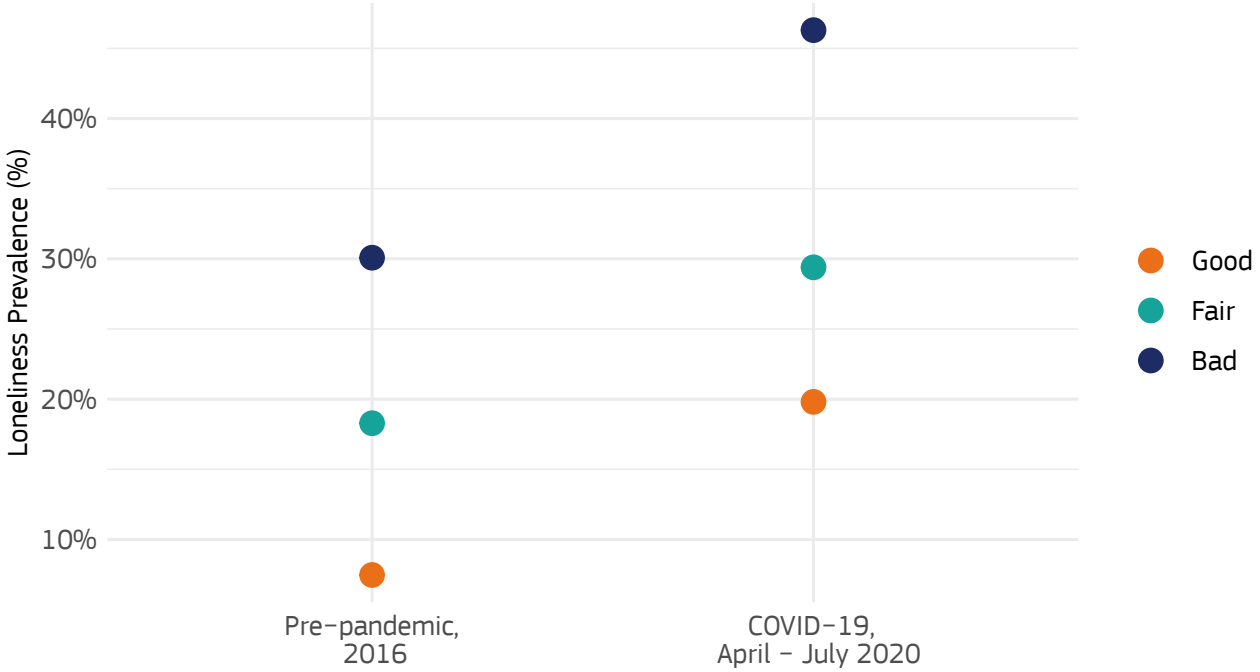
In line with previous literature (De Jong Gierveld and Van Tilburg, 2010; Sundström et al., 2009; Nicolaisen and Thorsen, 2014, Luhmann and Hawkley, 2016, d'Hombres et al., 2020), we find that poor health is a critical loneliness risk factor. In the pre-pandemic period, around 30% of respondents indicating that they were in bad health also reported feeling lonely more than half of the time. This compares with only 8% among people in good health.

The loneliness of individuals in poor health is mostly chronic.

Loneliness increased regardless of health status during the first months of the pandemic: the incidence of loneliness rose to 46% for respondents in poor health and 20% for those in good health. Therefore, the gap in the prevalence of loneliness by health status did not change much following the COVID-19 outbreak. This suggests that the loneliness of people in poor health is largely chronic (i.e. persistent over time, with no substantial variation between normal and exceptional circumstances).

[5] The higher proportion of young adult males, compared with females, reporting loneliness during the pandemic is also driven by gender variations in the distribution of other individual characteristics.

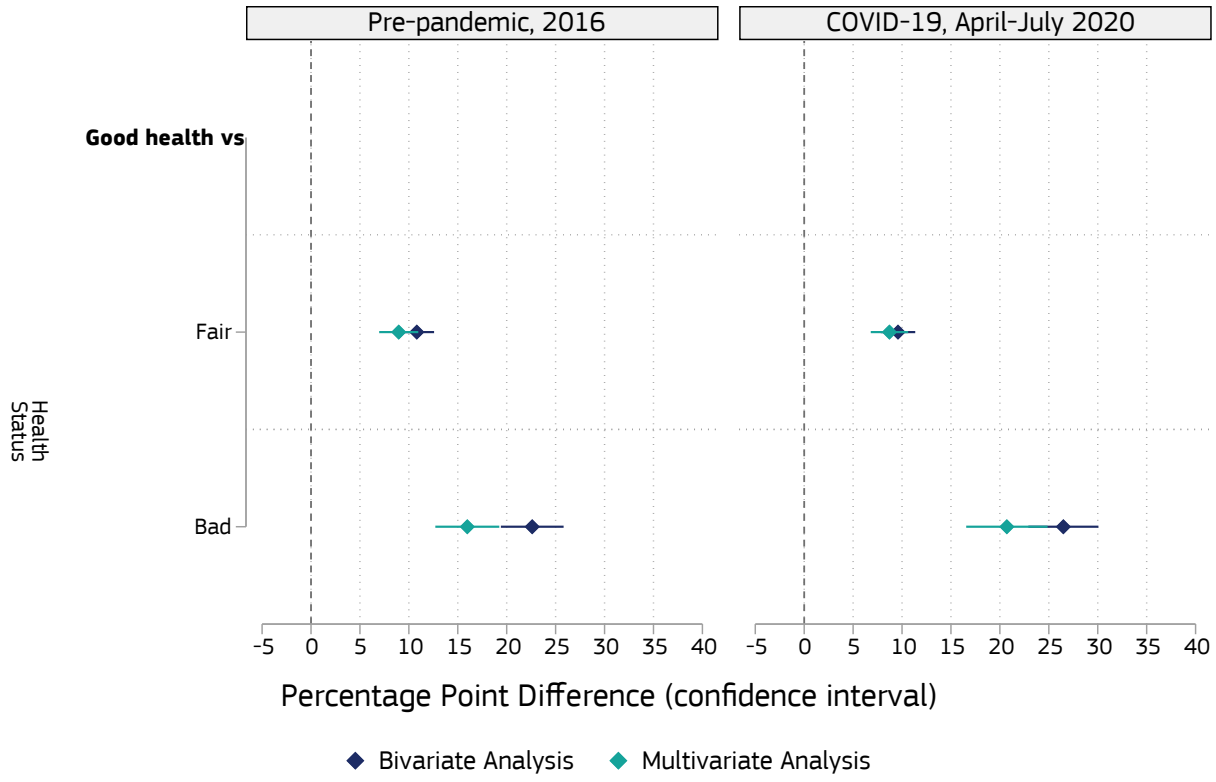
FIGURE 9. Loneliness by health status



Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. The histogram displays, by health status and time period, the share of individuals who felt lonely more than half of the time over the two weeks preceding the interview. Health status is measured with the following question: 'In general, how is your health?'. The possible answers were: (i) very good, (ii) good, (iii) fair, (iv) bad and (v) very bad. The answers 'very good' and 'good' have been grouped together here, as have the responses 'bad' and 'very bad'.

In addition, most of the association between health and loneliness persists when we control for other individual characteristics. This indicates that the link between loneliness and health is not explained by the lower income or labour market status of those in bad health, for example. Instead, it is probably driven by health-related factors that are not part of the set of control variables. Respondents in bad health are likely to have fewer possibilities to meet with people and experience less social support. Note however that the relationship between health and loneliness is bidirectional. This is because, as described in chapter 1, loneliness is detrimental to health.

FIGURE 10. The contribution of health to loneliness

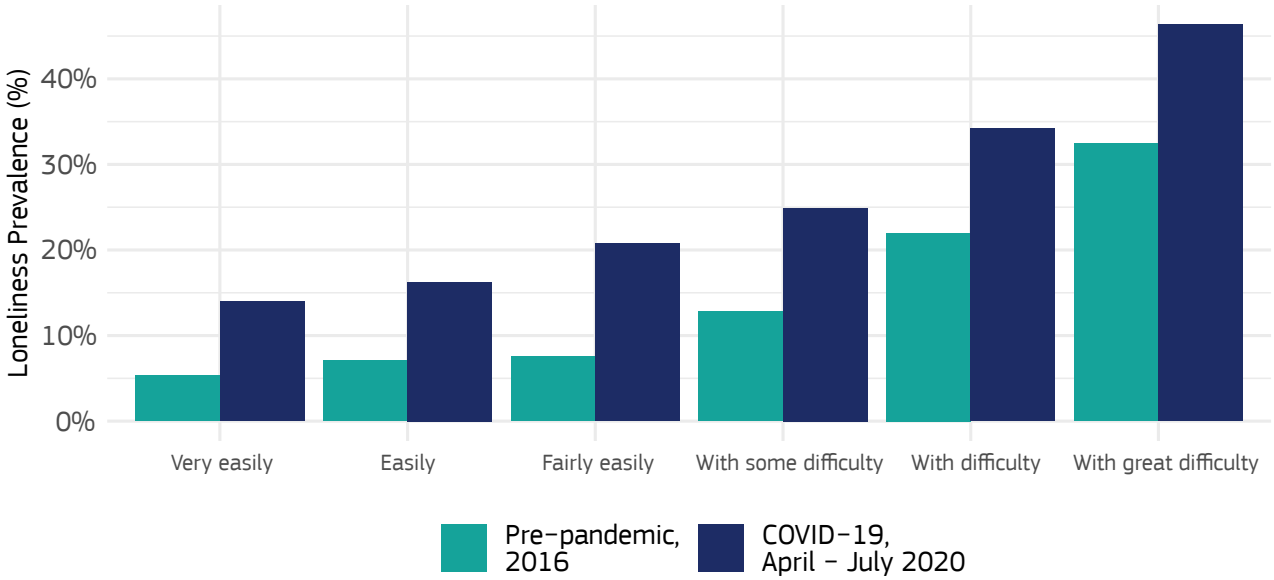


Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. The graph displays the percentage-point differences in terms of loneliness between a person with the individual characteristics reported on the y-axis and their reference group reported in bold. The blue diamonds correspond to the results based on bivariate statistics. In contrast, the turquoise diamonds indicate the percentage-point differences net of the effect of the other variables included in the model. The left-hand graph displays the results corresponding to the pre-pandemic period while the right-hand graph reports the figures for the early months of the pandemic. Variables included in the model for the multivariate analysis but not displayed in the graph are the labour market and economic characteristics of the respondent, her/his demographic and household characteristics, his/her localisation, (country, rural or urban area) and the stay-at-home policy in place on the day of the interview (see Table A.3 in the Annex). The horizontal lines through the diamonds represent the 95% confidence intervals.

2.3.5. Economic characteristics and loneliness

Favourable economic circumstances protect against frequent loneliness equally in both periods. Before the pandemic, individuals reporting that it they found it very difficult or difficult to make ends meet with their household income had loneliness levels of 32% and 22% respectively. These figures are respectively 27 and 17 percentage points higher than those who were able to make ends meet very easily (5%).

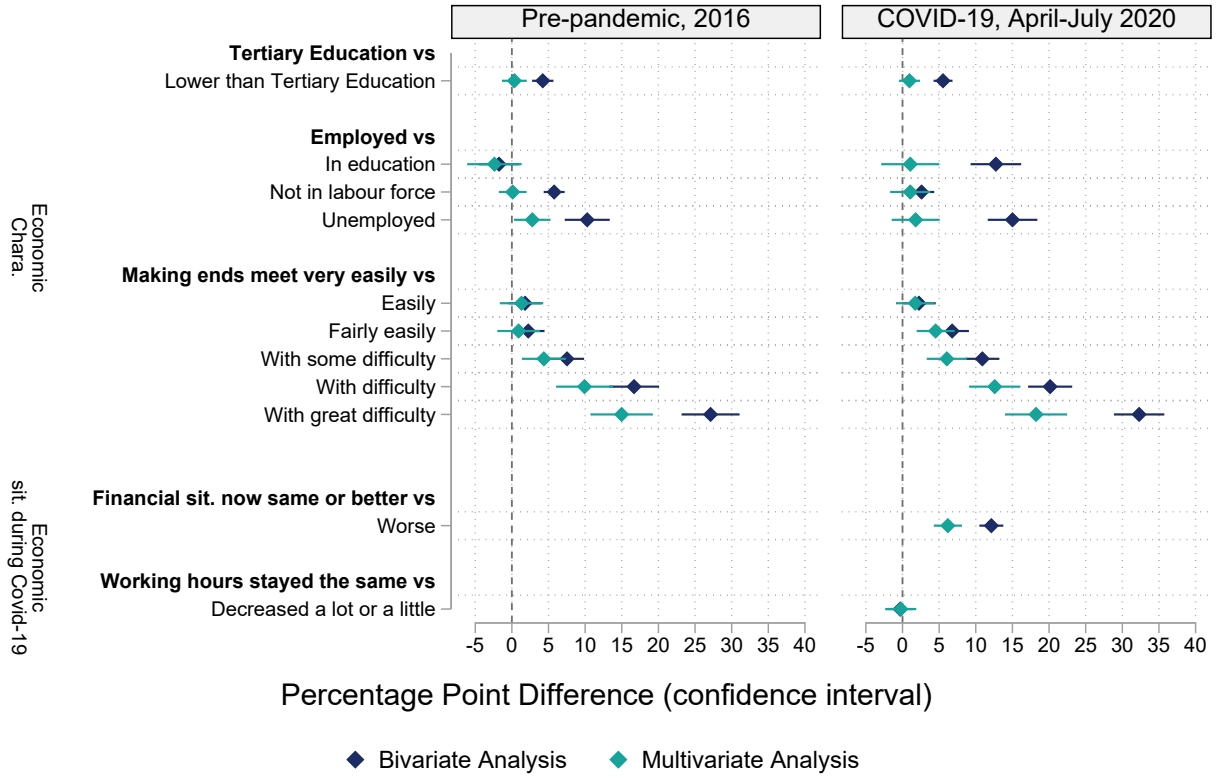
FIGURE 11. Loneliness by ability to make ends meet



Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. The histogram displays, by income status and time period, the share of individuals who felt lonely more than half of the time over the two weeks preceding the interview. Income status was measured with the following question: 'A household may have different sources of income and more than one household member may contribute to it. Thinking of your household's total monthly income: is your household able to make ends meet...?'. The answer categories are the following for the EQLS survey: (i) very easily, (ii) easily, (iii) fairly easily, (iv) with some difficulty, (iv) with difficulty and (v) with great difficulty. For the LWC survey, the wording of categories (ii) and (iii) changes slightly.

During the first months of the pandemic, loneliness rose for every income group, by largely the same amount. Thus, differences in loneliness between the lowest and highest income groups stayed largely the same compared with before the pandemic.

FIGURE 12. Contribution of economic characteristics to loneliness



Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. The graph displays the percentage-point differences in terms of loneliness between a person with the individual characteristics reported on the y-axis and their reference group reported in bold. The blue diamonds correspond to the results based on bivariate statistics. In contrast, the turquoise diamonds indicate the percentage-point differences net of the effect of the other variables included in the model. The left-hand graph displays the results corresponding to the pre-pandemic period while the right-hand graph reports the figures for the early months of the pandemic. Variables included in the model for the multivariate analysis but not displayed in the graph are the demographic and household characteristics of the respondent, her/his health status, his/her localisation (country, rural or urban area) and the stay-at-home policy in place on the day of the interview (see Table A.3 in the Annex). The horizontal lines through the diamonds represent the 95% confidence intervals.

Also, when controlling for other factors (Figure 12), loneliness increased by similar margins in every income group during the COVID-19 pandemic. This means that the pandemic hit every income group similarly hard in terms of loneliness. Yet we also observe that, everything else being equal, respondents reporting a drop in income since the COVID-19 outbreak are 6 percentage points more likely to feel lonely than their counterparts who have not faced such an income decline.

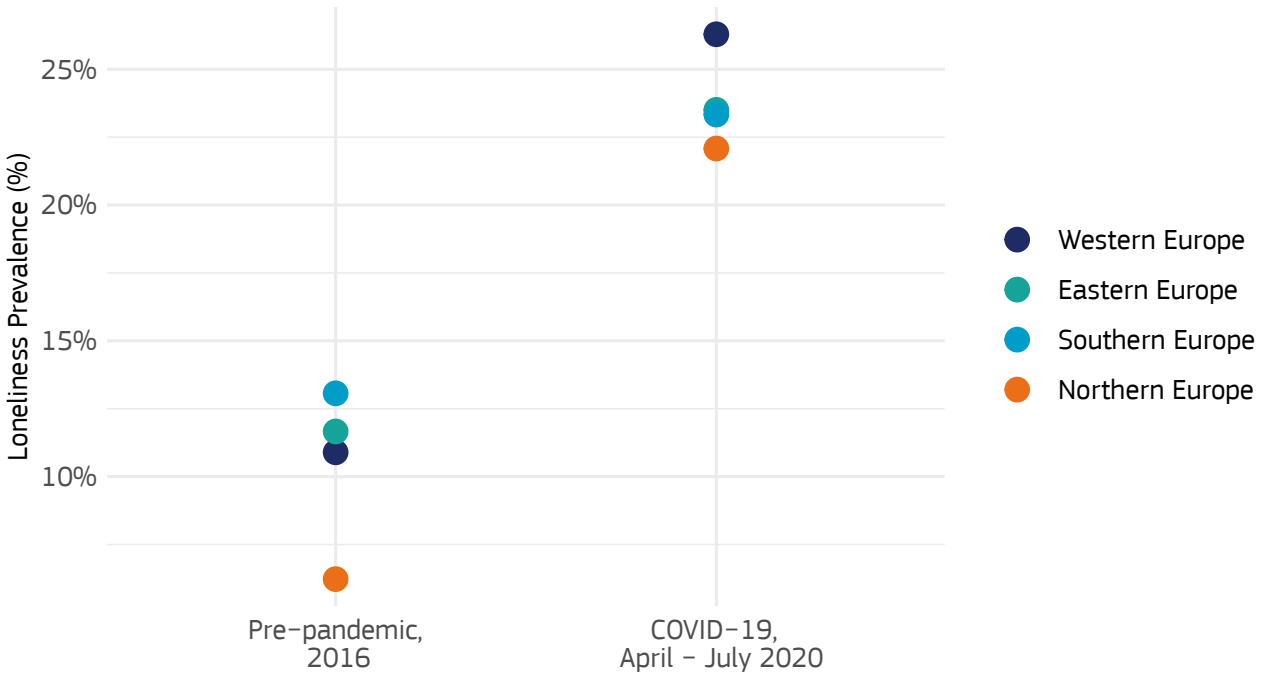
Another economic factor influencing loneliness is unemployment. When looking at the direct association between loneliness and unemployment (bivariate statistics), those who are unemployed have higher loneliness levels compared with the employed. However, when controlling for other loneliness risk factors (multivariate statistics), unemployment turns out to have a low effect before the pandemic (3 percentage points difference) and an effect not significantly different from zero during the pandemic. This means that other underlying factors — such as, possibly, income — explain (most of) the effect of unemployment on loneliness in the bivariate analysis.

The fact that the association between employment status and loneliness decreased during the pandemic may partly be thanks to the increased family time resulting from the stay-at-home policies. This is only one tentative explanation that would need to be further investigated. There are other unobserved variables at play here, including the fact that for the unemployed, the decline in in-person interactions may have been smaller than for those in employment. In contrast, the small but significant discrepancy in loneliness between unemployed and employed respondents before the pandemic is in line with the existing literature (e.g. d'Hombres et al., 2021, Luhmann & Hawkley, 2016; Cohen-Mansfield et al., 2009; Savikko et al., 2005).

2.3.6. Geography and loneliness

Loneliness was lowest in the pre-pandemic period in northern Europe. The regional pattern observed before the pandemic with the European Quality of Life Survey is similar to the one found in other existing cross-national studies (Yang and Victor, 2011, Sundstrom et al., 2009, Fokkema et al., 2012, d'Hombres et al., 2021). More specifically, the lowest loneliness levels were observed in northern Europe with around 6% of the population feeling lonely. Western, southern and eastern Europe exhibited higher levels of loneliness, with 11% to 13% of the respondents indicating that they felt lonely.

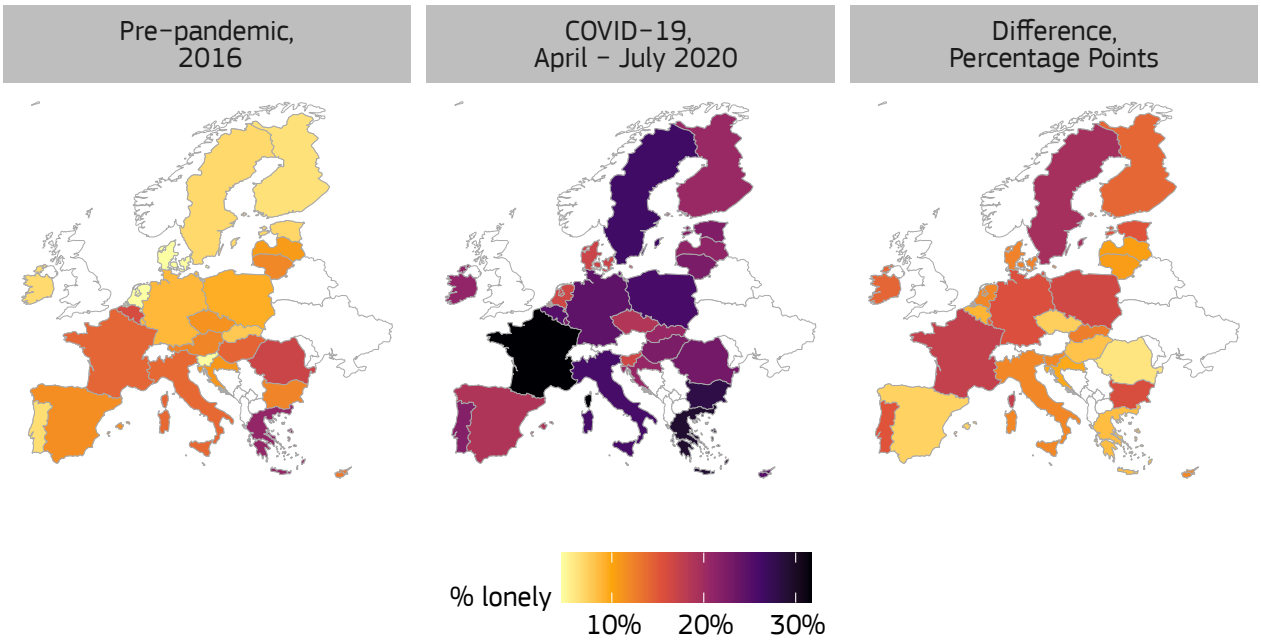
FIGURE 13. Loneliness by macro-region



Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys; The figure displays, by EU macro-region and time period, the share of individuals who felt lonely more than half of the time over the two weeks preceding the interview. Northern Europe includes Denmark, Finland, Ireland and Sweden; Western Europe is Austria, Belgium, France, Germany, the Netherlands and Luxembourg; Southern Europe is Cyprus, Greece, Italy, Portugal, Spain and Malta; Eastern Europe includes Bulgaria, the Czech Republic, Croatia, Estonia, Hungary, Lithuania, Latvia, Romania, Poland, Slovenia and Slovakia.

This picture changes following the COVID-19 outbreak, with all regions reporting similar loneliness levels, of between 22% and 26%, thus closing the regional gaps that the pre-pandemic survey had recorded.

FIGURE 14. Loneliness in the EU



Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys; The figure displays by country the share of individuals who felt lonely more than half of the time over the two weeks preceding the interview.

Country-specific figures show that loneliness increased by more than 15 percentage points in Bulgaria, Estonia, France, Germany, Poland, Portugal and Sweden. In contrast, Belgium, Croatia, the Czech Republic, Greece, Hungary, Romania and Spain experienced a loneliness increase of less than 10 percentage points over the same time period.

These macro-regional and country-specific figures might be a bit surprising. First, we would expect the effect of social distancing to be more severe in countries or macro-regions where people are more tactile and family ties are strong (Sundstrom et al., 2009). In that sense, the suffering from the lack of contacts should be higher in southern Europe than in northern Europe.[6] This is not what we observe. The finding that the loneliness response to the COVID-19 pandemic did not rise more in southern Europe than in the rest of Europe could be due to the fact that the pandemic also created a sense of belonging or community in several countries, at least during the first months of the pandemic. Back in March and April 2020, people in countries such as Italy, Spain or France applauded or sang on their balconies every evening in support of medical workers.

In 2020, everything else equal, the harder the lockdowns the higher the feeling of loneliness.

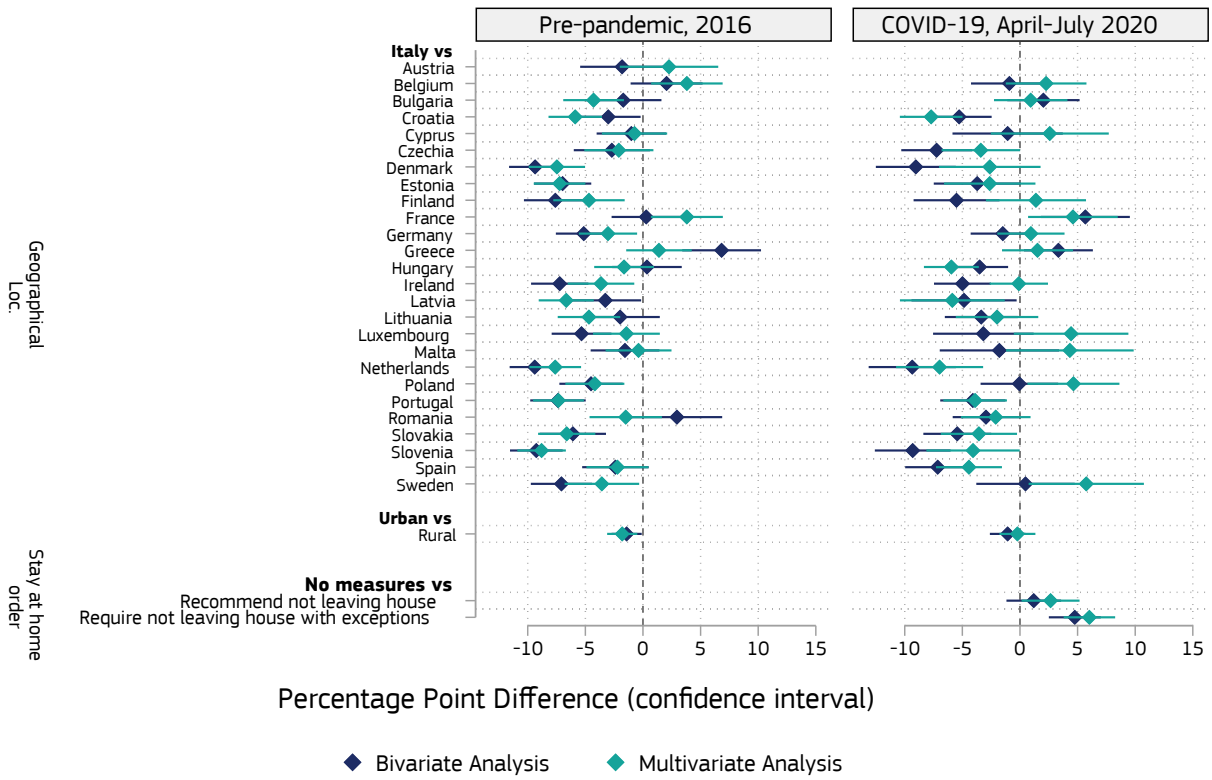
We would expect that the stricter the lockdown, the stronger the effect on loneliness. However, when we just look at country differences in loneliness, we do not observe any such association: during the first wave of the 2020 survey, southern and western European countries imposed more stringent lockdowns than the rest of Europe. Sweden did not enforce a lockdown, whereas most of countries in northern and eastern Europe put in place softer lockdowns when infection rates were still relatively low. Yet loneliness increased strongly in Sweden compared with Italy or Spain.

6 This is only a tentative explanation. Network analyses studies suggest that, in southern and eastern Europe, people tend to reside closer to their family of origin than in other European countries. This implies that the limited mobility inherent in social distancing measures might have had less impact on family-related interactions in countries where relatives tend to live within the radius of movement allowed during lockdown periods (see for instance https://ec.europa.eu/eurostat/web/products-eurostat-news/-/EDN-20200812-1). Similarly, the share of single households is higher in northern Europe than in the rest of Europe. This could explain these country differences.

Similarly, loneliness rose sharply in Poland but only to a limited extent in Greece. This is possibly because countries differed not only in the strength of their lockdowns, but in many other ways.

Indeed, the multivariate analysis suggests that, when a lockdown gets stricter *within* a country, loneliness levels increase: indeed, when we control for individual characteristics and more importantly geographical location (country, rural/urban areas), we observe a 5 percentage-point gap in the prevalence of loneliness between respondents, depending on whether they were living in a country with no specific stay-at-home recommendations or where people were prevented from leaving their homes except in a limited range of circumstances. This is not surprising, as a stricter lockdown makes it more difficult to be in contact with other people.

FIGURE 15. Figure 15: The contribution of location and stay-at-home policies to loneliness

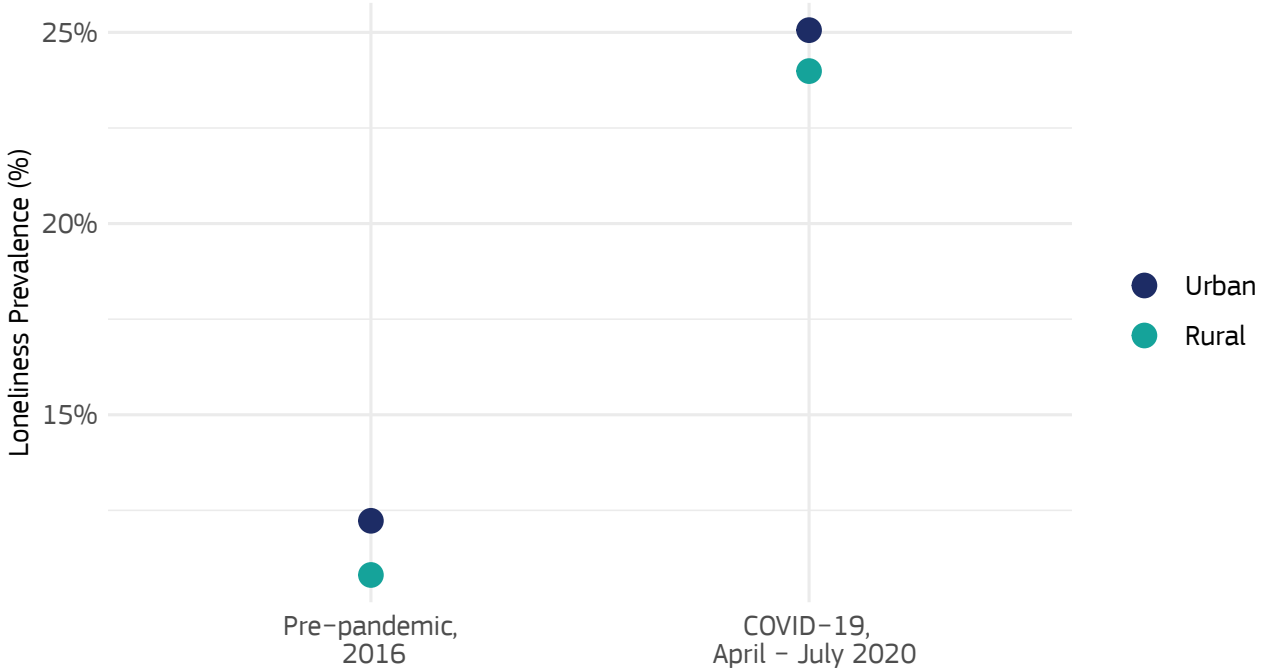


Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys. The graph displays the percentage-point differences in terms of loneliness between a person with the individual characteristics reported on the y-axis and their reference group reported in bold. The blue diamonds correspond to the results based on bivariate statistics. In contrast, the turquoise diamonds indicate the percentage-point differences net of the effect of the other variables included in the model. The left-hand graph displays the results corresponding to the pre-pandemic period while the right-hand graph reports the figures for the early months of the pandemic. Variables included in the model for the multivariate analysis but not displayed in the graph are the demographic, household, labour market and economic characteristics of the respondent and her/his health status (see Table A.3 in the Annex). The horizontal lines through the diamonds represent the 95% confidence intervals.

There is no evidence of a rural-urban divide in loneliness, before or during the pandemic.[7] In the pre-pandemic period, 11% of people in rural areas and 12% of people in urban areas were frequently lonely. During the first months of the pandemic, loneliness increased by 13 percentage points, regardless of urbanisation level. Thus, this finding coincides with some existing research (e.g. Tobiasz-Adamczyk and Zawisza, 2017).

[7] According to the multivariate analysis (see Table in Appendix B), in 2016 respondents living in rural areas were only 2 percentage points less likely to feel loneliness whereas there were no significant differences between rural and urban areas during the first months of the pandemic.

FIGURE 16. Loneliness by urbanisation level



Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys; The figure displays, by urbanisation level, the share of individuals who felt lonely more than half of the time over the two weeks preceding the interview. Urbanisation level was measured with the following question: 'Would you consider the area in which you live to be...?'. The answer categories were: (i) the open countryside, (ii) a village/small town, (iii) a medium to large town, (iv) a city or city suburb. These answer categories were then summarised with 1 and 2 coded as rural and 3 and 4 coded as urban.

2.4. Concluding remarks

The COVID-19 pandemic has magnified already worrying levels of loneliness in Europe. Social distancing measures have been critical to limit the expansion of the virus. However, there are also growing concerns about the impact that the reshaping of social lives of the past year might have on loneliness, in particular for people who were already more prone to loneliness in the pre-pandemic period. The purpose of the chapter was to compare the incidence of loneliness before and during the first months of the COVID-19 pandemic, as well as to examine whether the risk factors associated with loneliness have changed after the pandemic's outbreak. To this end, we rely on two surveys implemented in 2016 and in April-July 2021, respectively.

Bearing in mind the data limitations, and in particular the fact that the two surveys are based on two different survey modes and sampling frames, the results suggest the following.

The prevalence of loneliness rose sharply in the first months following the COVID-19 outbreak. Whereas in 2016 about 12% of EU citizens indicated feeling lonely more than half of the time, this share rose to 25% in the first months following the COVID-19 outbreak. Other negative emotions such as feeling tense or downhearted followed the same trend, while positive emotions such as feeling cheerful, calm, active or rested moved in the opposite direction.

A large part of the public discussion on loneliness has until now focused on older adults, as they are often considered the most vulnerable population. This is because ageing is associated with other loneliness risk factors. However, during the first months of the pandemic, young adults have been, by far, the most severely hit by the social distancing measures. More specifically, the share of people aged 18-25 indicating feeling lonely almost quadrupled in the first months of the pandemic (from 9% in 2016 to 35% in early 2020). This feeling of loneliness among young adults is hopefully of a transient nature. Yet young adulthood is also a moment often associated with leaving the family home and moving to a new phase in life. In this context, the impact of more than one year of reduced in-person contacts could continue to be felt long after the pandemic subsides. Additional analyses should be conducted to further assess the impact of the pandemic on the young generation and to design appropriate intervention strategies, if needed. The third wave of the LWC survey will help us to better understand the effect of protracted of social distancing measures on the current generation of young people.

Face-to-face connections with close family reduce the incidence of loneliness. This was true both before and during the pandemic. However, living alone has made it more difficult to cope with social distancing measures. People living alone experienced a rise in the prevalence of loneliness by 23 percentage points compared with levels observed before the pandemic. The first months of the pandemic have thus been particularly difficult for those who live alone. Such living arrangements greatly limit in-person interactions.

There are also a number of other risk factors whose importance has not been exacerbated by the pandemic. Favourable economic conditions (household income) protect against loneliness: this was equally true before and during the pandemic. Poor health is associated with loneliness. In the pre-pandemic period, around 32% of respondents indicating that they were in bad health also reported feeling lonely more than half of the time. This figure contrasts with 8% among people in good health. In the first months of the pandemic, the incidence of loneliness rose to 46% for respondents in poor health and to 20% for those in good health. Therefore, the gap in loneliness levels by health status did not change much following the COVID-19 outbreak. This suggests that the incidence of poor health as a risk factor for loneliness applies under all circumstances.

Finally, females are as likely as males to feel loneliness. This has not changed with the implementation of social distancing measures. Similarly, living in a city or a rural area did not affect loneliness levels before or during the pandemic.

In the pre-pandemic period, loneliness was lowest in northern Europe, with around 6% of people reporting feeling lonely more than half of the time. Western, southern and eastern Europe exhibited a higher prevalence of loneliness, ranging from 11% to 13%. However, following the COVID-19 outbreak, western and northern Europe experienced the sharpest rise in loneliness. This is a bit surprising as northern Europe put in place softer lockdowns than southern and western Europe. We sense that the pandemic might have initially fostered a sense of belonging in several countries, particular in southern Europe. Population characteristics and the broader social context certainly also explain the macro-regional and country patterns. Indeed, when we account for these factors, we observe that, everything else being equal, within each country, the harder the lockdown the more acute the feeling of loneliness.

Social connections are critical in our daily lives. The distress experienced worldwide over the past 16 months is, in part, driven by the limitations imposed on social interactions. This chapter helps evaluate how the current situation has exacerbated the problems of those who were already lonely, and highlights how the composition of the population most at risk of social isolation and loneliness has changed during this unprecedented period. However, we need further research to assess the long-term consequences of social distancing measures. Concerns about a possible loneliness pandemic are gaining momentum. This is an opportunity to destigmatise such a distress and address it with effective interventions.

3. Online media reporting on loneliness and social isolation across the EU

Key messages

The quantitative analysis of media reporting on loneliness and social isolation in the EU Member States, from 1 January 2018 to 15 January 2021 shows that:

The number of articles reporting on loneliness and social isolation doubled with the beginning of the COVID-19 pandemic in March 2020 compared with the two previous years. Reporting about both loneliness and social isolation grew in volume with the start of the first European wave of the COVID-19 pandemic (March-May 2020).

Reporting on loneliness varies widely between Member States. While in some countries the issue is widely talked about in the media (e.g. Italy, Spain, France, Germany and Sweden), in other countries the volume of media reporting is very low to non-existent (Cyprus, Czech Republic, Greece, Lithuania, Latvia, Malta, Slovakia, Slovenia and Slovakia).

Media reporting on loneliness during the pandemic focused particularly on young people and women. This is possibly due to the fact that the pandemic hit both groups' employment prospects harder.

About one third of media reporting covers loneliness and social isolation in relation to health. Loneliness is also mentioned in the context of the economy, but less frequently — around 10% of the articles contain references to the economy or to the costs of loneliness on the health and social protection systems. Since the beginning of the COVID-19 outbreak, the impact of teleworking on loneliness is also discussed in media reporting.

The qualitative analysis of online media reporting in terms of narratives and associated sentiment on loneliness in the EU Member States shows that:

The predominant sentiment in reporting on loneliness is negative, although positive sentiment is present in articles referring to strategies to cope with loneliness. During the COVID-19 pandemic, positive reporting has also referred to the need for social isolation to counter the spread of the disease.

Narratives on loneliness and health describe the negative effects of loneliness on physical and emotional well-being, in terms of low self-esteem, stress, anxiety, depression, sleeping problems, burnout or even suicide tendencies. The media also highlight how **loneliness still suffers from social stigmatisation**, while other societal and mental health issues are commonly discussed and are regarded as much less of a taboo.

There are two main types of media narratives linking loneliness to the economy. The first describes loneliness as a structural phenomenon, often linked to a criticism of neoliberalism and the free market economy. A few media narratives also refer to poor urban planning and design — often linked with accelerated economic and societal developments — as possible drivers of loneliness. The role of technology in the 'loneliness economy' is also described both in a positive and negative light in media reporting. The positive side relates to technology as a way of linking people, while the negative side contains narratives about the exploitation of loneliness in the digital world by monetising people's needs for companionship. The second type of narrative dicusses loneliness in the context of the unfolding pandemic. It describes the link between teleworking and increased social isolation or loneliness both in negative terms (increased labour atomisation leading to loneliness and mental health issues) and positive terms (improved work-life balance).

A detailed analysis of initiatives to tackle loneliness in 10 EU Member States revealed that there is an increased awareness of the phenomenon in some Member States, and different solutions are being proposed, usually at local or regional levels, including simple telephone lines, community building initiatives and robots to assist lonely people. In other Member States the issue is mentioned little or not at all in media reporting. In this case, a deeper analysis should be done, to see whether this is due to a lack of media reporting or a failure to acknowledge the issue.

3.1. First EU-wide analysis of how online media discuss loneliness and social isolation

The analysis of online media reporting is a particularly rich and easy-to-access source of information to gain insights on whether, how and how much a specific phenomenon is described in a given context.

The Joint Research Centre (Text and Data Mining Unit) developed and maintains the Europe Media Monitor (EMM)[8], a system for monitoring open-source news information in the EU. EMM continuously monitors more than 10,000 online news sources in 70 languages, automatically analysing about 300,000 articles daily around a wide range of subjects. The list of sources[9] is manually curated for each country included in EMM, and it contains main national and local newspapers. For this study, we analysed reporting in the EMM sources from EU Member States.

The EMM system also contains sentiment and emotion models, that is machine learning models designed to automatically classify sentiment (i.e. positive, negative, neutral) and emotion (i.e. anger, fear, sadness, joy, disgust, surprise) expressed in a piece of text. They are applied to understand attitudes towards a given topic and to support the fight against disinformation. The choice of sentiment and emotion classes is in line with research in the area of Affective Computing – in particular Sentiment Analysis and Emotion Detection. For the latter, the classes considered are usually referred to as the "Ekman emotions", named after the distinguished psychologist Paul Ekman who conceptualised these six as "the basic human emotions", universal in nature and expression[10].

To extract the articles, the index of EMM articles was queried using a special syntax based on keywords and combinations of keywords (e.g. 'loneliness', 'social isolation'). The syntax allows us to search for articles containing these terms either in the text of articles or in their title, in specified countries — in this context, EU Member States — as well as the timeframe in which they were published. To analyse articles in all EU languages, the chosen keywords were translated from English to all other EU23 languages. The period studied was January 2018 to January 2021 for the general analysis of reporting trends and January 2020 to January 2021 for the in-depth analysis of underlying narratives. The list of queries is available upon request.

This chapter uses the findings from this search to show trends in media reporting on loneliness across the EU. Reporting in media in EU Member States also refers to events and sources from third countries (notably the US). While not ignoring some of the most prevalent stories originating outside the EU, the present study mainly focuses on information related to EU Member States.

The automated analysis is complemented by a selection of narratives underlying the identified trends. In addition, the chapter offers an overview of a series of initiatives to address loneliness in ten Member States covered, as reported in the media. It is important to underline that this is not an exhaustive study of all media sources for each country, and that systems to perform sentiment and emotion analysis vary in accuracy depending on text types and languages. By the same token, the statistics presented in this chapter are indicative estimates of the emotions and sentiments expressed in the media, and they do not provide direct insights into the subjective experience of the population as is the case for surveys.

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8 https://emm.newsbrief.eu/ EMM was started in 2002 as a project to support the Commission with its media monitoring activities. The main purpose of EMM is to provide monitoring of a large (but selected) set of electronic media, reducing the information flow to manageable proportions by clustering related news, categorising articles and applying language technology tools to derive further metadata, such as recognising and disambiguating entities in the text, extracting quotes by and about people, applying sentiment/tonality analysis and more. EMM also collects and analyses large volumes of tweets. Currently the sentiment and emotion models cover five languages in the original (English, French, German, Spanish and Italian), while for other languages, the text is automatically translated into English before the model is applied. For the five languages covered in the original, benchmarks suggest the EMM sentiment model accuracy is around 70% on the data for which the system was evaluated. For other languages, the sentiment and emotion analysis is performed on the text translation to English, which may lead to a loss in performance of up to 5%.

9 publicly available at https://emm.newsbrief.eu/NewsBrief/sourceslist/it/list.html

10 More in-depth information about the models employed – how they were built and what their measured performance is - can be found in: Alexandra Balahur and Marco Turchi - Comparative experiments using supervised learning and machine translation for multilingual sentiment analysis, Computer Speech & Language 28(1):56–75, DOI:10.1016/j.csl.2013.03.004, 2014 and Alexandra Balahur - OPAL at SemEval-2016 Task 4: the Challenge of Porting a Sentiment Analysis System to the "Real" World, Proceedings of the 10th International Workshop on Semantic Evaluation (SemEval), 2016.

3.2. Loneliness and solitude versus social isolation in European online media reporting

As recalled in the introduction, the scientific community makes a clear distinction between the concepts of loneliness, solitude, and social isolation. However, it is still unclear how these terms are being employed in everyday language. This is important to keep in mind for the analysis presented in this part of the report. To begin with, in many languages there are no separate words for loneliness and solitude. 'Loneliness' is associated with several similar and partially overlapping concepts such as 'solitude' 'aloneness', 'feeling alone', 'being alone' (but also 'boredom' or 'grief'), perceived and framed in a variety of ways. This linguistic ambiguity complicates the analysis of online media reporting, especially when applying automated text-mining methods. To overcome the implications of this linguistic ambiguity, a more detailed content analysis was performed by human analysts. Thanks to the adopted mixed methodology, it was possible to understand that articles about loneliness in which positive sentiment is dominating are often referring to solitude. In the context of these positive narratives, loneliness appears as a choice, as something that is 'desirable' or even 'beautiful'.

Therefore, performing a media analysis at European level involves addressing the multilingual nuances of the most common expressions used for describing 'loneliness'. These expressions may change by country e.g. in Spanish the word *soledad* refers both to solitude and loneliness, but the analysis of online articles revealed the frequent use of expressions such as *soledad no deseada* (unwanted/undesired loneliness) to refer to the negative concept of loneliness. Similarly, in Sweden we found frequently the term 'involuntary loneliness' (*ofrivillig ensamhet*) as opposed to positive 'solitude', and 'existential loneliness' (*existentiell ensamhet*), a concept that put emphasis on the social isolation that affects the deeper layers of our existence. Furthermore, in a range of countries, there are references also to 'chronic loneliness' to differentiate between a solitude that may arise situationally and a more persistent loneliness affecting people for a longer time. As in the academic literature, media often make a distinction between 'social loneliness' and 'emotional loneliness' to separate the felt experience of loneliness from social isolation.

For these reasons and considering the specific focus of our analysis, we opted for the more inclusive approach of monitoring terms as 'solitude', 'loneliness', 'lonely' together on one side, and 'social isolation' on the other. In fact, in the media the use of 'loneliness' and 'social isolation' seems to reasonably mirror this conceptual distinction. Therefore, it was much easier to track media reporting trends about them separately.

Figure 17 summarises the overall findings of our study and shows the development in reporting about loneliness and social isolation across EU online media. For each article, the automatic analysis detected the emotions and sentiments that were most strongly expressed. The graphs show the daily counts of articles by sentiment or by emotion.

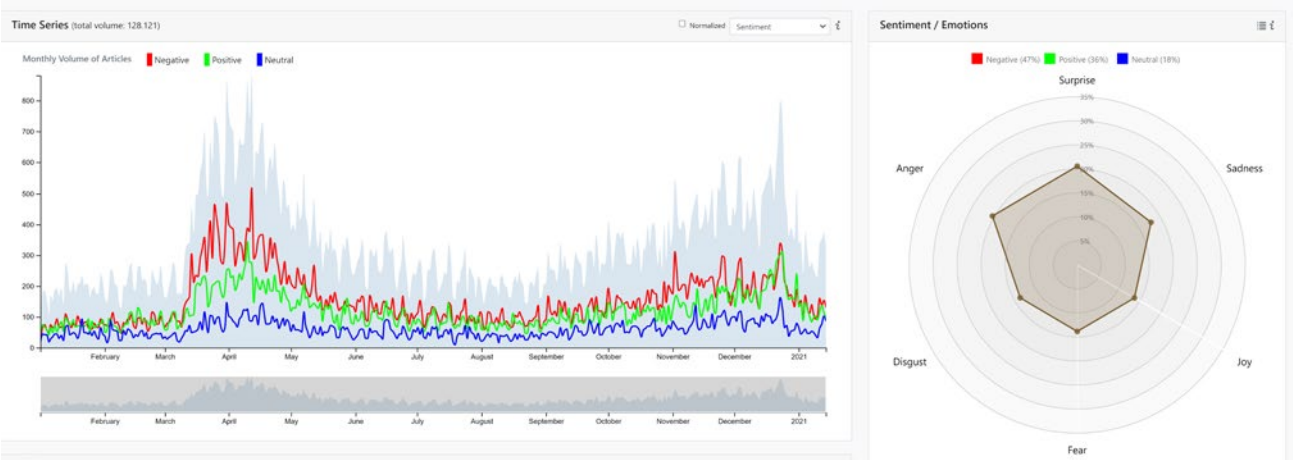
Reporting about both loneliness and social isolation grew in volume with the start of the first European wave of the COVID-19 pandemic (March-May 2020). After that, media mentioning of social isolation returned to previous levels and remained relatively low, while reporting about loneliness started growing again from September-October 2020, coinciding with the second wave of the pandemic, and reached another peak around December 2020-January 2021.

A possible explanation is that social isolation was closely related to the lockdown measures to contain the spread of the virus, while loneliness represents a less contingent and deeper issue. In fact, while two thirds (74.4%) of reporting on social isolation overlaps with COVID-19 related news coverage, in the case of loneliness this is true only for every third article (36.2%).

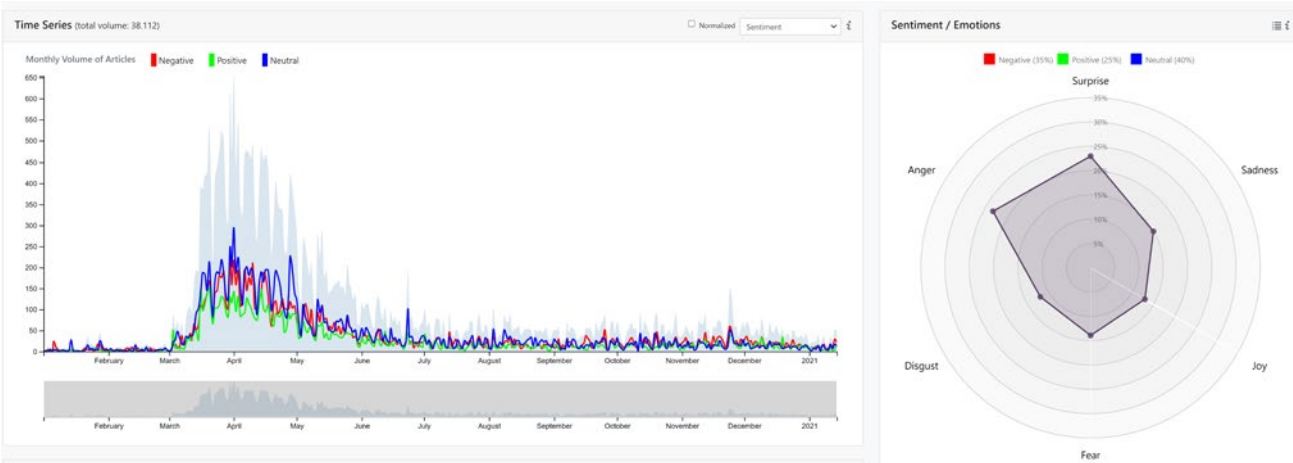
In terms of associated sentiments, the share of negative news is higher in the case of loneliness (47%), than in the case of social isolation. However, the distribution of the six basic emotions, as standardised by classic psychology (happiness, sadness, fear, disgust, anger, surprise), is more balanced. One further difference is interesting, since it corroborates our explanation. Articles discussing loneliness only (without social isolation) score higher on sadness, while articles about social isolation are often associated with anger, perhaps hinting at a connection with the broader policy and societal context.

FIGURE 17. Trends and sentiment in EU online media reporting about loneliness and social isolation (1 January 2020 – 14 January 2021)

Loneliness



Social isolation

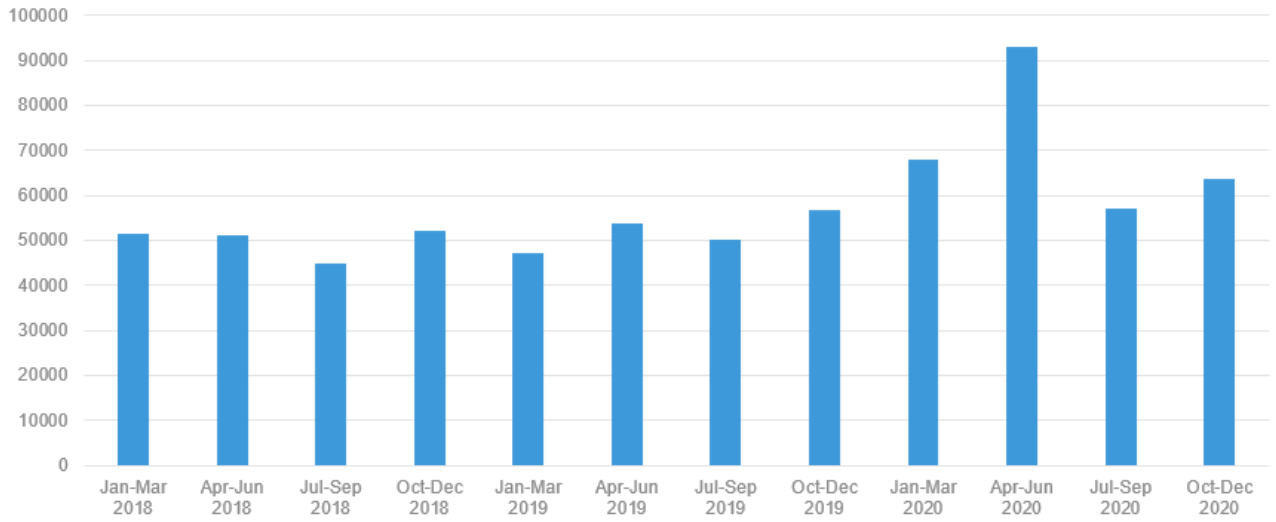


3.3. Reporting about loneliness and social isolation in European online media: trends and sentiment

This section delves further into the trends and sentiments associated with online media reporting on loneliness and social isolation across the EU. Here, we adopt a wider timeframe and look at trends in media reporting across Member States, starting in 2018 until the end of 2020.

Figure 18 shows that reporting on loneliness and social isolation at aggregate EU level almost doubled in volume in the first months of the COVID-19 pandemic. The summer of 2020, with relative improvements in the COVID-19 emergency and the lifting of lockdown measures brought the volume of reporting back in line with pre-pandemic values. The second wave occurring at the end of 2020 set in motion a new increase in reporting.

FIGURE 18. Trends and sentiment in online media reporting about loneliness and social isolation in EU Member States (1 Jan 2018 - 31 December 2020)



Reporting on loneliness varies greatly across Member States. However, as Figure 19 illustrates, while in some countries the issue is widely discussed (e.g. Italy, Spain, France, Germany and Sweden), in other countries media the volume of reporting volume is very low to non-existent (Cyprus, Czech Republic, Greece, Lithuania, Latvia, Malta, Slovakia and Slovenia).

FIGURE 19. Comparison in volumes of articles (absolute numbers) of media reporting on loneliness and social isolation in EU MS (1 Jan 2018 -31 Dec 2020)

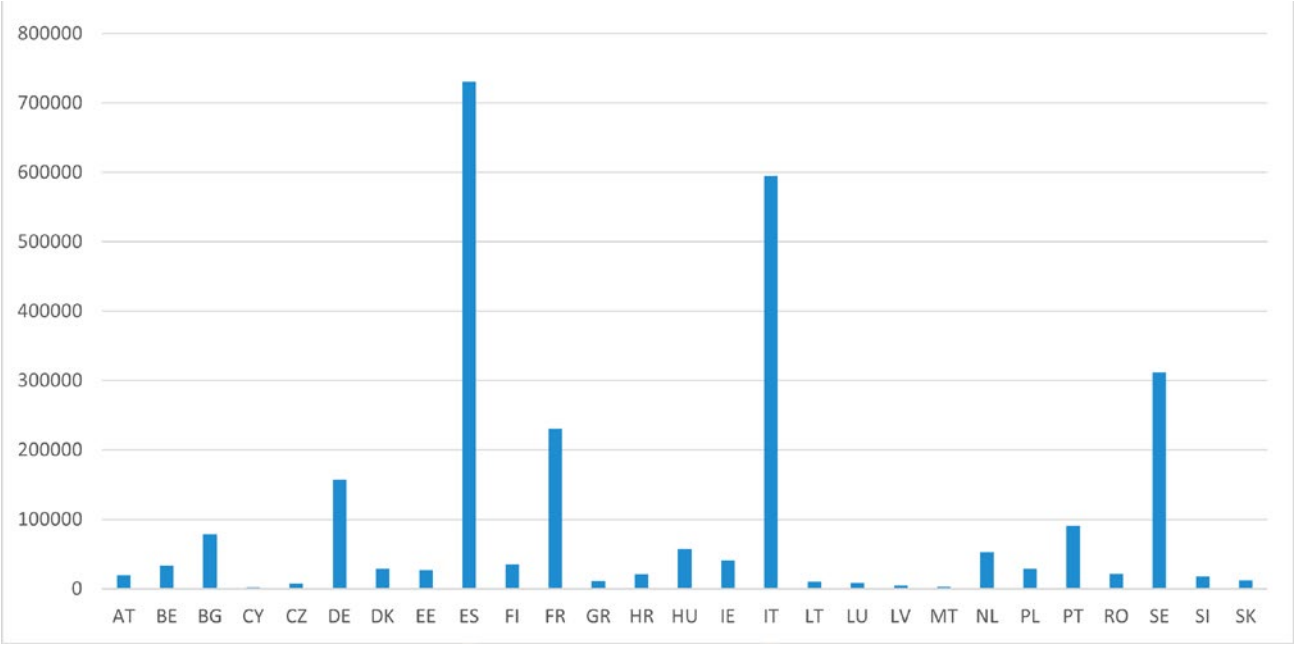
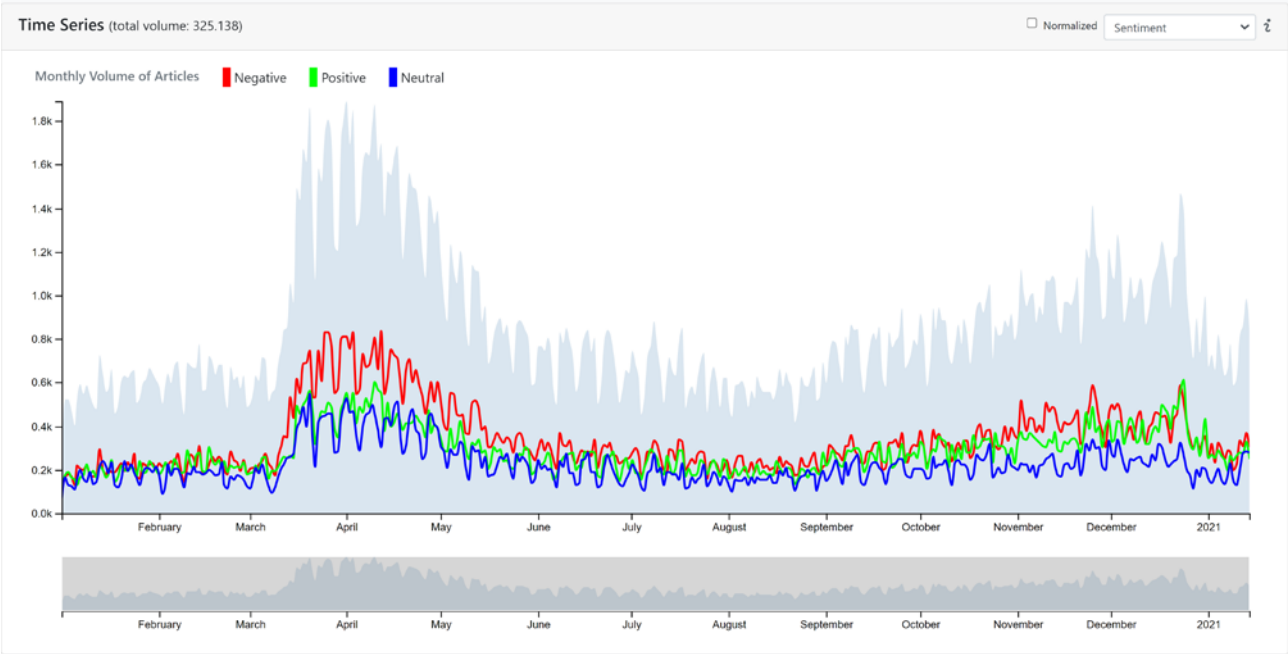


Figure 20 focuses on trends in the sentiments associated with reporting on loneliness. Sentiments were predominantly negative at the beginning of the pandemic, but have progressively become more balanced since the summer of 2020. This can be explained, as already stated, by the timing of the lockdown measures and their lifting, but also by the adoption of initiatives to tackle loneliness and the corresponding positive reporting concerning such measures. Further analysis could study the link between the number of infections in each EU Member State, lockdown measures and the volume of reporting on loneliness.

FIGURE 20. Trends in sentiment of reporting of loneliness and social isolation in EU MS (1 January 2020 – 14 January 2021)



Finally, while in the public imagination loneliness is traditionally associated with the elderly population and survey data analysis revealed similar levels of loneliness between men and women (see Chapters 1 and 2 for further discussions), the monitoring of media reporting in relation to loneliness during the COVID-19 pandemic shows attention being paid particularly to young people and women. This is possibly because the pandemic hit both groups' employment prospects harder (ILO 2021). Additionally, media discussion on loneliness in the past year focused on both young people (19-25) and older people (75+), with young people being the focus of a large part of social media reporting on loneliness and the economic consequences of the pandemic, but also on its long-term consequences on psychological health.

3.4. Underlying narratives and associated sentiment in EU online media reporting on loneliness

Our analysis of the narratives underlying media reporting found reference to a wealth of studies and surveys carried out in the past year on the topic of loneliness.

For example, media reporting of a study published in June 2020 by the Kaspersky Computer Security Company (Kapersky, 2020) found that during the first months of the COVID-19 pandemic, the so-called 'Generation Z' (born between 1994 and 2001) was the loneliest age group in Europe (almost 7 out of 10 respondents from this age category felt 'lonely at least some of the time', compared with just 37% at the other end of the age spectrum).[11] In Denmark, survey results showed that about one in 10 young people (aged 16-29) often or always felt lonely, while 42.2% of adolescents who often felt lonely had headaches daily or weekly[12]. In France, recent reports underlined that 'those among Gen-Z are twice as likely to feel lonely due to pandemic restrictions as are Baby Boomers'[13] and that university students called for more help to tackle loneliness and financial problems due to the COVID-19 pandemic[14]. In Italy, survey data showed that 55% of the adult population suffered from loneliness and that this discomfort was stronger among the young, with 32% of 18-34 year olds reporting that they often experience loneliness[15].

Positive reporting also related to initiatives to combat loneliness and bring people together. Social distancing, commonly thought of as a negative experience, was also framed in positive terms by media during the COVID-19 pandemic as it was perceived as the only effective solution to contain the pandemic. Similarly, even if they were less frequent, articles centred on art and spirituality contributed to the positive narrative, by associating the concepts of 'desirable solitude' or terms as 'beauty' and 'richness' to loneliness.

Positive narratives in the media often involve delivering a message of hope and may therefore help ease the pain of loneliness. This was evident especially around Christmas 2020 and the New Year's celebrations, when articles that tried to keep up readers' spirit were frequent[16], with a view to ease the pain of social isolation and loneliness and advise on how to quarantine without feeling lonely. During this period, media paid also particular attention to the traditional end-of-year speeches by politicians. In fact, the positive peak visible at the end of 2020 in Figure 18 is directly related to the coverage of New Year's speeches of politicians that evidently mentioned loneliness, but with prevailing positive tones. An example is the New Year's address by Greek President Katerina Sakellaropoulou, where she expressed deep understanding of the losses and loneliness experienced during the pandemic, but the main tone was of hope and recovery for the coming year[17]. On a similar note, Bulgarian President Rumen Radev dedicated part of his speech to the people who were celebrating the holidays alone, but conveyed strong positive feelings by recalling episodes of everyday solidarity in local communities during the crisis and emphasising the importance of human connections and fraternity[18].

Two additional threads showcase how nuanced the associated sentiment may often be. The first revolves around the notion of 'collective loneliness'. Based on a more elaborated type of narrative, these news items are written directly by experts of the issue or include interviews with them. The emerging common message is that in our societies we have never had so many lonely people at the same time[19]. Collective loneliness is thus described as a new experience that may also entail the chance of a collective response to elaborate the negative feelings and emotions we have experienced. Examples include conversations with the

11 https://www.kaspersky.co.uk/blog/love-and-loneliness/
12 https://ventilen.dk/om-ensomhed/
13 https://www.thedetroitbureau.com/2020/12/ford-looks-at-consumer-life-post-pandemic/
14 https://www.bbc.com/news/world-europe-55752373
15 https://www.ilsole24ore.com/art/pandemia-55percento-soffre-solitudine-disagio-sempre-piu-forte-i-giovani-ADPDU0y?refresh_ce=1
16 https://tekdeeps.com/isabella-arendt-many-people-will-be-lonely-at-christmas/
17 https://flashnews.gr/post/448155/to-prwtoxroniatiko-mhnyma-ths-ptd-to-2021-tha-einai-etos-elpidas-kai-anakampshs
18 https://www.actualno.com/politics/novogodishnata-rech-na-prezidenta-rumen-radev-s-nastroenie-za-protest-video-news_1536541.html
19 https://444.hu/2020/04/12/egyutt-meg-sosem-voltunk-ennyire-maganyosak

'grieving expert' David Kessler, in which he explains how the lockdowns were experiences of collective mourning and loss (of certainty, of everyday habits and social connections)[20]. Other examples, more anecdotal but equally explanatory, are the extensive coverage of how going through emotional times together had the power of uniting and uplifting people around symbolic and emotional acts (e.g. Italian or French people reuniting at fixed times on their balconies every evening to express support to health workers).

The second thread concentrates on the role of technology, especially in the case of the young, but without excluding the elderly[21], and promotes a conversation around the notion of 'digital solitude'. These articles stress the dual nature of technology in relation to loneliness and isolation, since they see it both as a possible cause and solution of the problem. On the one hand, technology may alleviate loneliness. On the other, it may just generate an illusion of being together, creating a feeling of being connected with others while alone. Digital solitude refers to a situation where constant use of and exposure to social media applications, networks and digital tools results in a reduced capacity to even conceive of being alone. In media reports, worrying references are often made to the young, especially Generation Z, as being particularly affected by this phenomenon, with most of their life happening online, including schooling, due to the widespread adoption of distance learning during the pandemic. Articles underline how distance learning contributed to increased levels of solitude and alienation among the young[22], something that emerged also from the analysis of the survey presented in the previous chapter, but they also stress how it lowered the quality of the education offered.

When discussing loneliness with reference to scientific research, media reporting tends to focus more on its negative effects in relation to health, employment, economic growth and teleworking. The next sections will address these thematic aspects individually.

3.5. Loneliness in relation to socio-economic themes

3.5.1. The effects of loneliness on health

We found that media reporting about loneliness or social isolation is predominantly associated with health-related issues. In fact, this is the case for one third of all articles collected in our monitoring. Geographically speaking, media coverage in association with health comes primarily from Italy, Spain, Portugal, France, Germany and Sweden.

Unsurprisingly, negativity is the predominant sentiment for the whole period analysed, except for a short period before the end of 2021, where positive reporting is equal to negative

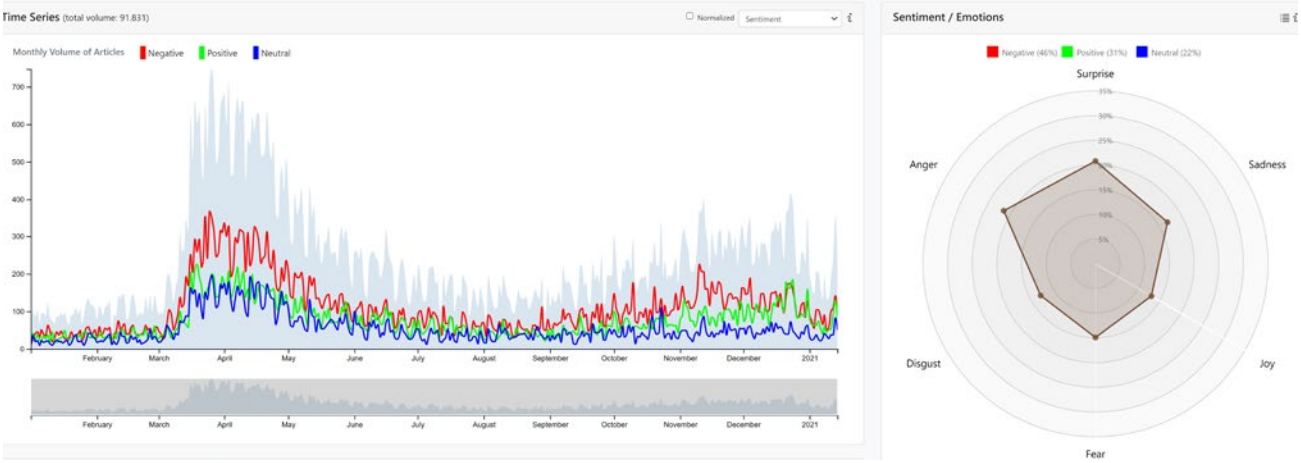
Unsurpisingly, negativity is the predominant sentiment for the whole surveyed period, except for a short period before the end of 2021, where positive reporting is equal to negative (Figure 21).

[20] https://visao.sapo.pt/visaosaude/2020-04-01-covid-19-quando-o-isolamento-se-abate-sobre-nos-de-tal-maneira-que-parece-um-luto/; https://index.hu/velemeny/2020/11/14/szorongas_es_depresszio_-_a_koronavirus_kihuzta_a_talajt_a_labunk_alol/

[21] E.g. 'Digital aids have also breached the older generations, with 64% of the Baby Boomer and Silent Generation demographics feeling that tech has helped to combat their loneliness' (Kapersky, 2020, p.3.)

[22] https://www.edutopia.org/article/isolated-students-may-struggle-stay-mentally-healthy

FIGURE 21. Figure 21: Trends and sentiment of online media reporting on loneliness and health in EU MS



The media describe the negative effects that loneliness has on physical and emotional well-being, in terms of low self-esteem, stress, anxiety, depression, sleeping problems, burnout or even suicidal tendencies. Especially in this context, media tend to turn to recur to scientific studies to corroborate their stories. Often, they cite psychological studies differentiating between 'reactive loneliness', which occurs very often during life transitions (e.g. the death of a loved one, divorce or a move to a new place), and chronic loneliness, specifying that it is usually the latter that brings major negative health consequences[23]. For example, articles discussing the health risks of a lack of social connections provide images and comparisons derived from scientific sources e.g. citing the health risks of loneliness as being as great as smoking 15 cigarettes a day or more predictive of early death than the effects of air pollution or physical inactivity [24].

Notably, the media highlight how loneliness as a health-related issue still suffers from social stigmatisation, while other societal and mental-related health issues — depression, post-traumatic stress disorder, eating disorders — are more frequently talked about and are regarded as much less of a taboo. This associated stigma may worsen the phenomenon of social isolation, possibly making an emergency invisible. Box 3 illustrates this phenomenon through a set of strong examples of reported stigma in relation to loneliness and its effect on emotional health and psychological well-being.

Examples of the stigmatisation of loneliness

"Mental-health problems and depression are quite fashionable now, but loneliness is not fashionable. There's something shameful about it – 'it's my fault, there's something wrong with me, I'm a horrible person.[25]

"In his experience loneliness contains a "terrible feeling of failure, and there's shame in that. Lonely people feel they should be connected, and if they feel disconnected, alienated, then that must mean they've made a mistake – or that they've been pushed into this by fate, or by something they've done. This can often involve a combination of paranoia and a very high level of judgmentalism about others. So they're trapped both ways: they feel judged and they're also judgmental."[26]

"In this loneliest time ever, admitting that you feel lonely is still taboo. And I know that because I am single and I would rather eat my shoe than admit that I am now experiencing feelings of great loneliness."[27]

As shown in Figure 21, though, not all reporting had a negative tone. A small number of articles presented strategies to cope with loneliness. Among the reported strategies, media mention practising self-care, strengthening existing relationships, joining classes or clubs, volunteering, meditation, physical exercise and therapy.

23 https://www.apa.org/monitor/2019/05/ce-corner-isolation
24 See, for example Holt-Lunstad, 2017.
25 Fergusson, 2018.
26 Fergusson, 2018.
27 https://www.ad.nl/binnenland/wat-als-het-nooit-voorbij-gaat-en-dit-mijn-leven-is-voor-altijd~aaa85703/ (With the help of automated google translation from Dutch)

3.5.2. Online media reporting on loneliness and the economy

As loneliness is recognised as a health-related priority, we looked at if and how the media discuss its economic impact, especially in terms of the burden on the healthcare system and related costs, but also more generally as a disease impairing productivity or as a societal sickness caused by the economic models of our societies.

Overall, we found low reporting about the economic causes and consequences of loneliness and social isolation. Approximately 10% of all loneliness and social isolation articles are identified as articles that also include references to the economy. Almost two thirds were published in five Member States: Spain (23.1% of the total), Italy (14.9%), France (10.6%), Germany (10.1%), Sweden (8.2%), Portugal (6.8%).

Trends on articles discussing both loneliness and the economy follow the overall trends in reporting on loneliness, with a slight difference during the first wave of the COVID-19 pandemic, when reporting on loneliness and the economy increased more. Looking at both trends together, we see that issues of loneliness or social isolation in relation to the economy are mostly discussed in the context of the pandemic (Figure 22).

FIGURE 22. Sentiment and emotion in online media articles that mention both economy and loneliness or social isolation (total values)

In this subsection of articles, the two topics (the economy and social isolation or loneliness) are very often discussed independently from each other, causing a significant amount of noise for the analysis. This was often the case of longer articles reporting about the various effects of the lockdown measures, including their impact both on the economy and on social distancing. There was also frequent reporting about public figures feeling alone, such as political actors 'left alone' or 'feeling alone' with their opinions and the 'lonely but successful' businessman. In this regard reporting about Zhong Shanshan 'the Lone Wolf' who recorded one of the fastest accumulations of wealth in history by entering the vaccine and bottled water businesses, triggered a significant number of news items, adding to the bias of the data.

For all these reasons, and in order to gain a better view of reporting about the connection between loneliness/social isolation and the economy, we decided to analyse two subsets of articles separately: those that refer to the COVID-19 pandemic, and those that make no reference to it.

Articles unrelated to the pandemic often look at loneliness as a structural feature of our societies, and their central argument is often linked to a criticism of neoliberalism and the free market economy, with loneliness seen as a by-product of the broader economic and social structure. The neoliberal economic structure — in its many intertwined forms, including urban planning, mobility, technology, market-based economy — is seen as a factor that may intensify the experience of loneliness. According to these explanations, the neoliberal model, by emphasising competition, promoting individualism and self-interest, reduces social connectedness and leads to an atomised society. The outcomes of this process are viewed as a reduction of overall well-being and a society where many experience loneliness (Becker et al. 2021). It is interesting to note that, in some cases, arguments identifying the economic structure as the main culprit for the loneliness epidemic tend to downplay the role of digital technology and social media[28].

28 https://www.statepress.com/article/2019/11/neoliberalism-lonely-economics-infrastructure-college-socializing

In such articles, the suggested solution takes the form of protective measures against the disintegrating forces of neoliberal policies, such as guaranteeing universal housing, food and educational security, changing social structures to value proximity, and countering the processes of alienation at work by giving more control to workers.

An additional central element of these narratives is reference to the flexibility of labour markets. Modern labour market structures encourage individuals to sacrifice family, relationships and intimacy, therefore meaningful social connections are replaced by superficial interactions, aggravating the social isolation of people and communities.[29] Along similar lines, articles focusing on the need for a green new deal and radical rethinking of the global economy often touch on the question of rebuilding the community and, by extension, of loneliness. Some stories also refer to the need to change consumer and working habits to help reshape the economic structure.

Urbanisation too is often seen as linked with the structural causes of social isolation and loneliness. Poor urban planning and design, together with accelerated economic and societal developments, are often discussed as possible reasons of loneliness[30]. Against this background, it was particularly interesting to learn about the existence of an 'architecture of loneliness' as a timely form of intervention and possible cure for loneliness by means of 'inclusive design'[31].

Another notable notion emerging from the media monitoring is that of the 'loneliness economy', a label used in articles to describe how specific business models aim to bring lonely people closer while trying to respond to their specific needs[32], e.g. media reports regularly talk about the business of online services that connect people[33], ranging from online gaming[34] to services that allow someone to 'rent a friend'[35]. At the same time, we found negative references to the dark side of the monetisation of lonely people's needs. Reporting about Bitcoin-related fraud targeting mainly lonely men (women were targeted too) through online dating apps is frequent[36]. We also often found references to the film *Social Dilemma* and to the 'unethical' business model of technology giants, who are regarded as exploiting vulnerabilities such as loneliness and turning them into huge profits[37].

Turning our attention to articles about the economy and loneliness that refer to the COVID-19 pandemic, we found that these often warn about the potentially combined impact of economic vulnerability and loneliness specifically on families. For example, financial distress and economic instability are discussed in relation to growing numbers of divorces[38] or parental burnouts[39]. Unsurprisingly, the dominant tone of these news items is negative. The tone becomes more positive, when the narrative turns to the contributions of economic recovery measures that include support for solidarity and community building actions. For instance, we detected peaks of joyful sentiments in Spanish articles around December 2020, since they covered news on the *Plan de Soledad* which was being prepared for 2021. In collaboration with third-sector actors, the plan aims to offer quick assistance to lonely elderly people. The economic angle of these news items lies in the fact that the plan came along with the allocation of €10.59 million for the creation of new places in public residential homes, a 290% increase from the previous year's budget[40].

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29 E.g. *'Our economy works better if people move around to find work, yet mobility stretches and breaks the bonds of family and community'* and *'We live in a society that admires independence but derides isolation…'* (Fergusson, 2018). *'One doesn't realise in early life that the price of freedom is loneliness. To be happy is to be tied.'* (Beck, 2017).

30 https://www.euractiv.com/section/energy/opinion/the-european-bauhaus-an-opportunity-to-shift-paradigms-and-shape-our-buildings/

31 E.g. 'Architecture may cure loneliness: Think of the awkward silence in a lift full of passengers who never communicate. Now think of a playground where parents often begin chatting. It's not that the built environment "causes" interaction, but it can certainly either enable or constrain potential interaction' (Soós, 2019).
Most examples are reported to be found in other continents than Europe. For instance, according to online media reporting in Australia researchers found that most commuting is done by driving, and this is harmful for social connection. *'Driving to work is usually done alone and typically features unpredictable stops and starts, being stuck in traffic and competing with other drivers, who are often perceived as rude. This helps explain why over 80% of Australian drivers find their commute stressful and frustrating.'* https://theconversation.com/loneliness-on-the-rise-as-our-cities-atomise-6068

32 https://businessinsider.com.pl/technologie/nowe-technologie/ekonomia-samotnosci-powstaje-biznes-zaspakajania-potrzeb-kontaktow-miedzy-ludzkich/ll3hfzb

33 https://www.theguardian.com/commentisfree/2021/jan/03/covid-voice-notes-pandemic

34 https://tekdeeps.com/sync-game-helps-you-make-the-right-decisions-in-2021-only-for-those-who-are-ready-for-change/

35 https://www.repubblica.it/tecnologia/2010/07/22/news/sito_affitto_amici-5676379/

36 Experienced fraudsters typically take time to build trust with the victims and then they convince them to register with an investment app and open an account. However, one day the scammer disappears and the victims are locked out of the account. They're left confused, hurt and worried that they'll never see their money again. https://index.hu/belfold/2021/01/14/bitcoincsalas_50_arnyalata_token_tinder_randi_tarskereso_kriptovaluta_szexi_botcoin/
This fraud was reported also by Interpol that has issued a Purple Notice to its 194 member countries outlining a specific modus operandi on dating applications https://www.interpol.int/News-and-Events/News/2021/Investment-fraud-via-dating-apps

37 https://24.hu/tech/2021/01/11/jaron-lanier-internet-kozossegi-media-uj-modell/

38 https://tekdeeps.com/why-so-many-couples-have-separated-since-the-start-of-the-pandemic/

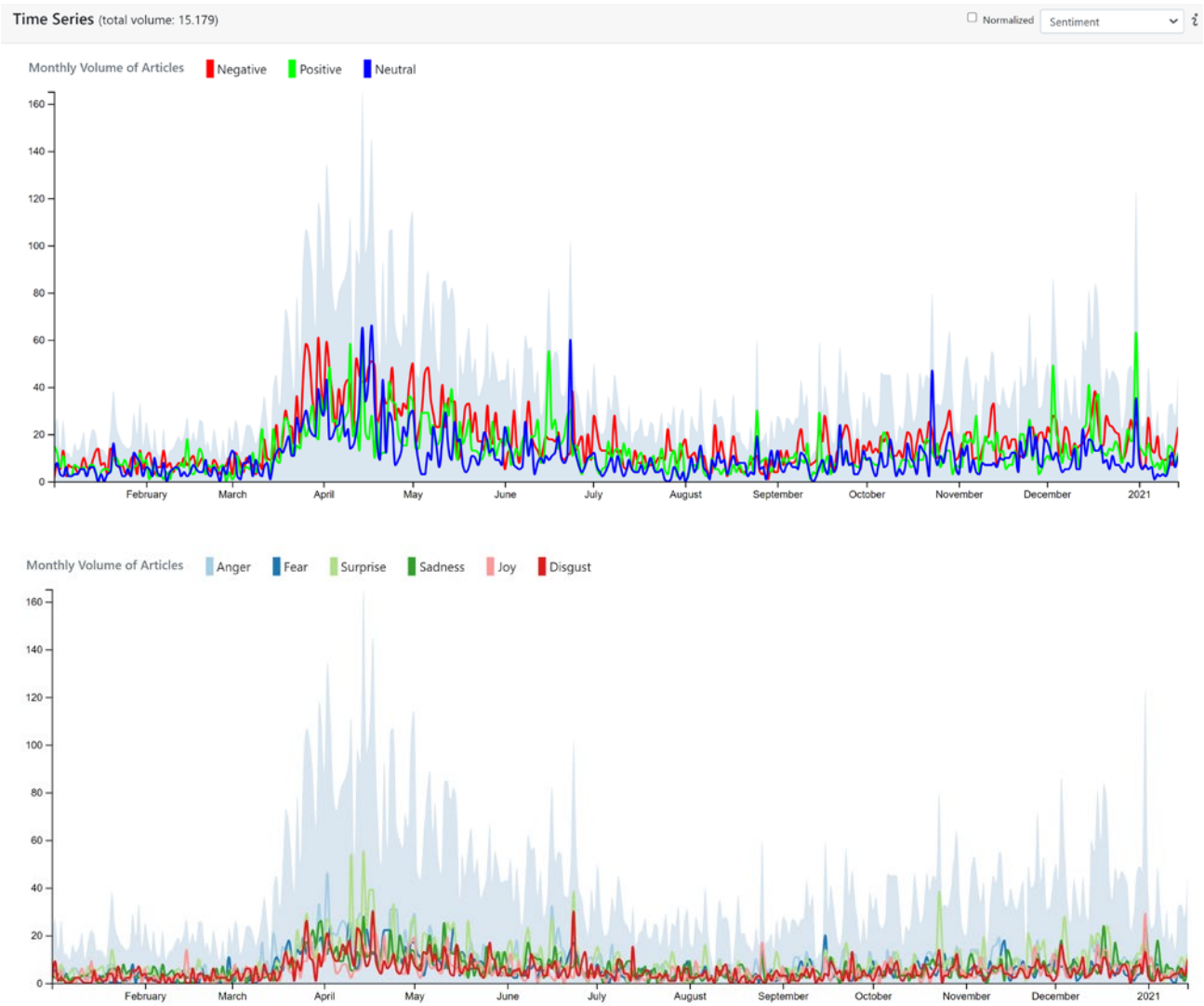
39 https://ces.uc.pt/en/agenda-noticias/destaques/2020/a-pandemia-de-covid-19-aumentou-o-risco-de-burnout

40 https://intereconomia.com/noticia/familia-destinara-1059-millones-en-2021-a-nuevas-plazas-en-residencias-publicas-20201215-1228/.

Finally, the analysis found articles related to corporate responsibility, seen as a partial solution to support socially responsible and fair entrepreneurship that would ultimately limit social isolation, marginalisation or loneliness.

A relatively small number of articles talk about unemployment and loneliness in combination. The number of articles reporting about both issues increased sharply after mid-March 2020, when severe lockdown measures led to the closure of businesses and economic inactivity Europe-wide.

FIGURE 23. Trends and sentiment in reporting on loneliness and unemployment in EMM



Unemployment is often related to health issues, with depression and frustration the most commonly mentioned consequences.

In particular, media reporting shows that the combined effects of unemployment and loneliness can be disastrous for the younger generation. Some articles stressed particularly how youth unemployment saw a dramatic increase during and after the first lockdown. Borrowing from academic literature, media also started to refer to the notion of a 'lost generation' in describing the possible effects of loneliness and unemployment on young people.[41] Next to these 'negatively flavoured' articles, which were not limited to young people, but often included women and part-time workers too, a more positive tone was associated with articles reporting about the initiatives of

41 https://www.intereconomics.eu/contents/year/2020/number/4/article/covid-19-crisis-how-to-avoid-a-lost-generation.html

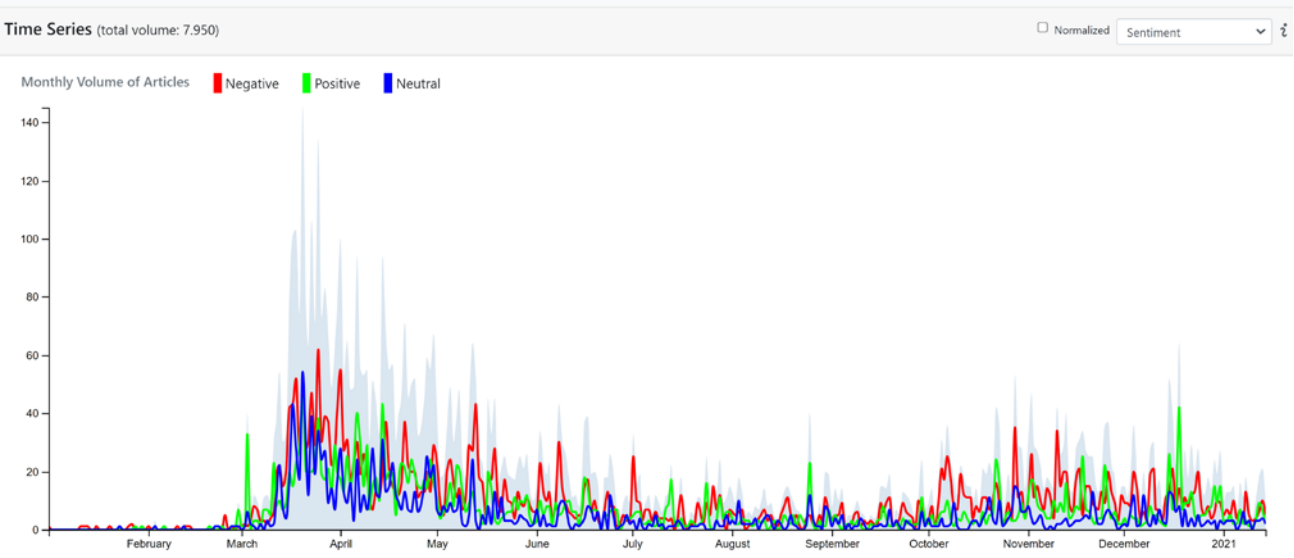
several governments and non-profit organisations that helped unemployed people[42].

The results of a joint research investigation by a consortium of Berlin-based universities that considered the effects of COVID-19 in terms of loneliness, unemployment and psychological disorders[43] found a 42% increase in psychological distress. The key factors underlying this negative impact on mental health were unemployment and loneliness.

3.5.3. Online media reporting on loneliness and teleworking

Even though the number of articles touching on the relationship between loneliness and teleworking is relatively small, it is worth presenting the data collected by EMM due to the central role played by this way of working in the context of the COVID-19 pandemic and, possibly, in the immediate future.

FIGURE 24. Reporting trends and sentiment in EMM on teleworking and loneliness and social isolation



As Figure 24 shows, the sentiment association is not clear-cut for the period under consideration, but there is a fluctuation between a positive and a negative prevailing tone associated with reporting on working from home and the feeling of loneliness.

Negative sentiment in media reporting was related to the downsides of teleworking in terms of increased labour atomisation leading to loneliness and mental health issues. In particular, articles mentioning the negative effects of teleworking, especially with regards to increased experiences of loneliness, concentrate on single people, who are seen as more likely to suffer from social isolation, and people with children, who are at risk of parental burnout[44].

Articles mentioning the effects of teleworking on loneliness also report on experts' advice on how to avoid difficulties. These include using several channels of communication (not just emails, but chats, document sharing, video conferencing, etc.) and organising events beyond the official duties of the employees, such as virtual social gatherings[45].

42 For example, reports on how in Italy, Caritas financially supported 450,000 people between March and May 2020, or the Bulgarian government's one-off payment of BGN 375 to parents of children under 12 and on unpaid leave for at least 20 days due to an inability to work from home during the state of emergency. Other Bulgarian government measures include the coverage by the state of 40% of the minimum wage for workers for at least a month after the crisis and loans for the self-employed and those working in closed businesses. https://www.caritas.it/pls/caritasitaliana/v3_s2ew_consultazione.mostra_pagina?id_pagina=9114; https://www.mignews.info/vmro-s-kompleks-ot-merki-v-po-mosht-na-balgarskiya-proizvoditel-i-grazhdanin/

43 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7827929/

44 https://ces.uc.pt/en/agenda-noticias/destaques/2020/a-pandemia-de-covid-19-aumentou-o-risco-de-burnout

45 See, for example, SOURCE that relies on experts from the European Agency for Safety and Health at Work (EU-OSHA) to show that when working remotely, social isolation is likely to occur too, with negative impact on workers' mental health http://lukovit-news.com/rabotodatelite-im-at-zadalzhenie-da-osiguryat-bezopasnost-i-zdrave-na-rabotnite-mesta-i-ot-razstoyanie.html; https://osha.europa.eu/it/themes/covid-19-re-sources-workplace

Articles offering a more positive outlook stress how teleworking has allowed workers to have a flexible schedule, having drastically reduced or cancelled their commuting time and costs, with consequent gains in family and free time at their disposal. Some news items focus on how both employers and employees are increasingly developing pro-teleworking attitudes, when it comes to work arrangements for the post-pandemic period, despite the risk of isolation and loneliness[46]. Under the same positive tone, media reports sometimes propose lists of tips to improve the working-from-home experience both from a professional and private perspective.

3.6. Overview of media reporting on EU initiatives and measures to tackle loneliness

As mentioned at the start of this chapter, not only the volume but also the content of media reporting on loneliness varies widely in the EU Member States. While in some countries the problem and initiatives to tackle it receive a lot of coverage in the media, in other Member States there is very little coverage of these topics. Local stakeholders and policymakers are increasingly aware of the negative health effects of loneliness and social isolation. However, according to our monitoring, in most of EU Member States the issue of loneliness and social isolation is not part of the public debate. This may contribute to further exacerbate the stigmatisation of loneliness in those countries.

In this section, we offer the results of what is, to the best of our knowledge, the first EU-wide overview of initiatives aimed at addressing loneliness. This analysis should be regarded as a first and initial attempt to sense the nature of the loneliness initiatives across selected EU Member States[47]. It is important to note that media reporting covers only some of the measures implemented and our analysis was restricted to a limited period. We examined the period between December 2019 and March 2021. Given the breadth of the issue and the reporting volume we did not include initiatives that address possible health consequences of loneliness and social isolation (e.g. addiction, dependency on substances, alcoholism, etc.), or possible causes of loneliness (poverty, homelessness or other vulnerabilities). Instead, we focused on initiatives whose primary aim is to reduce the felt experience of loneliness by fostering connections among people, raising awareness about loneliness, or providing other kinds of support to reduce the negative feelings of loneliness and social isolation. Given the high number of articles, we restricted the number analysed to those that contain the terms 'loneliness' or 'social isolation' together with 'policy' or 'politic' or 'initiative' or 'measure' or 'campaign' or 'NGO' or 'non-governmental organisation' or 'minister'. The mapping may exclude programmes that have not been reported. Moreover, as media reporting is very sensitive to novelty, it is probable that new projects launched during the analysed period are over-represented. Furthermore, some projects may be covered because of promotional efforts (e.g. because the funders of the project are seeking to gain visibility). However, this mapping is systematic enough to allow for some descriptive comparisons between EU Member States.

According to the media analysis, overall there are numerous initiatives addressing loneliness in Europe but they are very rarely part of a more systematic programmes. There is also a lack of a systematic evaluation of their effectiveness and efficiency. A first finding is that there are great differences across Member States with regards to whether loneliness is perceived as a public or personal concern. We found significant differences between countries regarding the overall perception of the need and the ways to address loneliness. In some countries, especially where media reporting on measures and initiatives was very limited (e.g. Hungary), the problem seems to be perceived as an individual problem, and the main solution is of a psychological nature (most online articles provide tips and advice by psychologists), while in other countries (e.g. Spain) loneliness is rather perceived as a societal problem, and there are numerous local initiatives supported, financed or advertised not only by local NGO networks but also by local authorities and municipalities.

Figure 25 shows that reporting on initiatives and measures to tackle loneliness and social isolation at EU aggregate level has grown in volume between December 2019 and March 2021.

[46] E.g. a survey by the University of Konstanz, in Germany, involving over 700 people who work from home was reported in online media. The survey was conducted between March and May 2020 and was representative of the local workforce in terms of age and gender. The article highlights that 56% of those interviewed wanted to keep working from home at least partially https://www.tportal.hr/vijesti/clanak/veci-na-njemackih-radnika-i-nakon-pandemije-zeli-raditi-od-kuce-20200716

[47] The collection of initiatives which can be found at http://data.jrc.cec.eu.int/collection/id-00351 gives an overview of the measures taken to combat loneliness in 10 selected Member States, and showcases many of the single initiatives identified in online media sources. The list contains information about countries with the highest reporting volume (in decreasing order): Spain, Italy, France, Portugal, Germany, Greece, Bulgaria, Sweden, Netherlands, Ireland, Belgium, Romania and Hungary.

FIGURE 25. Reporting trends about initiatives and measures tackling loneliness and social isolation in EMM

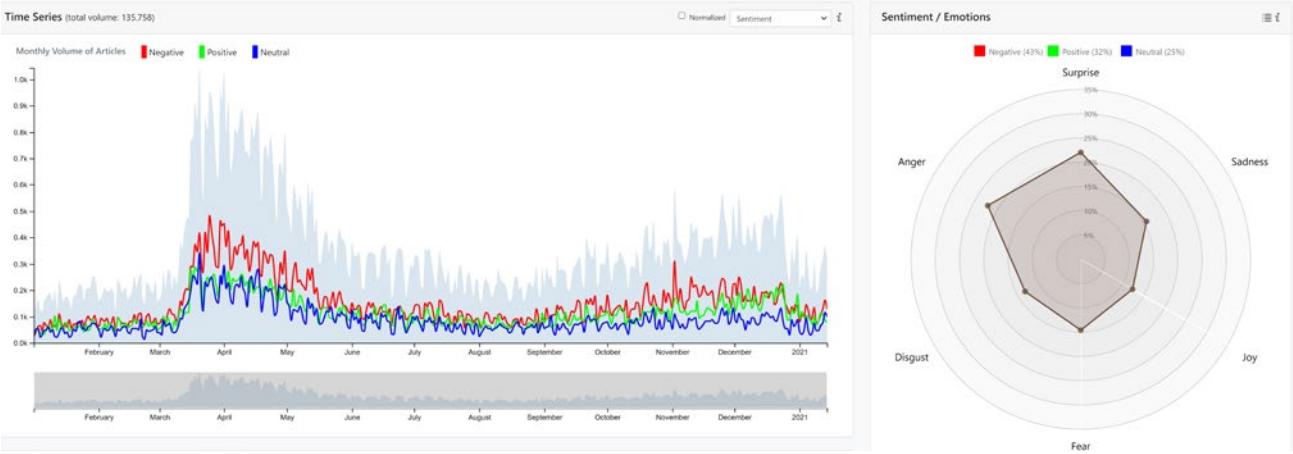
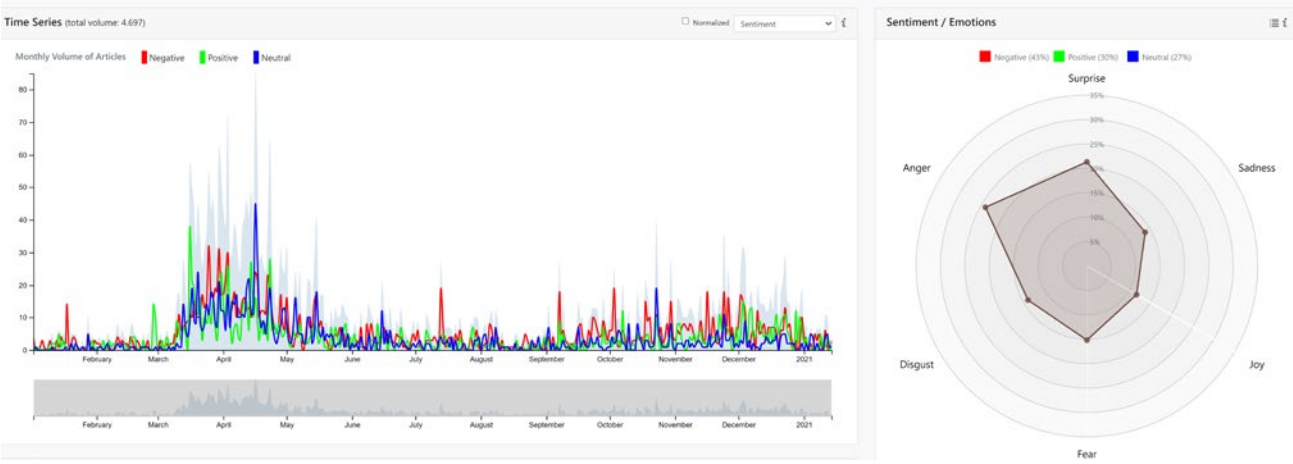


FIGURE 26. Reporting trends about initiatives and measures tackling loneliness and social isolation in the titles of online articles (EMM)



Despite growing concerns during the COVID-19 pandemic about loneliness and social isolation, there is a general lack of public debate about how to address loneliness at national level. We found coverage about the most relevant policy initiatives (e.g. the UK and Japanese loneliness ministers and loneliness strategies)[48] in several countries (e.g. Hungary, Spain, Greece), but these reports did not seem to trigger a wider public debate across Europe, and in general, there seems to be a lack of reporting about the need for a more central coordination of measures against loneliness, except in a few countries.

For example, in Germany and Sweden we found a growing interest in loneliness policies. In these two countries the question has entered the public debate to some degree[49]. In Germany the idea of appointing a minister on loneliness was widely discussed and local authorities also proposed the appointment of an official commissioner for loneliness. In Sweden, most of the debate concerned the loneliness of the elderly already before the pandemic, focusing on intervention strategies to strengthen civil society and include actions involving urban planning, transport, culture and business. In Spain, several information campaigns

48 https://www.gov.uk/government/news/pm-launches-governments-first-loneliness-strategy

49 https://www.dw.com/en/following-uk-german-politicians-urge-for-measures-to-fight-loneliness/a-42217742; https://www.euronews.com/2019/10/18/lonely-in-berlin-german-capital-mulls-minister-for-loneliness; https://www.thelocal.de/20180119/calls-grow-for-germany-to-follow-uk-example-and-tackle-rising-loneliness/ https://arbetet.se/2020/01/03/ebt-fabulerar-om-aldres-ensamhet/; https://www.allehanda.se/artikel/insandare-ofrivillig-ensamhet-kan-innebara-stor-ohalsa-liberalerna-vill-bryta-ensamheten; https://www.gd.se/artikel/debatt-vi-har-forslag-for-att-befria-fler-ur-ofrivillig-ensamhet; https://www.regeringskansliet.se/pressmeddelanden/2020/05/100-miljoner-till-insats-er-for-manniskor-i-sarskild-social-utsatthet-och-mot-aldres-ensamhet-under-coronapandemin/; https://www.olandsbladet.se/insandare/insandare-inratta-en-vantjanst-for-att-bryta-ofrivillig-ensamhet-hos-aldre-i-borgholms-kommun-4c7749e2

and community building actions were organised with the contribution of NGOs and local authorities.[50]

Indeed, most of the initiatives reported in online media involve the local dimension, very often at the level of municipality. Usually, they are not connected to each other, even when they are organised in the same region. In Spain, some regional governments expressed intention to establish a more coherent regional strategy. We could not find much reference to Europe-wide collaborations on loneliness, apart from websites of academic consortia working on the topic and online platforms dedicated to raise awareness.

It is worth noting that the reported initiatives focused almost exclusively on the elderly, while both scientists and online media sources have tended to discuss the risk of loneliness among young people as much as the elderly.

The analysis of our dataset allowed an identification of different types of initiatives that could be grouped according to a series of criteria as shown in Table 1. The rest of the section discusses each type of initiative in more detail.

TABLE 1. Overview of types of initiatives to tackle loneliness in the EU Member States

Focus	Examples	Category[51]	Mode
Changing mood	Providing gifts	Simple	individual
Awareness raising	Campaign in media, by art etc.	Traditional	mixed
Creating connections	Telephone lines, befriending schemes and home-visiting schemes by telephone services or chatting with volunteers. Providing tablet computers to isolated COVID-19 patients.	Traditional	individual
Professional help	Providing professional psychologist support (e.g. helplines)	Traditional	mixed
Alarm network	Identifying people who are lonely but invisible, by calling them, or informing them	Traditional	individual
Group activities	Being involved together in an activity, on online platforms or face to face (best if combined, and long term)	Traditional	group
Technological solutions	Robots and other solutions based on technological innovations e.g. apps	Innovative	individual
Built environment	Buildings and public spaces that facilitate connections between people	Innovative	mixed
Social innovation projects	Targeting lonely people and other disadvantaged groups (migrants, young people involved with the criminal justice system)	Innovative	mixed
Intergenerational communities	Co-housing and co-living	Holistic	group
Fighting stigmatisation	Web pages, links to community support	Innovative	mixed

Changing mood. Among the simplest actions that aim to change the mood of people, we found NGOs or private companies providing gifts for festivities like Christmas or Easter for people living in nursing homes or assisted living, or services that provide food or other kind of help to people and families in need. These initiatives also offer human contact that can ease the pain of loneliness. These initiatives differ a lot from each other: some are regular while others are ad hoc (e.g. Christmas gifts during the COVID-19 pandemic); some involve symbolic gifts where the focus is on the gesture, while others provide useful tools such as tablet computers. Some local initiatives are based solely on volunteers or a single citizen, providing help from their own resources, while in other cases donations are single actions and are provided by a company.

Awareness raising. Stemming from the scientific knowledge about the harmful effects of loneliness and social isolation on health, and the costs of their negative impact, several governments have launched national programmes to raise awareness and fight against loneliness and social isolation, e.g. Denmark[52]. Other campaigns were carried out

50 In addition, in the 2019 Programme of the Finnish Government of PM Sanna Marin for 'Inclusive and Competent Finland' it is mentioned that the government will prepare an action plan against bullying and loneliness as part of its second objective of 'promoting a child and family-friendly society', although we didn't find evidence that this was further discussed in public. https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/161935/VN_2019_33.pdf?sequence=1%26isAllowed=y

51 For the categorisation of interventions we took inspiration from the literature (see the summary of Fakoya et al., 2020), where several authors used different categorisations to describe the characteristics of interventions, that included also the delivery in an individual or group context. Regarding the categories presented in this report, we refer to 'simple' initiatives that do not target long-term changes (e.g. Christmas gifts to hospitalised people), 'traditional' initiatives that have longer-term aims but focus on one type of intervention and are person-centred (e.g. they connect people but do not aim to change their environment or provide other kinds of support), 'innovative' interventions when there is added value (e.g. technological innovation or social innovation), and 'holistic' measures, which aim to change the broader social structure (e.g. co-housing) as a solution to loneliness and social isolation.

52 https://ventilen.dk/

by non-profit organisations. In some cases, they involve art, like the "Invisible Soledad" campaign in Bilbao, which uses a realistic sculpture named after the last person who died in solitude[53], or in Sweden, where young artists exhibited stories about loneliness[54].

Creating connections. Many initiatives build their projects around "traditional" solutions, e.g. running a telephone line that lonely people can call. Although the concept is simple, the practical aspects it involves are not trivial, as running a 24-hour service requires trained staff able to deal with the psychological and mental issues in a professional way. According to reports, the pandemic triggered a lot of volunteering activities at local or neighbourhood level. These initiatives mainly targeted the elderly and aimed at helping isolated people in several ways, e.g. through donations of tablet computers and TVs to ease the pain caused by the separation from their families.

Alarm networks. Other initiatives created a loneliness 'alarm network', where volunteers get in touch with the elderly on a regular basis. The initiatives also aim at better detection of lonely people. For example, in Spain there is an alarm system composed of a network of pharmacies, NGOs and social services that can inform these people or send an alarm to the appropriate organisation or institution. In this context, the need for more data and knowledge about who the lonely people are is often emphasised in the media.

Professional help. Providing professional psychological support for lonely individuals or groups is frequent. Helplines usually target people in acute need of help, while long-term psychological support is often provided for individuals and groups by associations and in institutions dealing with elderly or hospitalised people.

Group activities. Another set of initiatives involve actions that aim to create a network of lonely people, both in person and online. The latter are prevalent since the start of the COVID-19 crisis, with online activity sessions being provided on digital communication platforms. The experience of a support group in Denmark called 'Bright Point' shows that fighting loneliness is not as simple as bringing together people: activities need to be facilitated so as to create stable relationships[55].

Technological solutions. Besides the use of online platforms and social networks or video conversation platforms, other technological solutions are also present in media reporting. The most innovative ones are humanised robots that can interact and even take care of the elderly, although they are only in the early stages of development, so such solutions are currently only in an exploratory phase. As one article noted: 'Robots designed to play social roles come in many forms. Some seem like little more than advanced mechanical toys, but they have the added capacity to sense their environment and respond to it. Many of these mimic cute animals — dogs and cats are especially popular — that issue comforting little barks and meows. Other robots have more humanoid features and talk to you like a person would.'[56]

Social innovation projects are most often **intergenerational community programmes**, bringing together young and old people. We found a few programmes in online media reporting whose purpose is both to tackle loneliness and help vulnerable or disadvantaged groups. This is the case of the Spanish project *Aport* which promotes volunteering as a tool for the social integration of minors and young people involved with the criminal justice system, who provide companionship for elderly people living in hospitals or elderly nursing homes in Tenerife and Gran Canarias. Along the same lines, the Swedish project called *Sällbo* realised a multigenerational co-living space with 52 apartments, where people of different ages and ethnic backgrounds live together.

Fight stigmatisation. Initiatives that aim to deal directly with the stigmatisation of loneliness are mostly found in the form of online discussion platforms that offer links to therapy websites and community groups for support. Best practices to understand and deal with stigmatisation of loneliness are still in the research phase and recent publications on the subject show that stigmatisation is high among young people, but not significant in the general population (where evidence of stigmatisation was not found). However, further research is required both to understand the underpinnings of the stigmatisation of loneliness, as well as the best strategies to mitigate it.

53 #BBKInvisibleSoledad; https://www.youtube.com/watch?v=d4CAYCwcvv4
54 https://www.sydsvenskan.se/2020-01-17/framtidens-seriekonstnarer-stallde-ut-berattelser-om
55 https://qz.com/1591563/the-danish-have-designed-a-simple-way-to-cope-with-loneliness/
56 https://www.vox.com/future-perfect/2020/9/9/21418390/robots-pandemic-loneliness-isolation-elderly-seniors

3.7. Concluding remarks

In this chapter, we have presented an analysis of online media reporting in the EU on loneliness and social isolation. The analysis was performed by searching the index of articles gathered by the Europe Media Monitor system, a JRC in-house system that processes over 300,000 articles a day, in more than 70 languages, with a wide coverage of EU national and local news sources. Its automatic processing labels each article for emotions (anger, fear, sadness, disgust, surprise, joy) and sentiment values (positive, negative and neutral).

After an initial study on everyday use of language related to loneliness, solitude and social isolation and selecting the appropriate terminology, we searched articles from EU Member State sources using a list of specified keywords related to loneliness and social isolation and carried out a quantitative analysis of the volume of reporting and a qualitative analysis of the sentiment of reporting and underlying narratives.

The quantitative analysis revealed that both issues have become highly relevant in the EU media landscape, especially since the beginning of the COVID-19 pandemic in March 2020, with reporting on the topic of loneliness registering a doubling of volume in the first months of the pandemic and following a similar pattern to the pandemic itself — decreasing in the summer months of 2020 and rising to new peaks with the onset of the second wave. The quantitative analysis also showed that reporting volumes however vary widely between EU Member States, as do the number and types of initiatives proposed to tackle the problem.

The qualitative analysis showed that underlying narratives are related to the negative effects that loneliness has on health — both emotional and physical — and to the economic consequences of loneliness and social isolation in terms of health costs, unemployment and the long-term impact on social and personal development — especially of Generation Z and already vulnerable social categories. This was especially visible during the pandemic for the young (19-25) and women, the categories most affected by job losses. Narratives relate also to the underlying causes of loneliness, looking at the individualistic tendencies promoted by Western societies as well as the need for new types of architecture and urban planning to decrease isolation and loneliness.

Further media analysis research will include sources that can reveal subjective clues on the manner in which people experience loneliness — e.g. social media analysis based on social networks' public pages, microblogging sites such as Twitter, as well as fora such as Reddit or specialised fora for emotional well-being conversations. In the final part of the chapter, we provided an analysis of the initiatives aimed at tackling the issue of loneliness and mentioned in media reporting in Member States. While overall there are numerous initiatives addressing loneliness in Europe, our in-depth analysis looking closely at 10 countries showed they are very rarely part of a more systematic programmes and there is no systematic evaluation of their effectiveness and efficiency. The analysis also showed that there are great differences between Member States regarding whether loneliness is perceived as a public or personal concern, and initiatives to tackle it are therefore divided between community support programmes and individual solutions focused on the psychological consequences of loneliness.

While in this overview part we provided a link (http://data.jrc.cec.eu.int/collection/id-00351) to an initial list of initiatives and measures in 10 countries, this could be further developed and completed by local experts.[57] The creation of a European database of loneliness initiatives and policy measures could be used in the future to create a European Loneliness Network where best practices could be shared and evaluated more systematically.

[57] 'Several reports about the range and types of loneliness interventions have been published globally. Within the United Kingdom, these have included reports by organisations such as Age UK [18] and the Institute of Public Health in Ireland [19]; guidelines by the National Institute for Clinical Excellence [20]; reviews by the Social Care Institute for Excellence [7, 21], and material collated by the Campaign to End Loneliness [1]. The Canadian Counselling and Psychotherapy Association (CCPA) have published guidelines for addressing loneliness [22]. Similarly, in the United States of America, organisations such as Humana [23], have published reports and a toolkit to overcome loneliness and social isolation, and the National Institute on Aging (National Institutes of Health) [24] have published reports on improving the development of interventions to reduce loneliness and social isolation.' https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-020-8251-6

4. Conclusion – Next steps

Loneliness and social isolation are increasingly recognised as critical public health issues that deserve attention and need to be addressed with effective intervention strategies. Ample scientific evidence points to the detrimental effects of loneliness and social isolation on physical and mental health, as well as on social cohesion. The COVID-19 pandemic, and in particular the mobility restrictions and social distancing measures adopted to contain the spread of the virus, has made the need to tackle loneliness and social isolation even more pressing.

Against this background, the European Commission Vice-President Dubravka Šuica asked the JRC to provide her with scientific evidence to support a reflection on a possible EU-wide approach to address loneliness and social isolation.

This report is the first output of a series of activities planned for the next two years. Chapter 1 of the report offers an overview of the current state of knowledge on loneliness and social isolation in the EU. Chapter 2 examines European survey data before (2016) and during the pandemic (April-July 2020). It offers a picture of recent trends in self-reported levels of loneliness across the EU and it identifies the prevailing socio-demographic and territorial characteristics associated with loneliness. Chapter 3 is an example of how the field of Computational Social Science can contribute to investigate loneliness and its effects, using online media data as source. It performs a quantitative analysis of online media trends in reporting and sentiment, as well as a qualitative analysis of the underlying narratives on loneliness and social isolation. Online media data cover all EU Member States between January 2018 and January 2021.

What will come next?

This report constitutes a baseline for further work on the topic.

The Directorate-General for Employment, Social Affairs and Inclusion, in collaboration with the JRC, will implement the European Parliament Pilot project "Exploratory project: Monitoring Loneliness in Europe". This Pilot Project aims, among others, to gather comprehensive and comparable EU-wide data, to analyze existing and new data – possibly including as well new data sources that expand from online traditional media to social media data -, to assess the impact of the COVID-19 crisis, to set up a web platform, to monitor loneliness and social isolation over time and across EU Member States and to provide recommendations to combat social exclusion and mental health issues related to loneliness.

Scientific evidence can contribute to design effective interventions, by enhancing the understanding of the problem and its effects, as well as by assessing of which interventions work in tackling loneliness and social isolation. Keeping up with its mission, the JRC is committed to support work at EU level and in MS to develop evidence-based decision making and contribute to build a Europe closer to citizens.

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ANNEXES

Annex 1. Chapter 2

TABLE A1. Variable description for the multivariate analysis

Dependent variable	Definition
Frequent loneliness	Variable equal to one if the respondent reports to have felt lonely "all of the time", "most of the time" or "more than half of the time" in the last two weeks, zero otherwise
Covariates	
Age group categories	
18-25	Dummy variable equal to one if the respondent is aged between 18 and 25, 0 otherwise
26-45	Dummy variable equal to one if the respondent is aged between 26 and 45 0 otherwise
46-64	Dummy variable equal to one if the respondent is aged between 46 and 64, 0 otherwise
65+	Dummy variable equal to one if the respondent is 65 years old or more
Gender	
Female	Dummy variable equal to one if the respondent is a female, 0 otherwise
Household char	
Living alone	Dummy equal to one if the respondent lives alone, 0 otherwise
Living with children	Dummy equal to one if the respondent lives with children but without a partner/spouse, 0 otherwise
Living with a partner	Dummy equal to one if the respondent lives with a partner/spouse, without children, 0 otherwise
Living with a part & child	Dummy equal to one if the respondent lives with children and a partner/spouse, 0 otherwise
Self-reported Health	
Bad	Dummy variable equal to one if the respondent report her/his health to be "bad" or "very bad", 0 otherwise
Fair	Dummy variable equal to one if the respondent report her/his health to be "fair", 0 otherwise
Good	Dummy variable equal to one if the respondent report her/his health to be "very good" or "good", 0 otherwise
Economic status	
Higher Education	Dummy variable equal to one if the respondent has a higher education, 0 otherwise
Employment status	
Employed	Dummy variable equal to one if the respondent reports to be "employed" or "self-employed (with or without employees), 0 otherwise
Unemployed	Dummy variable equal to one if the respondent reports to be "unemployed", 0 otherwise
In Education	Variable equal to one if the respondent reports to be a student, 0 otherwise
Not in the labor force	Variable equal to one if the respondent reports to be retired, unable to work due to illness/disability, full-time homemaker, 0 otherwise, 0 otherwise
Income	
Easily	Variable equal to one if the respondent's household is able to make ends meet "easily" , 0 otherwise
Fairly easily	Variable equal to one if the respondent's household is able to make ends meet "easily" , 0 otherwise
With some difficulty	Variable equal to one if the respondent's household is able to make ends meet "easily" , 0 otherwise
With difficulty	Variable equal to one if the respondent's household is able to make ends meet "easily" , 0 otherwise
With great difficulty	Variable equal to one if the respondent's household is able to make ends meet "easily" , 0 otherwise
Living Area	
Rural	Variable equal to one if the respondent reports to be living in the country side or a village/small town, 0 otherwise
Urban	Variable equal to one if the respondent reports to be living in a medium to large town, a city or a city suburb, 0 otherwise
Country fixed effects	27 country dummies
Pandemic period specific covariates	
Teleworking -Pre-pandemic	Dummy equal to 1 if the respondent declares that she/he was teleworking daily or several times a week before the Covid-19 outbreak, 0 otherwise
Change in working hours	Dummy equal to 1 if the respondent has experienced a reduction of working hours after the Covid-19 outbreak, 0 otherwise
Change in the financial situation	Dummy equal to 1 if the respondent's household has become worse with respect to 3 months ago, 0 otherwise
Stay at home order policy	
No recommendation	Dummy equal to 1 if the day of the interview, there were not specific recommendations in the country of residence, 0 otherwise
Recommend not leaving house	Dummy equal to 1 if the day of the interview, it was recommended not leaving the house in the country of residence, 0 otherwise
Require not leaving house	Dummy equal to 1 if the day of the interview, it was required not leaving the house in the country of residence, 0 otherwise

TABLE A2. Weighted versus unweighted summary statistics

ATENTIE CAP TABEL LIPSA

	Weighted				Unweighted					
	Mean		Std. Dev.		Mean		Std. Dev.		Obs.	
Variable	Pre-pandemic, 2016	Covid-19, April - July 2020	Pre-pandemic, 2016	Covid-19, April - July 2020	Pre-pandemic, 2016	Covid-19, April - July 2020	Pre-pandemic, 2016	Covid-19, April - July 2020	Pre-pandemic, 2016	Covid-19, April - July 2020
Age group (%)										
18-25	0.11	0.10	0.32	0.31	0.07	0.06	0.26	0.23	28129	89555
26-45	0.35	0.34	0.48	0.47	0.32	0.34	0.47	0.48	28129	89555
46-64	0.33	0.33	0.47	0.47	0.36	0.46	0.48	0.50	28129	89555
65+	0.21	0.22	0.41	0.42	0.24	0.14	0.43	0.34	28129	89555
Child at home (%)	0.27	0.29	0.44	0.46	0.23	0.34	0.42	0.47	28129	76298
Not living with partner (%)	0.52	0.38	0.50	0.49	0.52	0.34	0.50	0.47	28129	87555
Gender (%)	0.51	0.52	0.50	0.50	0.57	0.71	0.50	0.46	28129	88606
Health status (%)										
Good	0.70	0.64	0.46	0.48	0.64	0.66	0.48	0.47	28100	89238
Fair	0.24	0.29	0.43	0.45	0.27	0.28	0.45	0.45	28100	89238
Bad	0.06	0.07	0.24	0.25	0.08	0.06	0.28	0.24	28100	89238
Income - Can make ends meet (%)										
Very easily	0.08	0.12	0.27	0.32	0.09	0.12	0.29	0.32	27826	87943
Easily	0.21	0.19	0.41	0.39	0.20	0.19	0.40	0.39	27826	87943
Fairly easily	0.30	0.25	0.46	0.44	0.27	0.26	0.44	0.44	27826	87943
With some difficulty	0.26	0.23	0.44	0.42	0.26	0.24	0.44	0.43	27826	87943
With difficulty	0.10	0.12	0.30	0.32	0.11	0.11	0.31	0.32	27826	87943
With great difficulty	0.06	0.09	0.23	0.29	0.07	0.08	0.25	0.27	27826	87943
Macro regions (%)										
Eastern Europe	0.23	0.22	0.42	0.42	0.37	0.43	0.48	0.49	28129	89555
Southern Europe	0.30	0.31	0.46	0.46	0.25	0.24	0.43	0.43	28129	89555
Western Europe	0.41	0.41	0.49	0.49	0.24	0.15	0.43	0.36	28129	89555
Northern Europe	0.06	0.06	0.23	0.24	0.14	0.19	0.35	0.39	28129	89555
Area (%)										
Urban	0.46	0.47	0.50	0.50	0.48	0.64	0.50	0.48	28120	89104
Rural	0.54	0.53	0.50	0.50	0.52	0.36	0.50	0.48	28120	89104
Higher education (%)	0.25	0.29	0.43	0.45	0.28	0.68	0.45	0.47	27998	87625
Employment status (%).										
Employed	0.53	0.55	0.50	0.50	0.53	0.67	0.50	0.47	28129	88658
In education	0.07	0.07	0.25	0.26	0.04	0.04	0.19	0.19	28129	88658
Not in labour force	0.32	0.30	0.47	0.46	0.37	0.23	0.48	0.42	28129	88658
Unemployed	0.07	0.08	0.26	0.26	0.06	0.06	0.24	0.24	28129	88658

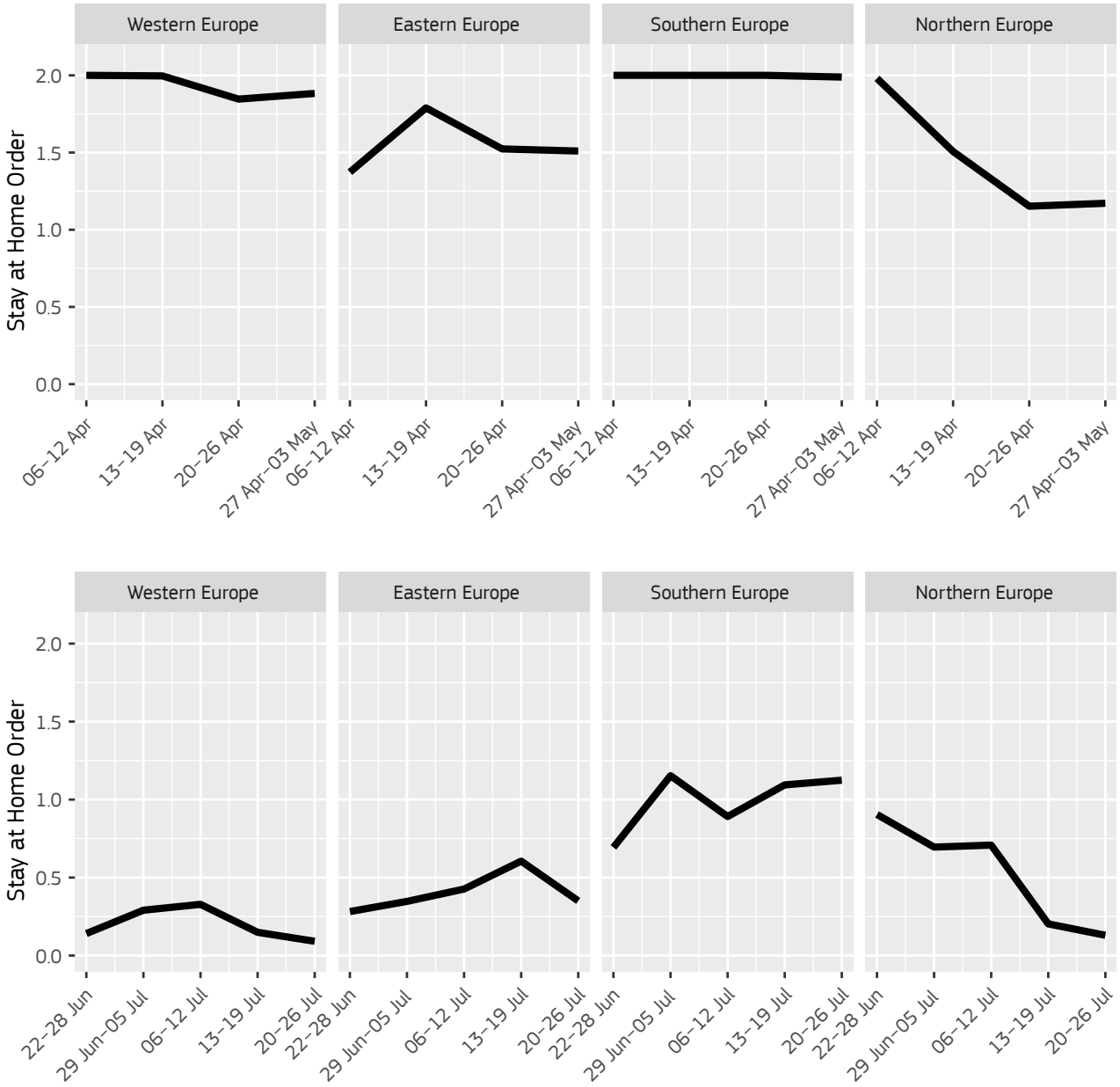
TABLE A3. Multivariate analysis: determinants of Loneliness

	(1)	(2)	(3)
Age category (Ref.: 18-25)	ref.	ref.	ref.
18-25	-0.01	0.09***	0.08***
	(0.02)	(0.02)	(0.02)
26-45	0.00	0.06***	0.05***
	(0.01)	(0.02)	(0.02)
46-64	-0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)
Gender (Ref: Males)	ref.	ref.	ref.
Female	0.00	-0.01	-0.01
	(0.01)	(0.01)	(0.01)
Education (Ref.: Tertiary Education)	ref.	ref.	ref.
Lower than Tertiary Education	0.00	0.01	0.01
	(0.01)	(0.01)	(0.01)
Labour market status (Ref.: Employed)	ref.	ref.	ref.
In education	-0.02	0.01	0.01
	(0.02)	(0.02)	(0.02)
Not in labour force	0.00	0.00	0.01
	(0.01)	(0.01)	(0.01)
Unemployed	0.03**	0.02	0.02
	(0.01)	(0.02)	(0.02)
Making ends meet (Ref.: Very easily)	ref.	ref.	ref.
Easily	0.01	0.02	0.02
	(0.02)	(0.01)	(0.01)
Fairly easily	0.01	0.05***	0.05***
	(0.01)	(0.01)	(0.01)
With some difficulty	0.04***	0.08***	0.06***
	(0.02)	(0.01)	(0.01)
With difficulty	0.10***	0.16***	0.13***
	(0.02)	(0.02)	(0.02)
With great difficulty	0.15***	0.22***	0.18***
	(0.02)	(0.02)	(0.02)
With partner and child(ren) vs	ref.	ref.	ref.
Lives alone	0.07***	0.21***	0.22***
	(0.01)	(0.01)	(0.01)
With child(ren) only	0.05***	0.15***	0.15***
	(0.02)	(0.02)	(0.02)
With partner/spouse only	-0.01	0.00	0.00
	(0.01)	(0.01)	(0.01)
Self-reported health (Ref.: Good)	ref.	ref.	ref.
Fair	0.09***	0.09***	0.09***
	(0.01)	(0.01)	(0.01)
Bad	0.16***	0.21***	0.21***
	(0.02)	(0.02)	(0.02)
Location (Ref.: Urban)	ref.	ref.	ref.
Rural	-0.02***	-0.00	-0.00
	(0.01)	(0.01)	(0.01)
Austria	0.02		
	(0.02)		
Belgium	0.04**	0.00	0.02
	(0.02)	(0.02)	(0.02)
Bulgaria	-0.04***	0.00	0.01
	(0.01)	(0.02)	(0.02)
Croatia	-0.06***	-0.08***	-0.08***
	(0.01)	(0.01)	(0.01)
Cyprus	-0.01	0.02	0.03
	(0.01)	(0.03)	(0.03)
Czechia	-0.02	-0.06***	-0.03*

	(1)	(2)	(3)
	(0.02)	(0.02)	(0.02)
Denmark	-0.07***	-0.06***	-0.03
	(0.01)	(0.02)	(0.02)
Estonia	-0.07***	-0.04**	-0.03
	(0.01)	(0.02)	(0.02)
Finland	-0.05***	-0.02	0.01
	(0.02)	(0.02)	(0.02)
France	0.04**	0.03	0.05**
	(0.02)	(0.02)	(0.02)
Germany	-0.03**	-0.00	0.01
	(0.01)	(0.01)	(0.01)
Greece	0.01	0.01	0.02
	(0.01)	(0.02)	(0.02)
Hungary	-0.02	-0.06***	-0.06***
	(0.01)	(0.01)	(0.01)
Ireland	-0.04**	-0.01	-0.00
	(0.01)	(0.01)	(0.01)
Latvia	-0.07***	-0.08***	-0.06**
	(0.01)	(0.02)	(0.02)
Lithuania	-0.05***	-0.06***	-0.02
	(0.01)	(0.02)	(0.02)
Luxembourg	-0.01	0.01	0.04*
	(0.01)	(0.02)	(0.03)
Malta	-0.00	0.04	0.04
	(0.01)	(0.03)	(0.03)
Netherlands	-0.08***	-0.08***	-0.07***
	(0.01)	(0.02)	(0.02)
Poland	-0.04***	0.02	0.05**
	(0.01)	(0.02)	(0.02)
Portugal	-0.07***	-0.03**	-0.04***
	(0.01)	(0.01)	(0.01)
Romania	-0.01	-0.03**	-0.02
	(0.02)	(0.02)	(0.02)
Slovakia	-0.07***	-0.07***	-0.04**
	(0.01)	(0.01)	(0.02)
Slovenia	-0.09***	-0.07***	-0.04**
	(0.01)	(0.02)	(0.02)
Spain	-0.02	-0.05***	-0.04***
	(0.01)	(0.01)	(0.01)
Sweden	-0.04**	0.02	0.06**
	(0.02)	(0.02)	(0.03)
Teleworking before Covid-19 (Ref.: Daily/several times a week)			ref.
Less, never or not concerned			-0.01
			(0.01)
Financial situation during Covid-19 (Ref: Same or better)			ref.
Worse			0.06***
			(0.01)
Working hours during Covid-19 (Ref.: Same)			ref.
Decreased a lot or a little			-0.00
			(0.01)
Stay-at-home order (Ref.: No measures)			ref.
Recommend not leaving house			0.03**
			(0.01)
Require not leaving house with exceptions			0.06***
			(0.01)
Observations	***27605***	***72131***	***71630***

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

FIGURE A.1. Strength of the Stay-at-home order policies in EU macro- regions



Note: The data come from the Oxford COVID-19 Government Response Tracker database. The indicator ranges between 0 and 3, with 0 indicating "no measures", 1 "recommended not leaving house", 2 "require not leaving house with exceptions for daily exercises, grocery shopping and 'essential' trips and 3 "require not leaving the house with minimal exceptions". Northern Europe includes Denmark, Finland, Ireland and Sweden; Western Europe is Austria, Belgium, France, Germany, the Netherlands and Luxembourg; Southern Europe is Cyprus, Greece, Italy, Portugal, Spain and Malta; Eastern Europe includes Bulgaria, the Czech Republic, Croatia, Estonia, Hungary, Lithuania, Latvia, Romania, Poland, Slovenia and Slovakia.

FIGURE A.2. Share of respondents feeling lonely more than half of the time the two weeks preceding the interview

Country	Pre-pandemic, 2016	COVID-19, April - July 2020	Difference
Belgium	16.0	25.0	9.0
Bulgaria	12.2	28.0	15.8
Croatia	10.9	20.7	9.8
Cyprus	12.9	24.9	12.0
Czechia	11.2	18.7	7.5
Denmark	4.6	16.9	12.3
Estonia	7.0	22.2	15.2
Finland	6.3	20.4	14.1
France	14.2	31.6	17.4
Germany	8.8	24.5	15.7
Greece	20.8	29.3	8.5
Hungary	14.3	22.4	8.1
Ireland	6.7	21.0	14.3
Italy	13.9	25.9	12.0
Latvia	10.7	21.1	10.4
Lithuania	12.0	22.6	10.6
Luxembourg	8.6	22.8	14.2
Malta	12.4	24.2	11.8
Netherlands	4.6	16.6	12.0
Poland	9.4	25.9	16.5
Portugal	6.6	21.9	15.3
Romania	16.9	23.0	6.1
Slovakia	7.9	20.5	12.6
Slovenia	4.7	16.6	11.9
Spain	11.6	18.8	7.2
Sweden	6.9	26.4	19.5

Data sources: Eurofound, 2016 EQLS and 2020 LWC surveys

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