Loneliness in Nottingham and Nottinghamshire

Final Research Report

Dr Mhairi Bowe, Dr Juliet R. H. Wakefield, Assoc. Prof. Blerina Kellezi, Professor Clifford Stevenson, and Mr. Adam Potter

NTU Psychology, Groups, Identities, and Health Research Group

Nottingham Trent University

March 2022

Report commissioned by the Tackling Loneliness Collaborative - Nottingham and Nottinghamshire

Contents

Contents 2

Introduction...6

- Loneliness, Health and Wellbeing 6
- Loneliness in the Context of COVID-19..7
- Interventions to Tackle Loneliness 8
- Loneliness and Social Relationships...9
- Policy and Local Responses to Loneliness 11
- The Tackling Loneliness in Nottinghamshire Collaborative 13
- The Research Element..14
    - Overview of Studies 14

Study 1A 16

- Introduction 16
- Method..16
- Results 17

Study 1B...21

- Introduction 21
- Method..21
    - Survey Questions 22
    - Analytic Strategy...23
- Results 24
    - Locations of Services 24
    - Nature of Services Provided, and Organisational Aims and Objectives...............25
    - Reasons For Service User Involvement with Services 31
    - Services Success at Addressing Individual Needs and Reducing Loneliness 35

Barriers which Prevent Services from Addressing Individual Needs and Reducing Loneliness 37

Need For More Resources 37

Willingness to Engage with Services 38

Access Barriers 39

Changes in Service User Needs since the Onset of the COVID-19 Pandemic 40

Changes to the Services' Ability to Meet Service User Needs because of the COVID-19 Pandemic 43

Changes or Adaptations to Organisations' Usual Practice Since the Onset of the COVID-19 Pandemic That They Would Like to Retain 45

Availability of Resources to Deliver Services Effectively 46

Financial or Operational Support Received 49

Likelihood of Services Being Operational in the Next 12 Months 51

Deprivation index based on the service locations 51

Study 1A and 1B Discussion 56

Study 2 58

Introduction 58

Method 59

Participant Recruitment, Data Collection, and Data Cleaning 59

Results 67

Engagement With and Opinions Towards Loneliness Services 67

Barriers to Accessing Loneliness Services 70

Comparing Loneliness and Personal Wellbeing Data to Population Norms 71

Comparing Loneliness Data 71

Comparing Personal Wellbeing Data 72

Loneliness and Mental Health in Each Age Group 73

The Relationship Between Loneliness and Mental Health 74

The Relationship Between Loneliness and Physical Health 77

Longitudinal Analyses 78

Longitudinal Analyses 81

The Relationship Between Loneliness and Variables Associated with Stigma and Discrimination 82

Longitudinal Analyses 83

Loneliness and Staying Connected During COVID-19 84

Discussion 90

Study 3 93

Introduction 93

Methods 94

Participants 94

Data Collection 96

Data Analysis and Results 97

Theme 1- Experiences of Loneliness 98

Theme 2- Barriers and Facilitators to Service Use 106

Theme 3- Consequences of Service Use 115

Discussion 122

General Discussion 126

Summary 126

Study 1A and B Summary 126

Study 2 Summary 128

Study 3 Summary 130

Implications 131

Experiences of Loneliness and Social Connection 131

Experiences of Service Use: Successes and Failures 132

Diversity of the Population 132

Diversity of the Provision 133

  Resourcing Needs 133

  Offsetting the Impact of COVID-19... 134

Recommendations 134

References 137

Introduction

The desire for social connection is considered a fundamental feature of human life (Cacioppo & Patrick, 2008). However, despite the advancement of communicative tools facilitating remote contact, growing numbers within Western populations are experiencing the detrimental effects of isolation and loneliness (Durcan & Bell, 2015; APA, 2017), and this may be exacerbated within marginalised, disadvantaged, and vulnerable populations and neighbourhoods (Haslam et al, 2019; Kearns et al., 2015). Although the recent global Coronavirus pandemic has brought attention to the impact of loneliness on mental health and wellbeing (Killgore et al., 2020), loneliness has been a public health issue of growing concern, community action, and study (particularly in relation to older adults) for many years in the United Kingdom. Loneliness has multiple forms, including existential loneliness (conceptualised as a sense of alienation and meaninglessness in life), but it is typically studied and understood in relation to its social and emotional forms, which are linked with a lack of meaningful social connection and social relationships (Tilburg, 2021). Whilst experiences of social isolation and loneliness are often correlated and the concepts discussed simultaneously, social isolation is distinct from loneliness, and isolation does not necessarily lead to feelings of loneliness (Coyle & Dugan, 2012). Social isolation is typically understood as an objective lack of contact with others, whereas loneliness is the emotional response to a perceived lack of desired social contact (Yanguas et al., 2018). This emotional response to unsatisfied social needs may be experienced as a sense of loss or absence; an emotion sometimes considered a ‘social pain’ (Cacciopo et al., 2006).

Loneliness, Health and Wellbeing

Labelled as a present-day ‘social epidemic’ (King, 2018), studies show loneliness has both psychological and physical consequences (Jaremka et al., 2013) that may be attributable to threat perceptions and hypervigilance, which can trigger stress and immune system responses (Banjee & Qualter, 2018; Cacioppo & Cacioppo, 2018). Loneliness has been linked with multiple chronic illnesses such as dementia (Wilson, et al., 2007) and heart disease (Valtorta et al., 2016), and is associated with increased mortality (Holt-Lunstad et al., 2015). Loneliness also has significant mental health correlates, such as increased depression (Cacioppo et al., 2006), social anxiety (Knowles et al., 2015), and suicidal ideation (Stickley & Koyanagi, 2016). Data collected by the Office for National Statistics (ONS) suggest that loneliness is one of the most serious health issues in the UK, and that it has differential impacts on the population according to gender, age, health conditions, living conditions, and sense of neighbourhood belonging (ONS, 2018). Older people are often found to be particularly vulnerable to loneliness, and a recent review of research conducted across twenty-nine countries suggests that, on average, one in four adults over 60 and one in three adults over 75 reports feeling lonely (Chawla et al., 2021). However, younger adults are also increasingly being recognised as a group at risk of loneliness and its mental health consequences (Lasgaard, Friis, & Shevlin, 2016). Since loneliness influences mental and physical health, it can have wide ranging health consequences for individuals, families, and communities (Leigh-Hunt et al., 2017). However, it also has an impact on public health and service delivery. For example, lonely people tend to use primary care more frequently, even after accounting for their levels of general health (Cruwys et al., 2018).

Loneliness in the Context of COVID-19

The nature of government restrictions introduced to manage COVID-19 (e.g., quarantining and social distancing) created unwelcome isolation, thus increasing the risk of loneliness and its associated range of mental health consequences (Holmes et al., 2020; O’Connor et al., 2020). COVID-19 was therefore forewarned as posing an unprecedented ‘social threat’ (Banerjee & Rai, 2020). ONS data collected in early to mid-2020 revealed that 30.9% of adult UK respondents felt their wellbeing had been negatively impacted due to loneliness during the pandemic lockdown, and this was exacerbated by anxiety, poor living circumstances, lack of support networks, and pre-existing health conditions (ONS, 2020). In a large-scale UK survey conducted during the COVID-19 pandemic, 36% of respondents reported feeling lonely; being female and 20-29 years of age were identified as being significant risk factors for loneliness and poor mental health, while having a job and living with a partner were protective factors (Li & Wang, 2020). Early in the pandemic trajectory, UK residents also cited fear of loneliness as a significant mental health concern associated with COVID-19 (Academy of Medical Sciences, 2020).

These findings reflected a global trend. In their study of mental health responses to the strict social distancing imposed in Israel, Horesh et al. (2020) found that ‘Corona-related loneliness’ was a significant predictor of public psychological distress. This finding is in line with evidence of the mental health consequences of sensed isolation associated with quarantine during previous pandemics and the predictors of distress in quarantined medical staff during COVID-19 (Brooks et al., 2020). Similarly, a large-scale survey in Norway found loneliness predicted both depression and anxiety and was elevated in comparison with non-pandemic levels (Hoffart et al., 2020). These research teams suggested tackling loneliness should therefore be a central component of mental health interventions during the pandemic. Identifying risk factors and buffers of loneliness and isolation, particularly in vulnerable, marginalised, or disadvantaged groups who may be at increased risk, was therefore identified as a mental health priority in the UK during 2020 (Holmes et al., 2020; O'Connor et al, 2020).

Large-scale survey evidence published later in 2020 appeared to show that lockdown orders and physical distancing did have a significant impact on self-reported loneliness experiences in the UK (Bu et al., 2020). However, contrary to some expectations, these differences were typically only in groups who already had experience of loneliness prior to the pandemic. The data also revealed that rates of self-reported loneliness were higher in females, younger adults, those with existing mental health conditions, and people with lower incomes or economic activity. Interestingly, this study also revealed that for those who typically experience less loneliness, loneliness levels appeared reduced during the pandemic. Protective factors linked with reduced experiences of loneliness included living with others and experiencing close friendships and social support (Bu et al., 2020). Similar at-risk groups and protective social factors have been identified in comparable UK-based studies (e.g., Groarke et al., 2020), demonstrating that the pandemic has not impacted loneliness experiences equally across communities, and suggesting that social relationships and support are key resources in tackling loneliness.

Interventions to Tackle Loneliness

The need to address loneliness has attracted significant scientific attention, and various academic networks (e.g., Exeter Loneliness Network) have been developed to connect academics, policy makers, and specific 'at risk' populations in order to develop research priorities for understanding and reducing loneliness. The UKRI-funded UCL Loneliness and Social Isolation in Mental Health Network is currently involved in mapping loneliness data, as well as funding small projects to address loneliness with a focus on mental health. Their current projects involve exploring resilience to loneliness and loneliness experiences during COVID-19, as well as identifying the role of loneliness in mental health interventions.

As loneliness has been linked with cognitive, behavioural, biological, and psychological processes (Cacioppo & Hawkley, 2005, 2009), scientifically developed interventions and ‘treatments’ for loneliness have varied widely in their approaches (Mann et al., 2017). As individuals experiencing loneliness are thought to withdraw from others, thus reducing their social networks due to biases in interpretations of others’ behaviours and intentions (Cacioppo & Hawkley, 2005; Hawkley et al., 2005), some interventions have focused on changing cognitive processes (i.e., patterns of thinking). In an analysis of multiple intervention studies, interventions using cognitive approaches (informed by cognitive theory and/or Cognitive Behavioural Therapy) to address biases and thinking around loneliness and social interaction (Masi et al., 2011) were found to be the most effective. Analysis across studies has suggested that the approaches and effects of interventions can be variable and inconsistent, however recent meta-analytic studies have suggested that social cognitive interventions may be more effective when combined with short-term pharmacological treatments (Cacioppo, et al., 2015). Alternative interventions focus on increasing social skills through educational resources presented in various forms and have also had some success in building confidence and reducing loneliness (e.g., Jones et al., 1982). Methods of tackling loneliness have advanced recently with the development of new technology, for example, recent small-scale pilot work has led to reductions in loneliness and improved wellbeing using a digital app (Connect+) with embedded videos to develop social skills and encourage self-reflection using positive psychology (Lim et al., 2020). Other interactional interventions have also been employed to increase social support and opportunities for social contact (e.g., Pilisuk & Minkler, 1980), but these have been critiqued for often being more effective at reducing objective social isolation rather than developing meaningful social relationships and connections (Masi et al., 2011). While each of these approaches has its limitations, advancements within the social sciences in understanding the development and importance of meaningful social relationships, particularly community connections, have provided promising insights that may help shape local and national initiatives moving forward.

Loneliness and Social Relationships

As well as the need to focus on meaningful social relationships, a common critique of loneliness interventions is their lack of theoretical foundations. The Social Identity Approach to Health, or ‘Social Cure’ theory has evidenced the role of social group memberships in predicting physical and mental health outcomes in multiple populations and in clinical and community settings (Jetten et al., 2012; Haslam et al., 2018). These benefits are associated with the psychological process of social identification, that is, the sense that one belongs and fits within a certain group and shares similarities and relationships with fellow members. This process has an impact of the emotional and cognitive experiences of group members and shapes the way they perceive and respond to their social world, as well as providing a context for valuable social resources such as support, efficacy, and esteem. Growing evidence suggests that one way in which groups benefit people's health and wellbeing is via reductions in loneliness. For example, McIntyre et al. (2018) found that university students' health was influenced by their identification with friendship groups through reduced feelings of loneliness. Family identification has also been shown to be linked to reduced feelings of loneliness, lower depression, and better sleep (Wakefield et al., 2019). Moreover, a series of studies conducted in two areas of Nottinghamshire (one more and one less affluent) demonstrated that identification with the local community was associated with lower levels of loneliness and improvements in self-reported wellbeing (McNamara et al., 2021). These findings accord with those from elsewhere within the social sciences which show that loneliness reductions are associated with greater local social capital (i.e., sense of trust and support within the community) and psychological sense of community (e.g., Coll-Planas et al., 2017; Prezza, Amici, Roberti & Tedeschi, 2001). However, as these concepts of community togetherness have been critiqued for theoretical vagueness, the Social Identity Approach to Health has been proffered as a theoretical framework within which to develop effective loneliness interventions that focus on developing meaningful social connections.

In terms of exploring the longer-term impact of group membership on reducing loneliness, longitudinal analyses have shown increases in group memberships acquired during participation in a social prescribing pathway were linked with better quality of life, and that this relationship was mediated by reduced loneliness and increases in belonging and support (Wakefield et al., 2020). A bespoke social cure intervention, Groups4Health, which uses psychoeducation to support isolated individuals to join new social groups and reconnect with old ones, showed increases in group memberships reduced participants' reported loneliness (Haslam et al., 2016). This finding was supported in a randomised controlled trial with individuals experiencing psychological distress using the Groups4Health intervention (Haslam et al., 2019). An adapted Groups4Belonging program has also recently been developed to reduce loneliness for individuals experiencing substance use disorders (Ingram et al., 2020), suggesting this approach can be used to address the needs of specific vulnerable populations.

Within community settings, the Social Identity Approach to Health has recently been used to explore the impact of a neighbourhood level intervention: 'Neighbours Day' in

Australia. After involvement in a series of locally hosted events aimed at getting to know neighbours, local residents reported lower loneliness and better wellbeing at 3- and 6-month follow ups (Fong et al., 2021). The importance of community identification and belonging has also been evidenced in the context of social prescribing within Nottinghamshire. Studies of a social prescribing pathway designed to support those with long term physical and social health needs conducted by researchers at Nottingham Trent University showed that increasing patients' number of group memberships within the community was linked with reduced loneliness and greater community belonging and support, and that these outcomes were linked with less primary healthcare usage and better self-reported quality of life (Kellezi et al., 2019; Wakefield et al., 2020). Social psychological research has thus far provided a robust evidence base demonstrating the links between group identities, community belonging, loneliness, and wellbeing (e.g., Haslam et al., 2018). This 'Social Identity Approach' was therefore adopted as a guiding theoretical framework within the studies reported herein.

Policy and Local Responses to Loneliness

The significance of this issue is reflected in nationwide Government policy and strategy to tackle loneliness and the social determinants of health. In 2016, MP Jo Cox set up the cross-party Loneliness Commission to chart the impact of loneliness in the UK. The results led to significant investment and action aimed at tackling loneliness, and in 2018 the UK Government recognised loneliness as one of the greatest public health challenges of our time. As a result, they developed a clear loneliness agenda, cross-Governmental strategies, and appointments aimed at addressing and reducing loneliness (HM Government, 2018; GOV.UK, 2018a; GOV.UK, 2018b). A significant outcome of this policy included investment in community support and local programmes of activity to facilitate a public health initiative called 'social prescribing'. Social prescribing, which had existed previously in a variety of forms, pilots, and locations across the UK (Kimberlee, 2015), recognises the social predictors of ill-health, and explicitly targets those experiencing isolation and loneliness (NHS, 2019) by connecting individuals with others in their community via support and activity-based community resources. As mentioned above, existing evidence suggests that involvement in social prescribing can have a positive impact on loneliness reduction, and that this is linked with both reduction in primary healthcare use and better self-reported wellbeing (Kellezi et al., 2019; Wakefield et al., 2020). A recent independent report published by the Department for Digital, Culture, Media & Sport in January 2022 identified eight priority areas for loneliness research: how experiences of loneliness are related to age and how they may change over the life course; how stigma and belonging to a stigmatised group affects loneliness; how culture and societal structures impact loneliness; the links between loneliness and mental health in under-studied groups; how loneliness varies geographically and the factors contributing to this variation; the relationships between workplaces and loneliness; the economic impacts of loneliness; and the effectiveness of loneliness interventions with various groups.

Third Sector, charitable and Not-For-Profit organisations have also been heavily invested in loneliness reductions within the UK. Age UK, for example, has been raising awareness of loneliness experiences and campaigning about the need to address rising loneliness levels, whilst also providing guidance and information for older people. They have also worked in conjunction with prominent bodies and initiatives such as the Campaign to End Loneliness to explore loneliness interventions as part of their Testing Promising Approaches to Reducing Loneliness programme (Age UK, 2016). As well as providing befriending schemes, they also support community-based schemes such as the Men in Sheds movement which has been successful in improving wellbeing in isolation older male populations (Ormsby et al, 2010) and has also been found to be effective due to social identity processes such as enhanced group identification (Ford, Scholz & Lu, 2015). Interestingly, initiatives such as these, which seek to increase a sense of connection and support within community groups, have been found to be more beneficial than interpersonal befriending-based support for older people because they are experienced as less stigmatizing (South et al., 2017). Thus, services that are less explicitly aimed at reducing loneliness and creating social relationships may be more received more readily than targeted interpersonal approaches. Research suggests that community spaces that provide a ‘third space’ (i.e., a public place for activities, e.g., games clubs) for adults can provide a sense of bonding, commonality, support, and connection to the local community that improves wellbeing (Fong, Haslam, Cruwys, & Haslam, 2020).

The services of national level organisations are also accompanied by a range of Local Government, Third Sector, and local grass-roots initiatives. Within Nottinghamshire, several initiatives have been set up by local authority and Voluntary, Community, and Social Enterprise (VCSE) bodies, e.g., the Age Friendly Nottinghamshire Initiative, Tackling Loneliness Together, The Wolfpack Project, and Community Friendly Nottinghamshire. Additionally, Nottinghamshire County Council have produced a series of support resources aimed at tackling loneliness, including their ‘Get Connected in Nottingham and

Nottinghamshire' booklet, and a range of online resources. This need to boost local resilience has become even more pressing within the last two years in the wake of the Coronavirus pandemic, which has seen levels of severe loneliness rise significantly with the UK adult population, particularly in vulnerable parts of the community and for those with previously impoverished social networks (ONS, 2021). As a result of this, Local Resilience Forums, Local Government, and healthcare bodies across the UK have been involved in supporting work aimed at tackling loneliness. Within Nottingham city and county, this has resulted in the development of a partnership-based initiative named the Tackling Loneliness in Nottinghamshire Collaborative.

The Tackling Loneliness in Nottinghamshire Collaborative

The Tackling Loneliness Collaborative – Nottingham and Nottinghamshire. (TLC) aims to work together to build a diverse partnership that can collectively map resources and understand the issues related to loneliness in Nottinghamshire (inclusive of Nottingham City), as well as gathering ideas for how to tackle it. The TLC and its Lead are hosted by Bassetlaw Community and Voluntary Service (CVS) and the research was funded via Nottinghamshire County Council. At point of commissioning, the Deputy Chief Executive of Nottinghamshire County Council (NCC) held ultimate decision-making powers within the collaborative. Governance will eventually move to the Integrated Care System's Personalised Care Board.

The collaborative aims to address loneliness by mapping and supporting existing services, identifying service gaps, communicating loneliness and support needs to healthcare partners, and influencing decision-making regarding the future of supports for addressing loneliness within Nottinghamshire and beyond. The ultimate aim of the TLC is to tackle loneliness across Nottinghamshire through a collaborative approach involving health, social care organisations, voluntary and community organisations, volunteers, and local communities. However, this can be broken down further into a set of key objectives and questions:

i. Understanding the need – what do we know about loneliness in Nottinghamshire and what the demand is for support?
ii. Mapping the support available – what groups, support and information are available, where are the gaps?
iii. Promote, communicate, and raise awareness – promote support and information and raise awareness.

iv. Measuring the impact – what is the impact of the activity to tackle loneliness?
v. Influencing decisions – working together to influence decisions to tackle loneliness.

The Research Element

Members of Nottingham Trent University Psychology’s Groups, Identities, and Health (GIH) Research Group have been commissioned to conduct a series of research studies to support the work of the TLC. The studies were commissioned to satisfy the following aims: 1) developing a greater understanding of loneliness experiences and needs within Nottinghamshire; 2) assessing the services and resources available to support loneliness within Nottinghamshire; and 3) exploring the impact of service engagement and the social predictors of loneliness and loneliness reduction. To fulfil the research aims of this project, we designed a series of mixed-method studies which are detailed below and were agreed upon with members of the TLC team.

Overview of Studies

Study 1A

Study 1 will involve mapping Nottinghamshire-based services aimed at addressing loneliness and social isolation, including online and community-based groups and information services. The NTU team will work together with existing partners and with the Tackling Loneliness Collaborative to identify existing linked and known services. An NTU Research Associate will also seek to identify less visible services across the county. A database of these services will be created and delivered to the TLC at the end of the project, and this will be used to assist with recruitment of participants to Study 2 and Study 3.

Study 1B

To supplement the database, approximately 10% of services identified in Study 1A will take part in an online survey with a mix of ratings scales and open-ended questions to explore the current practice and challenges experienced by loneliness services in Nottingham City and Nottinghamshire. More specifically, this study will explore: the nature of each service, patterns of service use and service-user needs, perceptions of success at supporting needs and barriers to supporting needs, the impact of the Coronavirus pandemic, support received, and perceived support needs going forward. Finally, the survey will seek to gain an insight into staffs’ perceptions of the future sustainability of their service. Service representatives will take part voluntarily and will not be reimbursed. NCC will assist with the identification of services and will aid in the distribution of invitations to the study using their existing network of contacts. Participants will participate anonymously.

Study 2

This study will involve using a 15-minute online survey to identify loneliness needs across Nottinghamshire and will also explore awareness and use of services. The study will have a longitudinal survey design to recruit a large sample of Nottinghamshire residents and chart loneliness experiences quantitatively over time. Participants will take part at three time points: Time 0 (T0), Time 1 (T1; 2 months after T0), and Time 2 (T2; 4 months after T0). The team has access to a range of validated measures that will help explain loneliness experiences, explore the predictors of loneliness within Nottinghamshire, identify the health-related outcomes of loneliness, and quantify awareness of services, service engagement levels, and the impact of engagement over time for those who have chosen to access services. Participants will be recruited via the participant recruitment website Prolific Academic (Prolific Academic's participant database includes approximately 500-600 registered Nottinghamshire residents with a variety of demographic backgrounds) and via Nottingham City and County loneliness services to help recruit a diverse sample of residents. Prolific Academic participants will receive credit for completing each survey and participants recruited via loneliness services will receive a £10 shopping voucher for completing the first survey, and another £10 shopping voucher for completing both the second and third surveys.

Study 3

This study will involve thirty one-to-one one-hour online semi-structured interviews with adult residents of Nottinghamshire who have engaged in identified services aimed at addressing loneliness and social isolation. Participants will be recruited with the aim of representing a diverse sample from across a range of services. Interviews will be analysed with thematic analysis and will explore a) residents' experiences of loneliness and social relationships; b) the impact of service engagement; and c) the role of additional factors such as rurality, accessibility, equality, marginalisation, and experiences of the Coronavirus pandemic. Participants will be paid £20 in online shopping vouchers for participation.

Study 1A

Introduction

This study involved mapping Nottinghamshire-based services aimed at addressing loneliness and social isolation, including online and community-based groups and information services. A database of these services was created using Microsoft Excel, and this was used to assist with targeted recruitment of participants to Study 2 and Study 3. The database includes all relevant details available to the research team, such as the nature of the organisation (e.g., location, size, contact details), its primary aims and service users, and the services it offers. The final database will be shared with the TLC at the end of the research project and will provide a valuable resource for identifying appropriate services for local residents.

Method

Three online databases were searched to identify and collate services addressing loneliness and isolation within Nottinghamshire (see Table 1.1). These databases were initially searched using “Loneliness” as a keyword and “Nottinghamshire” as the location filter, and then explored to identify services which supported the development of social connection for service-users indirectly, e.g., community-based activity groups. A spreadsheet of organisations applying for a National Emergencies Trust grant during the Coronavirus pandemic was also searched to identify Nottinghamshire based services identifying themselves as addressing loneliness and isolation. Finally, additional emerging services highlighted by the TLC members and identified via researcher networks and internet searches were also added. The brief descriptions of all services were read to determine whether they targeted social isolation and loneliness, and whether this was done directly or indirectly. Where it was unclear, clarification was sought by accessing the services’ websites.

Table 1.1

List of databases

	Databases		
	Notts Help Yourself	Ask Lion	Self Help UK
Aim	This website is designed to help people find information about a whole range of organisations and services including services in relation to feeling lonely, health, education and childcare in Nottinghamshire.	This website is designed to help people find activities and support in Nottingham. The services include feeling lonely, health, childcare, education, and homes/ housing.	Self Help UK is the leading specialist organisation in promoting, supporting and encouraging Self Help Groups, both locally in Nottinghamshire and nationwide
Funder/s	Nottingham County Council & Inspire	Nottingham City Council & NHS Nottingham City	NHS Nottingham City Clinical Commissioning Group, Macmillan Cancer Support, Macmillan Cancer Support, Nottinghamshire County Council
Website	www.nottshelpyourself.org.uk	www.asklion.co.uk	www.selfhelp.org.uk

Results

Two-hundred and thirteen services operating within Nottingham City and Nottinghamshire were identified and recorded within the database by November 2021. Of these, 69 (32%) directly targeted loneliness and social isolation as a primary aim, and 144 (68%) indirectly addressed loneliness as a secondary aim. The different causes or groups targeted by the services, and whether the alleviation of loneliness is a primary or secondary aim, are displayed in Table 1.2. A number of other variables were then extracted from these services using information available online. These data are summarised in Tables 1.3 and 1.4.

Please note the groups, issues, and information provided are defined by the services/organisations themselves. The language/terminology used reflects the language/terminology used by the services.

Table 1.2

Number (and %) of services that target each type of group or issue, and number with tackling loneliness as a primary or secondary aim

Target Group or Issue Supported by Service	Primary Aim	Secondary Aim	Total Number of services (%)
General	20	39	59 (27.70)
Elderly people	23	30	53 (24.90)
Mental Health	4	11	15 (7.00)
Young People	4	10	14 (6.60)
Disability	5	7	12 (5.60)
Women	2	8	10 (4.70)
Bereavement	1	5	6 (2.80)
Multiple Groups	1	5	6 (2.80)
LGBT individuals	1	4	5 (2.30)
Deafness	1	3	4 (1.90)
Dementia	1	3	4 (1.90)
Refugees	1	3	4 (1.90)
Cancer	1	2	3 (1.40)
Addiction	0	2	2 (0.90)
Autism	1	1	2 (0.90)
BAME communities	0	2	2 (0.90)
Carers	1	1	2 (0.90)
Parents	1	1	2 (0.90)
Visual Impairment	0	2	2 (0.90)
Chinese communities	1	0	1 (0.50)

Members of the Air Force	0	1	1 (0.50)
Men	0	1	1 (0.50)
Non-Native English Speakers	0	1	1 (0.50)
Polish communities	0	1	1 (0.50)
Ukrainian communities	0	1	1 (0.50)
Total	**69**	**144**	**213 (100)**

Table 1.2 suggests Nottinghamshire has a range of available services, but the most frequent category of service based on the services’ descriptions is ‘General’ (for everyone) or ‘Elderly’ (for older community members).

Table 1.3

Number (and %) of services falling into each category for Delivery Type, Geographical Area, and Level of Service

Variable	Category	Total Number of Services (%)
Delivery Type	Face-to-Face	43 (20.20)
	Mixed	13 (6.10)
	Online	13 (6.10)
	Telephone	4 (1.90)
	Uncategorised	140 (65.70)
Geographical Area	Mixed	5 (2.30)
	Urban	1 (0.50)
	Uncategorised	207 (97.20)
Level of Service	Local	124 (58.20)
	National	17 (8.00)
	Uncategorised	72 (33.80)

Table 1.3 shows that of those services who provided information on the nature of their services (65.7% did not specify), the greatest proportion are providing services face-to-face, and a small proportion are delivering services in mixed or online formats. The majority

of services did not specify the nature of the area they served (urban or rural). Most services listed were local services (58.2%), but some were national services (8%).

Table 1.4 specifies the number of branches, staff, and volunteers each service reported having. ‘Not listed’ refers to where the information has been searched for but is not publicly available, whereas ‘Incomplete’ refers to where all public sources of information have not yet been checked and so the information may or may not be available. This work is currently being completed.

Table 1.4

Numbers of branches, paid staff, and volunteers in the services

Variable	Amount	Number (and %) of services with that amount
Branches	1050	1 (0.50)
	40	1 (0.50)
	25	1 (0.50)
	8	1 (0.50)
	7	1 (0.50)
	3	1 (0.50)
	2	3 (1.40)
	1	83 (39.00)
	Not listed	7 (3.30)
	Incomplete	114 (53.50)
Paid Staff	160	2 (0.90)
	20	1 (0.50)
	16	2 (0.90)
	15	2 (0.90)
	11	1 (0.50)
	10	1 (0.50)
	9	2 (0.90)
	8	1 (0.50)
	6	1 (0.50)
	1	1 (0.50)
	0	2 (0.90)
	Not listed	84 (39.40)
	Incomplete	113 (53.10)
Volunteers	4000	1 (0.50)
	2000	1 (0.50)
	300	1 (0.50)
	180	1 (0.50)
	50	1 (0.50)
	25	1 (0.50)
	20	1 (0.50)
	16	1 (0.50)
	8	1 (0.50)
	Not listed	91 (42.70)
	Incomplete	113 (53.10)

Table 1.4 shows that the services listed within the database vary widely in terms of the number of branches, staff, and volunteers they employ. Some of this range is accounted for by the nature of the organisation (national or local) and this information is provided in the database.

Study 1B

Introduction

As a supplement to Study 1A, the research team was asked to survey 10% of services identified in Study 1A (N =213). Service representatives (staff or volunteers) voluntarily took part in an online survey with a mix of ratings scales and open-ended questions to explore the current practice and challenges experienced by loneliness services in Nottingham City and Nottinghamshire. This encompassed organisations directly focussed on loneliness reduction and community groups and activities more focussed on social connection. More specifically, this study explored the: a) nature of each service; b) patterns of service use and service-user needs; c) perceptions of success at supporting loneliness and other user needs; d) barriers and challenges in being able to support user needs; e) the impact of the COVID-19 pandemic; and f) financial support and other support received, and perceived support needs going forward. Finally, the survey sought to gather insights into staff/volunteer perceptions of the sustainability and future resilience of their services.

Method

Participants were members of staff or volunteers from services in Nottinghamshire addressing loneliness and social isolation either directly or indirectly. Initially, participants were recruited by distributing the study details to all members of the Tackling Loneliness Collaborative and by advertising the study on the Nottinghamshire County Council October 2021 electronic bulletin. This led to limited responses. Therefore, at the end of October 2021, twenty services were chosen from the Study 1A database to target a range of populations (e.g., services for different age ranges, health conditions, ethnicities, and focuses, such as bereavement or financial difficulty). These services were contacted directly and invited to participate in the survey. A follow-up email was sent in November 2021 to those services that had not yet responded. A second set of 20 services were then selected from the database in November, targeting services that addressed loneliness as a primary aim to ensure that these types of services were well-represented in the data set. These further services were then also contacted directly using publicly available contact emails. In total, staff from 35 services (16.40% of services in the database) answered some or all the survey questions. Care must be taken when interpreting the results from the survey because the information presented only relates to less than 17% of the identified services within Nottinghamshire. It is possible that the organisations that took part have additional resources (which afforded staff extra time) that enabled a member of staff or the volunteering team to participate in the research, or that those who felt they have more information to share (either positive or negative) with the research team were more likely to take part.

Survey Questions

The survey consisted of a mix of multiple choice and free response questions to allow for the collection of numerical information, but also to allow service staff/volunteers to voice their options/perceptions in their own words. The questions covered details of the service, service users, service success and adaptations, and service resources and support.

1. *Service Information*
    a. Service name
    b. Service (or service branch) location
    c. Service aims and objectives
    d. Participant's role in the service
    e. Number of service employees (in the Nottinghamshire branch)
    f. Number of service volunteers (in the Nottinghamshire branch)

2. *Individuals Accessing the Service*
    a. Number of services users that have attended the service over the past 3 months
    b. Number of service users the service is currently actively working with
    c. Service users' typical motivations for getting involved with the service
    d. Service users' primary needs when engaging with the service

3. *Service Success*
    a. Success of the service in addressing individual needs and reducing loneliness
    b. Barriers preventing the service from addressing individual needs and reducing loneliness
    c. How service user needs changed since the onset of the pandemic, and why
    d. Whether the success of the service to meet needs changed since the onset of the pandemic, and why
    e. Useful changes or adaptations to usual practice since the start of the pandemic

4. *Resources and Support*

a. Level of resources and support as indicated by level of agreement with the following statements:
    i. We have enough resources to deliver our service effectively
    ii. We have enough staff to deliver our service effectively
    iii. We have the ability to reach those who would benefit from our service most
    iv. We know how to access support from local or national government when we need to
b. Further thoughts on resources, staffing, ability to reach beneficiaries and support from government
c. Financial or operational support from government, third sector, emergency funding, or NHS partners
d. Whether participants feel well supported by these sources of support
e. Further support participants would like to receive from these sources
f. Ability of the service to continue to deliver services over the next 12 months

Analytic Strategy

A range of methods were used for the analysis depending on the type of data. Quantitative data were summarised using descriptive statistics. Qualitative data were analysed using a combination of content analysis and thematic analysis. The main purpose of content analysis is to count how often an ‘instance’ occurred in the data. The ‘instances’ can be in the form of particular words or phrases (like “companionship” or “loneliness”), or in the form of categories, which have a particular meaning (e.g., “social support received from family”) (Ryan & Bernard, 2000). The categories can be in the form of events, concepts, classes of description, themes etc. All ‘instances’ are allocated a coding definition by the researcher. Although the aims and research questions of the research guided the coding definitions at the beginning of the analysis, in later stages coding was guided by the most frequent patterns identified the data. The occurrence or absence of each concept of interest was counted systematically in each survey. Content analysis and thematic analysis complement each other. While content analysis removes words from the context in which they occur, thematic analysis includes the whole text in the analytic process. In thematic analysis meanings are found in larger blocks of text, and in content analysis meanings are found in smaller unit components, so that they can be counted more systematically (Ryan & Bernard, 2000). Quotations from the written survey are presented to illustrate some of the issues and experiences reported. Quotations are presented inside brackets.

Results

Locations of Services

The locations of the surveyed services can be seen in Table 1.5. Many services described the exact location, which included a wide range of Nottinghamshire locations. No areas of Nottinghamshire appeared under-represented or over-represented. Some of the named areas were not specific enough to establish exact locations, or whether they were within or outside the city boundaries. Where information was available, it seemed that many of the services were outside the city boundaries, which reflects the population in Nottinghamshire (around 70% of people live outside the Nottingham city boundaries).

Table 1.5

Locations of services surveyed in Study 1B (as provided by participants)

Location	Number of Services
Arnold	1
Ashfield	1
Blidworth	1
Broxtowe	1
Bulwell	1
Burton Joyce	1
Cotgrave	1
Flintham	3
Gringley on the Hill	1
Hucknall	1
Langwith	1
Mansfield	1
Mansfield and Bassetlaw	1
Mapperley	1
Mid Nottinghamshire	1
Newark & Sherwood	1
Nottingham	10
Nottinghamshire	2
Retford	1
South Nottinghamshire	1
Tuxford	1
Warsop	1
Not Reported	1
Total	**35**

Nature of Services Provided, and Organisational Aims and Objectives

Before presenting the features of participating services, it is important to remember that they reflect only 16.4% of overall services in Nottinghamshire. In the end we contacted most of the services and only 16.4% responded. It is possible that the services that responded have distinct characteristics to those that did not, as discussed above. Service providers were asked to describe the nature of services provided by their organisations and the aims and objectives of their organisations. Overall, 35 service providers answered this question. Many services fulfilled more than one aim, and the results are presented in Table 1.6. The most commonly selected aims referred to support provision, addressing loneliness and isolation, and participation in collective activities. Other categories of aims include more specific forms of support (e.g., peer support or empowerment) and services aimed at supporting community volunteers.

Table 1.6

Categories of service aims and objectives (as described by the service representative) and the number of services in each category

Service aims and objectives	Number of services
Provide support	10
Address loneliness/isolation and provide companionship	8
Participate in collective activities	7
Provide peer support	3
Self-help/Empower independence	3
Drive to health/other appointment	3
Build confidence	3
Financial support/befriending	2
Provide information/signposting	2
A safe place and or feel accepted	2
Learn new skills/ build existing skills	2
Find volunteering opportunities/volunteer	2
Help with a specific issue or to access services	1
Participate in individual activity	1
Enjoy the outdoors/keep fit	1
Build volunteer leadership skills	1
Advocacy for users and/or volunteers	1

The types of service provision reported were also very varied. The most usual form of service provision included group or community activities, information provision, self-help or peer support, and social meetings (see Table 1.7 for more details). It is clear how these types of services, which include social interactions and support provision, seek to address loneliness and isolation. Interpersonal services, e.g., befriending, were less common. Other services help service users address some of the social and economic challenges they face (e.g., supporting benefit applications), or accessing existing services (e.g., health and library services). Once these more urgent needs are met, the individuals can be enabled to access social opportunities, which in turn can contribute to reducing loneliness and isolation.

Table 1.7

Types of service provision (as described by service representatives) and the number of services providing that type of service

Forms of service provision	Number of services
Group/community activities	9
Signposting/information provision/ advocacy	8
Self/help or peer support	6
Social meetings	5
Befriending	3
Exercise/outdoor meetings	3
Training of volunteers or service users	3
Social Prescribing	1
Educational courses	1
Companionship at home	1
Delivering services to individuals (e.g., books)	1
Support benefit application	1
Community shop where services users are offered the opportunity to volunteer	1
Car scheme supporting service access	1
Delivery of health services	1
Not clear how services are delivered	5

Many of the participating organisations are comprised of staff who hold diverse roles. We asked service representatives taking part in the survey to report on their role in the organisation because it was important to understand the perspectives of staff/volunteers in different roles and with different experiences of service users. We were able to receive responses from participants in a wide range of roles; from leaders to those involved in different service delivery roles. Table 1.8 shows the types of service roles that the participants held.

Table 1.8

Types of Service Roles

Role	**Frequency**
Administrator	2
Advisor	1
Case Worker	1
Chairman	1
Co-ordinator	2
Community Advisor	1
Delivery	1
Employment Advisor	1
Lead Volunteer	1
Manager	3
Marketing and Communications Officer	1
Marketing and Fundraising Manager	1
Organiser	3
Principal Librarian	1
Secretary	3
Support Worker	4
Trainer	1
Vice-Chair	2
Volunteering Development Officer	1
Not Reported	4
Total	**35**

We also collected information on the number of service providers and users in each service (see Table 1.9 for a summary). Tables 1.9, 1.10, and 1.11 show the mean (average) number of employees, volunteers, and service users reported within the survey.[1] Around 16 organisations had 10 staff or more, and 10 had no employed staff but relied on volunteers. The number of paid staff on average (Mean = 41.4) outnumber that of volunteers (Mean = 31.4). As we will see later in the analysis, some organisations have stopped operating during the pandemic, while others have maintained their capacity.

Table 1.9

Average reported number of employees, volunteers, and estimated service users reported in the survey

Variable	Mean	Standard Deviation	Median	Range
Number of Employees	41.4	134.8	8	0-750
Number of Volunteers	31.4	47.3	10.5	0-200
Service Users in the Past 3 Months	179.5	246.9	80.5	0-1000
Current Service Users	102.4	137.3	60	0-600

The numbers of employees and volunteers varied from one organisation to the other (see Tables 1.10 to 1.13). Two organisations had over 100 employees and volunteers, whilst many others had fewer than 20 employees or volunteers. Some organisations were volunteer led and employed no staff, whereas others were comprised exclusively of paid employees with no volunteers.

---

[1] Indices and decile percentages of multiple deprivation according to listed service postcodes were calculated using the English Indices of Multiple Deprivation postcode mapper (English Indices of Deprivation, 2019). Those service postcodes in the top 10% of deprivation are scored as 1, and those in the bottom 10% as 10. We further grouped the areas into high deprivation (if scoring 1-3 in the percentage decile), medium deprivation (if scoring 4-7 in the percentage decile), and low deprivation (if scoring 8-10 in the percentage decile) so that we can compare responses from distinct groups of deprivation.

Table 1.10

Reported number of employees in each service and number of services within that category

Number of Employees	Number of Services
750	1
200	1
94	1
40	1
35	1
30	2
19	1
18	1
15	2
14	1
13	1
12	1
11	1
10	1
6	1
4	1
3	2
2	2
0	10
Not reported	3
Total	**35**

Note: Mean = 41.4, Standard Deviation = 134.8, Median = 8, Range = 0-750

Table 1.11

Reported number of volunteers and services with that number of volunteers

Number of Volunteers	Number of Services in that Category
200	1
150	1
87	1
80	1
70	1
60	2
40	2
30	1
25	1
20	1
15	2
11	1
10	1
8	1
7	1

4	2
3	1
2	1
0	8
Not Reported	5
Total	**35**

Note: Mean number of volunteers = 31.4, Standard Deviation = 47.3, Median = 10.5, Range = 0-200

The number of service users also varied considerably from one organisation to another, with a few organisations reporting hundreds of users and others reporting just a few. The mean estimated number of service users for the last three months was 180 (Table 1.12), and the mean estimated number of current service users was 102 (Table 1.13).

Table 1.12

Estimated number of people who have used the services in the last 3 months and number of services reporting that number

Estimated Number of Users in the Past 3 Months	Number of Services in that Category
1000	1
631	1
615	1
500	1
400	1
175	1
167	1
160	1
150	1
120	1
100	2
81	1
80	1
75	2
50	2
45	1
40	1
30	1
11	1
6	1
5	1
0	2
Not Reported	9
Total	**35**

Note: Mean number of people who have used the service in the last 3 months = 179.5, Standard Deviation = 246.9, Median = 80.5, Range = 0-1000

Table 1.13

Estimated number of current service users and services reporting that number

Current Service Users	Number of Services in that Category
600	1
400	1
200	2
150	1
143	1
128	1
123	1
100	2
70	1
60	2
50	2
35	1
20	3
10	3
1	1
0	2
Not Reported	10
Total	**35**

Note: Mean number of service users = 102.4, Standard Deviation = 137.3, Median = 60, Range = 0-600

The wide range of service providers and users that were reported reflects the different types of organisations and their number of paid or volunteer staff. At this point in the survey the question format changed from tick box responses to open-ended questions requiring written answers. Around 16 of the 35 survey participants stopped answering questions at this point.

Reasons For Service User Involvement with Services

Of the 35 services who took part in the survey, 19 provided detailed written answers regarding the motivation of their users to attend the services, as well as the specific needs of their users. The 19 services can be grouped into five types:

A) *those focusing on loneliness and isolation without specifying specific groups*

B) *those providing help and support for specific conditions/issues*

C) *those supporting specific groups (e.g., women, transgender individuals, people living with dementia/carers, those requiring help with injury prevention)*

D) *those providing specific activities (e.g., books, green spaces, exercise, community shop, transport support for health appointments, work-based training)*

E) *those providing support for organisations working with the different users*

Table 1.14 presents the service user motivations to access the services as understood by the service representatives, for each of the five types of services. The numbers in the table reflect the number of organisations reporting that specific motivation. For example, services that described themselves as aiming to address loneliness and isolation and offering befriending reported their service-users' motivations as being to address loneliness/isolation and to receive companionship and support. Services that described themselves as aiming to enable self-help and peer support reported the motivations of their service-users as being to receive support in different forms. Services that described themselves as aiming to address the needs of specific groups reported the motivations of their service-users as being to access support in different forms (e.g., financial). Services that described themselves as aiming to provide specific services reported the motivations of their service-users as ranging from learning new skills to receiving support and receiving specific services such as library books. Finally, the service describing itself as aiming to support voluntary organisations reported the motivation of their service-users as being to build skills and find volunteering opportunities. Each number in the Table 1.14 represents the number falling within that category in the content analysis of open-ended responses. For example, the number '4' in the top left cell means that four services which address loneliness/isolation/befriending stated that 'addressing loneliness/isolation and providing companionship' was a motivation for their service-users to access their services.

Table 1.14

The number of each type of service who stated a particular motivation for users accessing their service.

	Type of Service				
Users' motivations as identified by service providers	A	B	C	D	E
Address loneliness/ provide companionship.	4*	2	1	2	
Support	1	1	1	1	
Peer support	1	1	1		
Financial support		1	1		
Help with specific issue or service access		2	2	1	
Provide information	1				
Probation support			1		
Advice		1			
Mental health support		1	2		
Reducing stress				1	
To feel valued and useful	1				
Build confidence	1				
Participate in individual activity (e.g., reading)				1	
Participate in collective activities (e.g., food sharing)				1	
Learn new skills				2	
Enjoy the outdoors/keep fit				1	
Find volunteering opportunities/ volunteer				1	1
Build volunteer leadership skills					1
Cannot offer our services due to COVID-19	1				

Note: A = Services addressing loneliness, isolation, and befriending (*n* = 4); B = self-help/peer support/carer groups for people with a variety of health conditions, independent living, financial needs (*n* = 5); C = Services addressing the needs of specific groups (*n* = 4); D = Organisations providing specific services (*n* =5); E = Supporting organisations working with different users (*n* = 1).
* Means that four services which address loneliness/isolation/befriending stated that 'addressing loneliness/isolation and providing companionship' was a motivation for their service-users to access their services.

The participants were also asked to describe their service-users' needs. These needs shared many similarities with service-users' motivations for attending the services (see Table 1.15). The numbers in the table reflect the number of organisations reporting specific service-user needs. For example, services that described themselves as aiming to address loneliness and isolation and offer befriending reported the service-users' needs as being, in part, to address loneliness/isolation and to receive companionship, and, in part, to receive support. Services that described themselves as aiming to enable self-help and peer support reported the needs of their service-users as being primarily to receive support in different forms (e.g., financial) but also to address loneliness and isolation. Services that described themselves as aiming to address the needs of specific groups reported the needs of their service-users as being to address loneliness and isolation and to access specific support. Here reference is also made to the organisations providing a safe space to which groups that face marginalisation and discrimination can turn towards. Services that described themselves as aiming to provide specific services reported the needs of their service-users as being to address loneliness and isolation, and to receive this specific support. Finally, the service describing itself as aiming to support voluntary organisations reported the needs of their service-users to be to receive information and advice. Ten out of nineteen organisations completing this part of the survey reported the needs of their service-users are related directly to addressing loneliness/isolation and receiving companionship.

Table 1.15

The number of each type of service who stated a particular need of their users

	Type of Service				
Users' needs as identified by service providers	A	B	C	D	E
Address loneliness/isolation and provide companionship	2*	2	3	3	
Support	1	2	2		
Peer support	1				
Financial support		2		2	
Help with a specific issue or to access services		1		1	
Provide information		1			1
Advice					1
Mental health support				1	
To feel valued and useful	1		1		
Feel accepted			1		
A safe place	1		1		
Participate in individual activity				1	
Learn new skills			1	2	
Enjoy the outdoors/keep fit			1		

Note: Service Types: A = Services addressing loneliness, isolation, and befriending (*n* = 4); B = self-help/peer support/carer groups for people with a variety of health conditions, independent living, financial needs (*n* = 5); C = Services addressing the needs of specific groups (*n* = 4); D = Organisations providing specific services (*n* =5); E = Supporting organisations working with different users (*n* = 1).

* Means that 2 services which address loneliness/isolation/befriending felt that 'addressing loneliness/isolation and providing companionship' was a need of their service-users.

Both reporting on users' motivations and users' needs highlights the importance of addressing loneliness and isolation for many of the services and their service-users. Others instead focused on the provision of support, thus addressing loneliness more indirectly.

Services Success at Addressing Individual Needs and Reducing Loneliness

A few organisations (2 out of 19) reported being less confident or feeling they have not been able to meet the needs of their users because of the COVID-19 pandemic:

'We haven't been able to do anything' (Deprivation level 3[2]*, Small organisation, Flintham)*

However, the majority reported being successful at meeting the users' needs with confidence, although some have had to make changes due to the pandemic.

'Very successful with those that attend but could do with more people taking part.' (Deprivation level 3, Small organisation, Newark and Sherwood)

'Pre-Covid it worked well because people could come and sit down and chat. We haven't been able to offer the sitting down and chatting since March 2020. However, we have

---

[2] Indices and decile percentages of multiple deprivation according to listed service postcodes were calculated using the English Indices of Multiple Deprivation postcode mapper (English Indices of Deprivation, 2019). Those service postcodes in the top 10% of deprivation are scored as 1, and those in the bottom 10% as 10. We further grouped the areas into high deprivation (if scoring 1-3 in the percentage decile), medium deprivation (if scoring 4-7 in the percentage decile), and low deprivation (if scoring 8-10 in the percentage decile) so that we can compare responses from distinct groups of deprivation.

delivered to people who are living alone so have been able to offer a smile and a few words on doorsteps' (Deprivation level 3, Medium organisation, Fintham)

'We work in a person-centred way meaning we tailor our support based on an individual's precise needs. This means we can work to find the exact services or activities that will help our service users move forwards.' (Deprivation level 2, Large organisation, Nottingham City)

'Extremely effective when we are fully staffed. Unable to recruit fully due to very poor wages.' (Deprivation level 1, Medium organisation, Retford)

This success was achieved through providing person-centered and individualist support, which depended on number of staff available.

The qualitative responses were checked for specific areas of success, and the results of content analysis are reported in Table 1.16. In terms of areas of success, 8 out of the 19 organisations suggested that they have been successful in addressing loneliness. Seven others referred to their success in meeting the service-users' individual needs, as outlined in the needs section, but did not clarify the specific needs to which they were referring. Other areas of success included peer support, support for mental health and stress, connecting individuals to groups, activities, or services, building confidence, and making users feel valued (see Table 1.16). The numbers in the table reflect the number of organisations reporting that specific area of success.

Table 1.16

User needs organisations believe they have succeeded in addressing according to service type

	Service Types				
User needs services believed they have addressed	A	B	C	D	E
Addressing loneliness/isolation and providing companionship	3*		2	3	
Peer support			2		
Help with a specific issue or to access services			1		
Mental health support			1		
Reducing stress				1	

To feel valued and useful			1		
Building confidence				1	
Building volunteer leadership skills					1
Cannot offer our services due to COVID	1				
A safe haven for those who may have experienced "-isms"	1				
Connecting individuals to groups, activities, or services	1	1	1	1	
Meeting individual needs (unspecified)		3	2	2	

Note: Service Types: A = Services addressing loneliness, isolation, and befriending (*n* = 4); B = self-help/peer support/carer groups for people with a variety of health conditions, independent living, financial needs (*n* = 5); C = Services addressing the needs of specific groups (*n* = 4); D = Organisations providing specific services (*n* =5); E = Supporting organisations working with different users (*n* = 1).

* Means that 3 services which address loneliness/isolation/befriending believed that ‘addressing loneliness/isolation and providing companionship’ was a user need that they had succeeded in addressing

Barriers which Prevent Services from Addressing Individual Needs and Reducing Loneliness

The participants reported three categories of barriers in their open-ended responses. The first related to resources, the second to reluctance from service-users to engage with the services, and the third to the different forms of barriers to service access. These are addressed in turn.

Need For More Resources

One of the key barriers was the need for more resources. Some of these barriers were financial (e.g., funding), while others related to skills required for volunteers and employees (e.g., training needed to allow volunteers to work with users who have hearing and speech impairments), as well as the need to enhance existing community resources (e.g., the need for more groups and activities):

> *'Some services / groups have long waiting lists' (Deprivation level 2, Very large organisation, Nottingham)*

> *'The pandemic has been a great barrier* - *we have been unable to open [one of the services], undertake any community activities or do very much research. Our website is out of date, and we are aware that we could have done more online but didn't have the necessary skills to work easily with the present website.' (Deprivation level 3, medium organisation, Fintham)*

Lack of resources had implications for service provision, and thus impacted on service users and staff. While a few organisations felt overwhelmed and had long waiting lists, one reported that they would be happy to welcome more users. On the other hand, a lack of appropriate funding was viewed as associated with an inability to recruit the required staff due to its impact on the wages that could be offered.

Willingness to Engage with Services

Other organisations spoke about members being unable or unwilling to engage with their services digitally during COVID-19. In part this was due to lack of affordability and access to IT knowledge and equipment. On the other hand, some users did not feel physically or mentally capable to engage online, or distrusted technology (especially among the older generation):

> *'We are also effective in addressing individual practical needs, except in those cases where members are unable or unwilling to engage in a digital society. Unable, due to lack of affordability; to physical or mental disability; to lack of support systems e.g., libraries now operating part-time and withdrawing IT mentoring; or unable due to lack of access to funding opportunities available only for employment/re-employment. Unwilling, due to scepticism about the need or value of digitalisation, hostility towards increased digitalising of services, and/or growing mistrust of all things digital.' (Deprivation level 3, Large organisation, Arnold)*

Inability to engage in a confidential manner with some of the members (e.g., because family or other people were present) was a barrier for one of the organisations. They felt this limited the opportunity to fully discuss the service-user's needs:

> *'Sometimes it is hard to find out exactly what the individual needs if there are family members or other people there, as they sometimes speak over or speak for the individual. In this situation it is best to try to find out when you can speak with the individual privately.' (Deprivation level unknown, Large organisation, Nottingham)*

Access Barriers

Another major barrier to the perceived success of services related to access. This took many forms. Firstly, the organisations referred to individuals who do not want to access groups or are unable to for physical or mental health reasons. These vulnerabilities were exacerbated during COVID-19 pandemic. Several organisations did offer one-to-one support to try to meet individual needs at the service-user's home, or on the telephone to reduce the COVID-19 risk. One service representative felt that it is not easy to access the individuals that are most in need, as many potential users are not visible, are unaware of what support is available, or may be reticent about seeking support:

> *'It is not easy to access the individuals that are most in need, so many are not visible or are not aware of what support is out there, or are maybe afraid to reach out.' (Deprivation level unknown, Large organisation, Nottingham)*

Part of this limitation is related to the belief that some potential users do not want to admit they are lonely. In fact, it is likely that it would take courage for a person to approach the services without being referred, and this is in line with research literature and evidence revealing the potentially stigmatising nature of loneliness help-seeking. This is especially the case for those users that experience discrimination due to their identities. Increasing service awareness was presented as a possible solution for those cases where potential users did not know about the existence of services:

> *'It takes a lot of courage for a person to walk in through the front door. It is about admitting to yourself that you are trans and that is not an easy step to make. So,*

> *courage is a barrier. There's also the personal circumstances in that someone may not be 'out' to their family, so how do they manage the practicalities to attend.' (Deprivation level 1, Small organisation, Nottingham)*

Other barriers were about physical access, which was especially problematic for those with limited mobility. One organisation had a location that was potentially accessible, however, they reported that discomfort using public transport can also constitute a barrier to service access.

> *'We are based outside of the town centre, and while there is public transport, not everyone feels comfortable traveling on it.' (Deprivation level 1, Small organisation, Nottingham)*

Additionally, some of the services providing outdoor activities face unique challenges due to weather conditions, especially for less mobile users. Many of these issues were COVID-19 specific or were amplified because of the COVID-19 pandemic, and they will be addressed in the next section.

Changes in Service User Needs since the Onset of the COVID-19 Pandemic

The service-providers were asked to report on whether the COVID-19 pandemic has caused changes to service-users' needs. Two organisations (one providing a specific activity and the other working with a specific group) reported that there had been no change in needs.

The 17 organisations who believed that there had been a change in service-users' needs attributed this change to the changed nature of social interactions (e.g., social distancing), isolation of users and providers (e.g., due to fear of infection), and the different forms through which many of these services could be delivered (e.g., the move to socially distant/safer methods):

> *'[There is] more need to find safe activities outdoors; more isolated: higher levels of stress' (Deprivation level 1, Medium organisation, Bulwell)*

Services working with older people highlighted several issues which are specific to this population, in part because of the increased risk of COVID-19 infection and in part due to the advice given to the older people to isolate. The providers spoke about the older people's feeling of marginalisation, which led to them feeling 'rejected, devalued, and redundant'. Some argued that older people were ignored and had lost their voice even more in the pandemic:

> *'Because of their age group, they were marginalised at the onset of the pandemic, making them felt rejected, devalued, and redundant. This has increased their need for companionship with people of their own generation. (Deprivation level 3, Large organisation, Arnold)*

Loss of family and other social contact was also thought to contribute to increased loneliness and isolation (especially amongst the older groups). Longer periods of isolation were believed to lead to more mental health issues and distress. Long periods of isolation led to some groups feeling safer at home and being reluctant to leave the house or engage with activities and different support organisations. For those already feeling isolated and marginalised, the impact of the COVID-19 pandemic on services made them feel abandoned and alone when attempting to deal with their issues:

> *'Losing family members and friends to COVID-19, often without being able to see them or talk to them before they died, has left indelible marks of sorrow, grief and, often, anger and mistrust. Lack of family contacts across the generations and the slowness in some cases for these to resume has left the less resilient members feeling especially lonely and isolated, reluctant to engage in social activities, feeling safer at home and rejecting efforts by well-intentioned organisations to re-engage them with society. Members with their own hinterland, usually the core members of the [detail removed], are more able to fill their own time and to support others.' (Deprivation level 3, Large organisation, Arnold)*

> *‘Social isolation and the fact older people are ignored in normal times. They have no voice at all in a pandemic.’ (Deprivation level 1, Medium organisation, South Nottingham)*

> *‘I began my work during Covid, but from what I understand, older people were already lonely, isolated, and felt invisible.’ (Deprivation level unknown, Large organisation, Nottingham)*

For those who struggled with marginalisation and exclusion, lockdown meant they could be trapped in situations where they could not escape the challenges they were facing, or where they lacked valued peer support:

> *‘COVID-19 and the lockdowns - while absolutely necessary - separated the [detail removed] community. People were left trapped in one identity and many were unable to express who they are at home. This is about being able to talk freely, express opinions, and be truthful about who they are. While meeting online stopped a complete closure, it was not enough and people have really struggled.’ (Deprivation level 1, Small organisation, Nottingham)*

Other providers described how their services had to be withdrawn. Hence, there was a need to develop services that could be delivered, and/or ways of accessing services that were safer. The impact on those providing the services was also important. In fact, the changes required following the pandemic were systemic:

> *‘Voluntary organisations, volunteers and volunteering itself has adapted to meet the needs of people during the pandemic. (Deprivation level 2, Very large organisation, Nottingham)*

The impact of COVID-19 has not stopped, as many remain concerned about the risks of infection, which inhibits them from participating in existing groups and activities:

> *'More people are still having their prescriptions delivered even though they can get them themselves (which we also deliver). More are still wary of going places for social events and mixing.' (Deprivation level 2, Small organisation, Tixford)*

Changes to the Services' Ability to Meet Service User Needs because of the COVID-19 Pandemic

The service providers were asked to report if their services' ability to meet service-user needs had changed since the onset of the COVID-19 pandemic. Overall, 3 out of 19 services reported that the ability to meet services needs had not changed. These three services provided support for loneliness, a specific group, and wider volunteering opportunities respectively. The reasons for these groups perceiving a lack of change were attributed to the successful transfer of all services online, or to the ability to organise activities outdoors:

> *' We moved all our services remotely at the start of the pandemic and didn't stop our support at any moment. We're now working back into face-to-face appointments' (Deprivation level 2, Very large organisation, Nottingham city)*
>
> *'We have been able to continue to provide a service as there is plenty of space and activities take place outdoors' (Deprivation level 1, Medium organisation, Bullwell)*

The 16 organisations that reported a change in their ability to meet users' needs gave several reasons for these changes. During and after the COVID-19 lockdowns, organisations have been unable to offer some (or sometimes any) of the opportunities and activities they previously provided. This was in part due to reduced staff availability, as service providers themselves had to shield/isolate (with some unfortunately falling ill, or even dying due to COVID-19). Reductions in budgets also further limited organisations' ability to pay staff in ways they felt were appropriate. Moreover, some groups relied heavily on older volunteers, who were especially likely to be shielding:

> *'We were not able to offer much face to face so moved to telephone for all but a few people – also [the] ability to help them to engage with community to enable us to withdraw support has been hampered'. (Deprivation level 1, Large organisation, Nottingham)*

> *'The community needs to meet to work as a community. COVID and the perceived risk of infection has kept many people away from the group.' (Deprivation level 1, Large organisation, Nottingham)*

> *'We had to think about delivering and how we could work with some of our volunteers unable to be in the shop because of their ages' (Deprivation level 3, Large organisation, Flintham)*

The pandemic also affected service-users. Those who were especially at risk of COVID-19 were shielding, and thus could not access the services, even if these could be delivered in their homes. Indeed, this is an ongoing issue for those that are still shielding. Some organisations did not have the necessary skills to transfer their activities online or to develop a web presence. However, some organisations had successfully adapted to provide their services online:

> *'We have adapted to provide more online brokerage, support, information and training' (Deprivation level 2, Very large organisation, Nottingham)*

Online presence was an issue for service-users as well. Where services were offered online as a response to lockdown, some groups (especially the elderly) were unable (due to lack of equipment) or unwilling (due to lack of knowledge or trust) to use digital means to engage with them:

> *'This [inability to maintain service during the pandemic] has been answered to a large extent by our lack of success in sourcing suitable IT support for members; such support is available in [name of place] but totally inaccessible to our members in the [name of place]' (Deprivation level 3, Large organisation, Arnold)*

Changes or Adaptations to Organisations' Usual Practice Since the Onset of the COVID-19 Pandemic That They Would Like to Retain

Service providers were asked to indicate if they have made positive changes or adaptations due to the COVID-19 pandemic which they would like to maintain. Positive changes and adaptations reported included telephoning members and being able to share the workload among more service providers. They also reported that remote access could be used as a method to support and monitor the most vulnerable volunteers:

> *'Yes, [we will] keep on phoning members regularly, sharing it out among as many of us as possible.' (Deprivation level 3, Large organisation, Arnold)*
>
> *'We will offer telephone support to people where this is appropriate and often do assessments by phone enabling us to reach more people BUT [emphasis in the original] will still retain face to face where this will be beneficial.' (Deprivation level 1, Large organisation, Nottingham)*

Introduction or increase of outdoor space and park activities was also seen as a sustainable positive change. One service reported improved communication, but it is not clear what caused this. Another reported using activities to do at home with accompanying videos:

> *'More covered spaces to allow distancing yet also some protection to volunteers; some projects including activities to do at home with accompanying videos' (Deprivation level 1, Medium organisation, Bullwell)*

Other technology-related changes were in the form of a website that could be more flexible and user friendly to access. Hybrid approaches of online and face-to-face were also seen as beneficial to meet the needs of different types of service-users and online meetings enabled safety whilst the risks of the pandemic continue:

> *'Yes, I would like to retain the flexibility of online service delivery while exploring ways to reach people, especially digitally excluded people, through a series of face to face Volunteer Centre sessions in community venues across the city.' (Deprivation level 2, Very large organisation, Nottingham)*

> *'Yes, our real-world meetings are twice a month and we now have virtual meetings in between. These allow some social catch up and help new attendees meet safely.' (Deprivation level 1, Small organisation, Nottingham)*

Use of masks (which has continued into the present) was perceived to be beneficial for protecting against other illnesses as well:

> *'The wearing of masks in the vehicle is continuing and most of the volunteers prefer this. It is a way of protecting themselves from other illnesses (colds and flu).' (Deprivation level 2, Very large organisation, Tixford)*

Availability of Resources to Deliver Services Effectively

Participants were asked to indicate if their organisations had the required resources to deliver their services effectively. The service providers were asked to rate their agreement with four statements from 1 = totally disagree to 7 = totally agree, with 4 = neither agree nor disagree. Nineteen service representatives responded, and responses are summarised in Table 1.17a.

Table 1.17a

Organisations' perceptions of their resources (Average Scores)

Survey Item	**Mean** (1=Totally Disagree – 7=Totally Agree)	**Standard Deviation**
We have enough resources to deliver our service effectively	3.84	1.64
We have enough staff to deliver our service effectively	3.50	1.79
We have the ability to reach those who would benefit from our service most	3.89	1.52
We know how to access support from local or national government when we need to	3.89	1.85

Table 1.17a shows the average response on each item and illustrates a series of mid-point averages with similar spread of scores across organisations. In order to gain more granularity in the analysis of responses, the exact responses provided by the organisations are provided in Table 1.17b.

Table 1.17b

Organisations' perceptions of their resources (frequency of scores across all items)

Survey Items	Totally Disagree	Slightly Disagree	Disagree	Neither Agree Nor Disagree	Slightly Agree	Agree	Totally Agree
We have enough resources to deliver our service effectively	1	4	4	2	4	4	0
We have enough staff to deliver our service effectively	2	1	6	2	4	3	0
We have the ability to reach those who would benefit from our service most	1	4	3	3	5	3	0
We know how to access support from local or national government when we need to	2	0	5	3	4	5	0

As can be seen in Table 1.17b, responses are on average below the mid-point. Perhaps most notably, the organisations generally do not feel they have enough staff to deliver their services effectively. However, the responses were varied, with some organisations feeling they had the right resources, staff, ability and access, and others reporting they did not have enough (See Table 1.17b). Many others were in-between these two extremes, and whilst around half of organisations indicated they knew how to access support resources, approximately half did not possess this knowledge. This is an area of concern moving forward.

As part of the question about support for the organisations, the services were then asked to indicate if there is anything else they would like to add on the topics mentioned in these four statements (i.e., resources, staffing, ability to reach beneficiaries, and accessing support from Government). Many provided further information. Several organisations reported on the perceived benefits of having access to more funding:

> *'Our number of volunteers has increased and this puts pressure on the employees to support their various needs. More funding for additional support required.' (Deprivation level 1, medium organisation, Bullwell)*

Others reported a lack of support from national or local Government, and the increased difficulties that charities (especially those that were smaller in absolute terms, or those that perceived themselves as being smaller in relation to larger national organisations) face in accessing support. This lack of support was seen as problematic when attempting to provide services for service-users, but also when attempting to support the volunteers who offered their time to the organisation.

> *'As a small charity there has been very little support from government or local government - it is increasingly hard for charities to access funding for core costs which enable them to operate.' (Deprivation level 1, Large organisation, Nottingham)*

Difficulties with finding volunteers was also raised. Lack of access to IT was seen as a related issue:

> *'We are always struggling to find volunteers to run all aspects of the community shop.' (Deprivation level 3, medium organisation, Flintham)*
>
> *'The problem is that everyone thinks we all have access to computers and internet.' (Deprivation level 1, Very Large organisation, Nottingham)*

Some of the service providers did not have the required organisational knowledge to answer these questions because it was not part of their role.

Financial or Operational Support Received

The providers were asked to report on support received from any other organisation such as local or national government, third sector organisations, emergency funding bodies, or NHS partners. Support was reported (verbatim) as having come from the following organisations: Borough Council, Local Council, Nottingham County Council, Nottingham Women's Centre, National Lottery, Nottingham City Homes, Nottingham Community and Voluntary Service (CVS), government organisations, third sector grants, National Health Service (NHS), and Patient Participation Groups (PPG). However, this support was often reported to be limited to specific types of expenses.

When asked if they felt their service is well-supported by these sources, 11 (58%) reported feeling supported, 7 (37%) felt not supported, and 1 (5%) did not respond. Those who did not feel supported were asked to specify what support they would like to receive from these sources and why. One organisation (*n*=1) explained that commissioners should consider operational costs and offer grants that enable care costs to be met.

> *'Commissioners could consider what operational support they may be able to offer in lieu of actual funding and consider grants which would enable core costs to be met' (Deprivation level 1, Large organisation, Nottingham)*

One provider (*n*=1) spoke about the need for funding to improve their services, as well as the need for multi-year funding so that they can plan ahead. Another provider (*n*=1) explained that they would like to receive better wages, relevant training, up to date technology, and a development ladder so they can improve wages and allow employees to feel valued.

> *'A proper wage, relevant training, up to date technology and a development ladder so we can improve our wage and feel valued.' (Deprivation level 1, Medium organisation, South Nottingham)*

Another provider (*n*=1) explained that they would like the national government and national public sector bodies to recognise and respond to local needs appropriately:

> *'I would like national government, and national public sector bodies to recognise that local needs require a local response. Top-down volunteering initiatives are not as effective as support for local needs identified and met by local people' (Deprivation level 2, Very large organisation, Nottingham)*

Another provider (*n*=1) explained the importance of better connection between the services:

> *'It would be good if there was a mechanism to link volunteers from different communities so that we could learn from each other about different ways of doing things.' (Deprivation level 3, Large organisation, Flintham)*

One service (*n*=1) found that the local government grant team's reporting processes to be a barrier to their applying for funds, because member privacy is a key need for their service users:

> 'I *would add that the recent local government grants required so much intrusive reporting that we had to walk away from applying for those much-needed funds. Our members need their privacy, and I was frustrated that the local grant could not flex on that. Not all groups can be open about their members names.' (Deprivation level 1, Large organisation, Nottingham)*

The remaining services emphasised the importance of increasing speed of obtaining funding (*n*=1), another emphasised the importance of having more finances (*n*=1), and the final service (*n*=8) praised the organisation who continuously supported them.

Likelihood of Services Being Operational in the Next 12 Months

Service providers were asked to indicate how likely they think it is that their service will still be able to operate within the next 12 months, with 0=extremely unlikely, 1=somewhat unlikely, 2=neither likely nor unlikely, 3=somewhat likely and 4=extremely likely. For the 18 service providers that responded to this question, the average score across responses was 3.17 (standard deviation = 1.04). The range of scores across all service representatives is provided below.

Table 1.18

Number of services who gave each response to the question on future sustainability of their service

How likely do you think it is that your service will still be able to operate within the next 12 months?			
Somewhat Unlikely	Neither Likely nor Unlikely	Somewhat Likely	Extremely Likely
2	2	5	9

It is encouraging that most services feel that they are somewhat likely or extremely likely to be operating in the next 12 months. However, it is also concerning that two services believed that this is unlikely. While we did not collect direct explanations for these answers, the answers to previous questions are an indication of potential reasons. Both services which reported that they are unlikely to operate within the next 12 months reported not having adequate resources to deliver the services effectively. One reported the pandemic to be a large barrier to service provision, and the other reported a lack of funding and an inability to pay their staff well.

Deprivation Index Based on the Service Locations

Although we had planned to only survey 10% of the services, we had to contact almost all services to allow for a 10% overall response rate. Given the low response rate of services contacted for information, the following data should be interpretated with caution. As stated at the start of this study, there could be several reasons why services did not participate in the survey study. In order to explore trends in the dataset according to levels of local deprivation, the service's postcode was used to understand the indexes of deprivation of that area. Thus, the deprivation index is based on the postcode of where the service is listed as being located, which does not necessarily represent the areas the service actually serves. In some cases, the head office postcode was used, or if it was not possible to establish where exactly the service was located based on responses, publicly available listings, or the database created in Study 1A was used (*n*=3). Despite these caveats, postcode data can be useful for planning future services and understanding the geographical spread of these services.

Indices of multiple deprivation were calculated using the English Indices of Multiple Deprivation postcode mapper (English Indices of Deprivation, 2019). The scores present the level of deprivation based on individual scoring of over 32,800 small English neighbourhood areas. Services scoring closer to 1 indicate higher deprivation and those scoring closer to 32,800 indicate lower deprivation. Each score can be converted into the decile of the percentage where the scores for each service postcode fall. For example, those in the top 10% of deprived areas are scored as 1, and those in the bottom 10% as 10. We further grouped the areas into high deprivation (if scoring 1-3 in the percentage decile), medium deprivation (if scoring 4-7 in the percentage decile) and low deprivation (if scoring 8-10 in the percentage decile) so that we can compare responses from distinct areas of deprivation. This general grouping will enable exploration of some of the key features of the services that took part in the survey.

Overall, 5 services were classed as being in the low deprivation category, 9 in the medium deprivation category, and 17 in the high deprivation category. Information from 3 services was missing. Based on these deprivation groupings, Table 1.19 presents some overall features of the different services. The services in high deprivation groups had a higher number of employees, volunteers, and service-users, both in the past three months and in the present. However, the main differences between groups are due to two very large services which have their head offices located in high deprivation areas (e.g., city centre) and branches in other areas. This limits the opportunities of deriving definitive conclusions from these findings.

Table 1.19

Key features of each service and summary based on level of deprivation groupings

Variable	Overall	High Deprivation (n=17)	Medium Deprivation (n=9)	Low Deprivation (n=5)	Missing deprivation scores (n=3)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Number of Employees	41.4 (134.8)	68.9 (187.8)	21.4 (34.7)	0 (0)	19.25 (18.6)
Number of Volunteers overall	31.4 (47.3)	37.7 (92.0)	26.6 (39.1)	19.0 (18.7)	22.5 (26.3)
Service Users in the Past 3 Months	179.5 (246.9)	244.4 (305.4)	219.0 (212.7)	27.2 (32.0)	65.0 (21.2)
Current Service Users	102.4 (137.3)	149 (177.5)	105.6 (71.8)	16.2 (24.9)	42.5 (10.6)
Number of volunteers in the branch	32.9 (51.4)	46.0 (70.9)	34.3 (39.1)	8.8 (8.4)	23.5 (16.3)

Participants were asked to indicate if their organisations had the required resources to deliver their services effectively (overall scores can also be found in table 1.17a). The service providers were asked to rate their agreement with four statements from 1 = totally disagree to 7 = totally agree, with 4 = neither agree nor disagree. Table 1.20 reports the responses for overall scores and each category of deprivation. Comparisons across the groups remains extremely limited because none of the services in the low deprivation category answered these questions. On average, services in the high deprivation category neither agreed nor disagreed that they have adequate resources to deliver their services effectively, while those in the medium deprivation category tended towards the disagree answers. The questions around having enough staff or ability to reach those that would benefit the most indicate higher scores in the medium deprivation category, but even these do remain in the ‘neither agree nor disagree’ answers on average. The answers to the final questions indicate that services in the high deprivation category have a better knowledge about how to access services compared to those in the medium deprivation category.

Table 1.20

Organisations' perceptions of their resources (Average Scores)

Survey Items (1=Totally Disagree – 7=Totally Agree)	**Overall scores**	**High Deprivation (n=17)**	**Medium Deprivation (n=9)**	**Low Deprivation (n=5)**	**Missing deprivation scores (n=3)**
	Mean (SD)	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**
We have enough resources to deliver our service effectively	3.84 (1.64)	4.4(1.4)	3.8(1.7)	No answers	3.0(1.54)
We have enough staff to deliver our service effectively	3.50 (1.79)	3.4(1.1)	4.4(1.5)	No answers	3.7(2.16)
We have the ability to reach those who would benefit from our service most	3.89 (1.52)	3.7(1.4)	4.5(1.5)	No answers	3.3(1.86)
We know how to access support from local or national government when we need to	3.89 (1.85)	5.0(1.4)	4.0(1.8)	No answers	3.3(1.4)

Service-providers were asked to indicate how likely they think it is that their service will still be able to operate within the next 12 months, with 0=extremely unlikely, 1=somewhat unlikely, 2=neither likely nor unlikely, 3=somewhat likely and 4=extremely likely. Given the level of missing data and small number of responses we cannot run statistical tests on these data. The overall distribution of responses also does not seem to indicate any patterns across the deprivation categories.

Table 1.21

Number of services who gave each response to the question on future sustainability of their service

Variable	**Overall**	**High Deprivation (n=17)**	**Medium Deprivation (n=9)**	**Low Deprivation (n=5)**	**Missing deprivation scores (n=3)**
Somewhat Unlikely	2 (6%)	1 (6%)	0 (0%)	0 (0%)	1 (33%)
Neither Likely Nor Unlikely	2 (6%)	1 (6%)	0 (0%)	1 (20%)	0 (0%)
Somewhat Likely	5 (15%)	1 (6%)	3 (33%)	1 (20%)	0 (0%)
Extremely Likely	8 (23%)	3 (18%)	2 (22%)	1 (20%)	2 (67%)
Missing	17 (50%)	11 (65%)	4 (44%)	2 (40%)	0 (0%)

The service-providers were asked to report if they feel they are well supported financially and/or operationally by local/national Government, Third Sector Organisations, emergency funding bodies, or NHS partners. Overall responses and responses based on deprivation category can be found in table 1.22. Given that most services fall in the high deprivation category, it would seem that the majority of these services do not feel supported. The majority of those in the land medium deprivation categories feel supported (although the number of missing data points mean these results should be interpreted with caution).

Table 1.22

Ability to meet needs due to COVID

Well supported financially	**Overall Mean (SD)**	**High Deprivation (n=17)**	**Medium Deprivation (n=9)**	**Low Deprivation (n=5)**	**Missing deprivation scores (n=3)**
Yes	11	2	4	3	2
No	8	6	1	0	1
Missing	15	9	4	2	0

Study 1A and 1B Discussion

In Study 1A, the search of four main databases identified 213 services operating within Nottingham City and Nottinghamshire by November 2021. Of these, 69 (32%) directly targeted loneliness and social isolation as a primary aim, and 144 (68%) indirectly addressed loneliness as a secondary aim. Nearly 72% operated with special groups such as elderly people, people with mental health needs, and young people. Information on delivery type was mostly missing (66%), but where available it indicated that the majority of delivery was face-to-face. There was too much missing information on geographical location to analyse this dimension meaningfully. However, information on whether the service was local or national indicated that the majority of services (58%) were only operating locally.

Study 1B used a survey methodology to explore the current practice and challenges experienced by loneliness services in Nottingham City and Nottinghamshire. Overall, 35 services took part in the survey, and they were spread across many parts of Nottinghamshire. Many of these delivered services aiming to address loneliness and isolation directly, while others acknowledged the positive effect that their services would indirectly have on reducing loneliness and isolation. A few services did not refer to loneliness or isolation directly, but their services aimed to address some of the socio-economic disadvantages that specific groups in Nottinghamshire may face. Existing research has shown the benefits that can be derived regarding reductions in the subjective experience of loneliness, especially when receiving support which helps people to access services or address economic challenges. Given some of the concerns raised by our service-providers regarding the reluctance of some service-users to acknowledge that they are lonely or to seek help for loneliness, having services that on the surface do not appear to address loneliness might be beneficial. The form of service provision was also very varied. Over half of the organisations reported user participation in groups, community activities, or social meetings. The next most frequent form was the provision of individual interpersonal support, although this was much lower. The number of employees, volunteers, and service-users varied across the organisations. Most, however, operated with under 20 employees/volunteers and had fewer than 100 estimated users in the three months before completing the survey.

Service-providers described a wide range of service-users' motivations and needs when accessing their services. Loneliness/isolation and need for companionship was identified as the primary motivation for attending services and the key service-user need. Provision of help and support in different forms (including financial) was the next most frequent motivation and need identified. Provision of help and support can indirectly contribute to reducing loneliness and isolation.

Many of the organisations reported having had to adapt due to the social distancing required during the pandemic. Only two organisations felt that they had not been able to provide their services successfully during this period. The perceived areas of success focused on loneliness, creating connections, and providing support or access to other services. The organisations engaged in depth with the question about barriers to addressing individual needs and reducing loneliness. They frequently raised issues around limited resources and staff. They reported on service users', and sometimes staffs', reluctance to engage face-to-face or on the telephone during the pandemic. Risk to both staff/volunteers and service users was seen as an important barrier to service delivery. Mental and physical health issues were also perceived as key barriers to accessing services, reflecting similar issues identified in previous literature (e.g., Kellezi et al., 2019). However, these issues were amplified during the pandemic, as physical health was further threatened by the virus, and mental health by isolation caused by social distancing rules. Older people, but also some stigmatized and marginalised groups, were perceived to have suffered particularly during the pandemic, and faced additional concerns and burdens that added to their feelings of loneliness and alienation.

The pandemic was central to some of the changes in the ways in which the organisations have operated in the last 18 months. Many organisations were able to successfully continue working during the pandemic, although the majority had been affected in terms of their ability to meet service-user needs. The organisations reflected on positive changes that hybrid working (face-to-face and online/telephone) could bring for the work they do. However, some organisations struggled, and a few could not operate at all. The organisations recognised the challenges ahead, as they felt that the pandemic is not yet resolved. They felt that access to IT resources and training could help them operate more successfully in the future.

In terms of support received and perceived support needs going forward, these were also varied. Some organisations reported that they had received no support, and they raised questions about their ability to operate in the future. Others felt more supported, and saw themselves as being likely to be able to operate in the near future. While the majority could foresee a sustainable future for their service, two services did not feel confident they would still be operating in 12 months' time.

The services participating the survey could be grouped as mostly having offices located in high deprivation areas (nearly half) while the others were in medium deprivation areas (if scoring 4-7 in the percentage decile) and low deprivation areas (if scoring 8-10 in the percentage decile). The low response rate meant that it was not possible to draw any firm conclusions by comparing answers from services located in different deprivation areas. The only possible difference was on whether services felt well supported: those in high deprivation areas were more likely to have reported that they did not feel supported compared to those in medium and low deprivation areas.

Care must be taken when looking at these results because the organisations that participated in the survey and that answered the in-depth qualitative analysis are only a small proportion of overall services within the database (although the responses exceed the requested 10%). It is likely that their ability to engage in the study itself indicates their possession of resources (i.e., in terms of staff time to respond) that other organisations may not have had. Nonetheless, many participating organisations reported staff time and funding for staff as their primary concerns.

Study 2

Introduction

The primary purpose of this online survey study was to explore Nottinghamshire residents' knowledge of, engagement with, and experiences of loneliness services. Other key aims were to investigate participants' levels of mental health and wellbeing, and to explore the relationships between participants' feelings of loneliness, social connectedness, mental health, and physical health. Three waves (or timepoints) of survey data were collected. Participants were asked the same survey questions at the second timepoint of the survey, which took place around two months after they were asked the questions at the first timepoint. Participants were then asked the same survey questions at the third timepoint of the survey, which took place around two months after they were asked the questions at the second timepoint. Doing this enables an exploration of the order in which the variables occur in time (e.g., does social connectedness at Time 1 predict mental health at Time 2?). We present results for all three timepoints of data in this report.

Method

Participant Recruitment, Data Collection, and Data Cleaning

Participants living in Nottinghamshire were invited to complete an online survey, which took them 15-20 minutes. Time 1 (T1) data were gathered between September 24th and November 11th 2021. Participants were recruited via one of two methods. Four hundred and sixty-two participants were recruited via the participant recruitment website Prolific Academic. The study was only advertised to Prolific Academic users who stated that they lived in Nottinghamshire (based on their postcode). Based on Prolific Academic's payment recommendations, participants who completed the survey received £2.50. Of the four hundred and sixty-two participants who were recruited via Prolific Academic, ten closed the survey before providing enough analysable data and one did not live in Nottinghamshire, so they were removed from the data-file, leading to a total of four hundred and fifty-one participants.

Five hundred and eighty-four additional participants were recruited by sharing the survey web-link within Nottinghamshire communities (e.g., via community organisations and social media groups). Participants who completed the survey and met the eligibility criterion of living in Nottinghamshire received a £10 shopping voucher. Once the one hundred and eleven incomplete responses, one hundred and fifteen non-UK responses, one non-Nottinghamshire response, seven duplicate responses, and six blank responses (totalling 240 responses) were removed from the data-file, data for three hundred and forty-four participants remained.

The data for these three hundred and forty-four participants were combined with the data for the four hundred and fifty-one Prolific Academic participants, leading to a final data-file containing data for seven hundred and ninety-five participants (226 male, 553 female, 15 non-binary, 1 other; mean age = 35.08 years, standard deviation = 12.22 years, age range = 18-83 years). Unless otherwise stated, the following data analyses involve the combined data-file. Although this is not a representative sample of Nottinghamshire residents (for example, the data included significantly more females than males), it allows us to explore a broad range of residents’ scores on a range of relevant variables, as well as the nature of the relationships between those variables.

Around two months later, the seven hundred and ninety-five T1 participants were contacted again (either via Prolific Academic or via email, depending on their method of recruitment at T1) and were invited to complete the Time 2 (T2) survey. Data collection took place between November 29th 2021 and January 17th 2022. This survey contained the same measures/questions as the T1 survey (minus the demographic questions). Participants received additional payment for completing the T2 survey. Five hundred and fourteen (64.65%) of the T1 participants completed the T2 survey (368 Prolific Academic participants, 146 Nottinghamshire services participants; 128 male, 378 female, 7 non-binary, 1 other; mean age = 35.44 years, standard deviation = 12.73 years, age range = 18-83 years). The period between the T1 and T2 surveys ranged from 17.16 days to 113.39 days (mean = 63.07 days, standard deviation = 12.99 days).

We compared T1 participants who did complete the T2 survey with T1 participants who did not complete the T2 survey. They differed to a statistically significant extent on their responses to the following variables: number of loneliness services with which participants engaged, extent of the perceived barriers to accessing loneliness services, strength of perceived community support, personal wellbeing, depression, anxiety, and perceived stigma of seeking mental health help. Each of these variables was scored significantly higher at T1 ($p < .05$, meaning that there is a less than 5% probability of obtaining this difference by chance) for participants who did not complete the T2 survey (except for wellbeing, which was higher for participants who did chose to complete T2):

Around two months later, the seven hundred and ninety-five T1 participants were contacted again (either via Prolific Academic or via email, depending on their method of recruitment at T1) and were invited to complete the Time 3 (T3) survey. Data collection took place between February 1st and February 24th 2022. This survey contained the same measures/questions as the T2 survey. Participants received additional payment for completing the T3 survey. Four hundred and eighty-two (60.63%) of the T1 participants completed the T3 survey (286 Prolific Academic participants, 196 Nottinghamshire services participants; 112 male, 360 female, 9 non-binary, 1 other; mean age = 36.43 years, standard deviation = 12.88 years, age range = 18-83 years). The period between the T2 and T3 surveys ranged from 16.26 days to 84.25 days (mean = 62.17 days, standard deviation = 8.20 days).

We compared T1 participants who did complete the T3 survey with T1 participants who did not complete the T3 survey. They differed to a statistically significant extent on their responses to the following variables: age, perceived availability of loneliness services, perceived satisfaction with loneliness services, strength of perceived community support, loneliness, self-rated health, and number of doctor appointments in the last three months. Each variable was significantly higher for participants who did not complete T3 (except for age, loneliness, and number of doctor appointments in the last three months, which were higher for participants who completed T3):

For ease of analysis in relation to age, the participants were categorised into age four age groups: 18-25 years (181 T1 participants, 117 T2 participants, 94 T3 participants), 26-45 years (467 T1 participants, 293 T2 participants, 283 T3 participants), 46-65 years (124 T1 participants, 87 T2 participants, 87 T3 participants), and over 65 years (23 T1 participants, 17 T2 participants, 18 T3 participants).

A summary of the additional demographic information for the sample can be found in Table 2.1, and a comparison of the gender, ethnicity, and age data in the present study with contemporary gender, ethnicity, and age data from the Office for National Statistics (ONS) can be seen in Table 2.2. We have compared our data with ONS data in order to identify the extent to which the demographics dimensions of our participants mirror the demographics of the wider Nottinghamshire population based on the ONS data (please see the Study 2 Discussion for an account of this exploration). Additionally, the range of postcode areas in which the T1 participants live can be seen in Figure 2.1.

Table 2.1

Key demographic information for the sample at Time 1 (T1), Time 2 (T2), and Time 3 (T3)

Variable	Categories	T1 %	T1 Number	T2 %	T2 Number	T3 %	T3 Number
Gender	Male	28.43%	226	24.90%	128	23.24%	112
	Female	69.56%	553	73.54%	378	74.69%	360
	Non-binary	1.88%	15	1.37%	7	1.87%	9
	Other	0.13%	1	0.19%	1	0.20%	1
Ethnicity	White UK	80.50%	640	80.74%	415	81.95%	395
	White Irish	0.88%	7	0.58%	3	0.83%	4
	White Other	6.42%	51	5.84%	30	5.81%	28
	Asian	5.16%	41	5.06%	26	1.87%	9
	Black	2.64%	21	2.72%	14	2.90%	14
	Mixed Race	2.77%	22	3.50%	18	1.04%	5
	Other	0.88%	7	0.97%	5	0.83%	4
	Prefer not to say	0.75%	6	0.59%	3	0.00%	0
Relationship	Single	27.92%	222	30.74%	158	29.88%	144
	Relationship	35.60%	283	37.16%	191	34.44%	166
	Married/civil partnership	31.44%	250	27.43%	141	29.67%	143
	Divorced/civil partnership dissolved	3.90%	31	3.31%	17	4.56%	22
	Widowed/civil partner died	1.01%	8	1.36%	7	1.24%	6
	Other	0.13%	1	0%	0	0.21%	1
Sexuality	Straight	76.98%	612	77.63%	399	77.59%	374
	Gay/lesbian	7.04%	56	6.81%	35	6.85%	33
	Bisexual	12.45%	99	12.26%	63	11.83%	57
	Pansexual	0.38%	3	0.19%	1	0.21%	1
	Queer	0.38%	3	0.58%	3	1.04%	5
	Asexual	1.01%	8	1.17%	6	0.41%	2
	Demisexual	0.13%	1	0.19%	1	0.62%	3
	Other	0.25%	2	0.39%	2	1.45%	7
	Prefer not to say	1.38%	11	0.78%	4		
Disability	No	83.82%	663	85.18%	437	80.71%	389
	Yes	14.92%	118	14.04%	72	17.84%	86
	Prefer not to say	1.26%	10	0.78%	4	0.62%	3
Living Arrangement	Alone	16.11%	128	16.93%	87		88
	With partner	24.65%	196	25.29%	130	24.90%	120
	With partner and child/ren	30.82%	245	27.43%	141	28.63%	138
	Just with child/ren	2.89%	23	3.31%	17	3.73%	18
	With other family members	15.47%	123	16.34%	84	14.94%	72
	With friends	8.43%	67	8.75%	45	7.26%	35
	In a residential home	0.50%	4	0.78%	4	0.62%	3
	Other	1.13%	9	1.17%	6	1.66%	8
Born in UK	Yes	86.67%	689	86.19%	443	86.51%	417
	No	13.33%	106	3.81%	71	13.49%	65
Employment	Full-time employed	49.69%	395	48.44%	249	46.27%	223
	Part-time employed	15.09%	120	14.01%	72	16.80%	81
	Self-employed/freelance	4.65%	37	4.86%	25	4.56%	22
	Full-time student	10.69%	85	12.84%	66	10.58%	51
	Part-time student	0.25%	2	0.39%	2	0.00%	0
	Student who also works	0.63%	5	0.78%	4	0.83%	4
	Housewife/househusband	4.40%	35	4.47%	23	4.77%	23
	Carer	2.14%	17	1.75%	9	2.90%	14
	Retired	3.27%	26	3.89%	20	4.15%	20
	Unemployed	6.04%	48	5.84%	30	6.22%	30
	Unemployed but doing unpaid work	0.88%	7	0.58%	3	0.62%	3
	Disabled	0.50%	4	0.39%	2	0.41%	2
	Employed but on sick leave	0.50%	4	0.78%	4	0.41%	2
	Employed but on maternity/paternity leave	1.01%	8	0.78%	4	0.41%	2
	Other	0.26%	2	0.20%	1	0.41%	2

Table 2.2

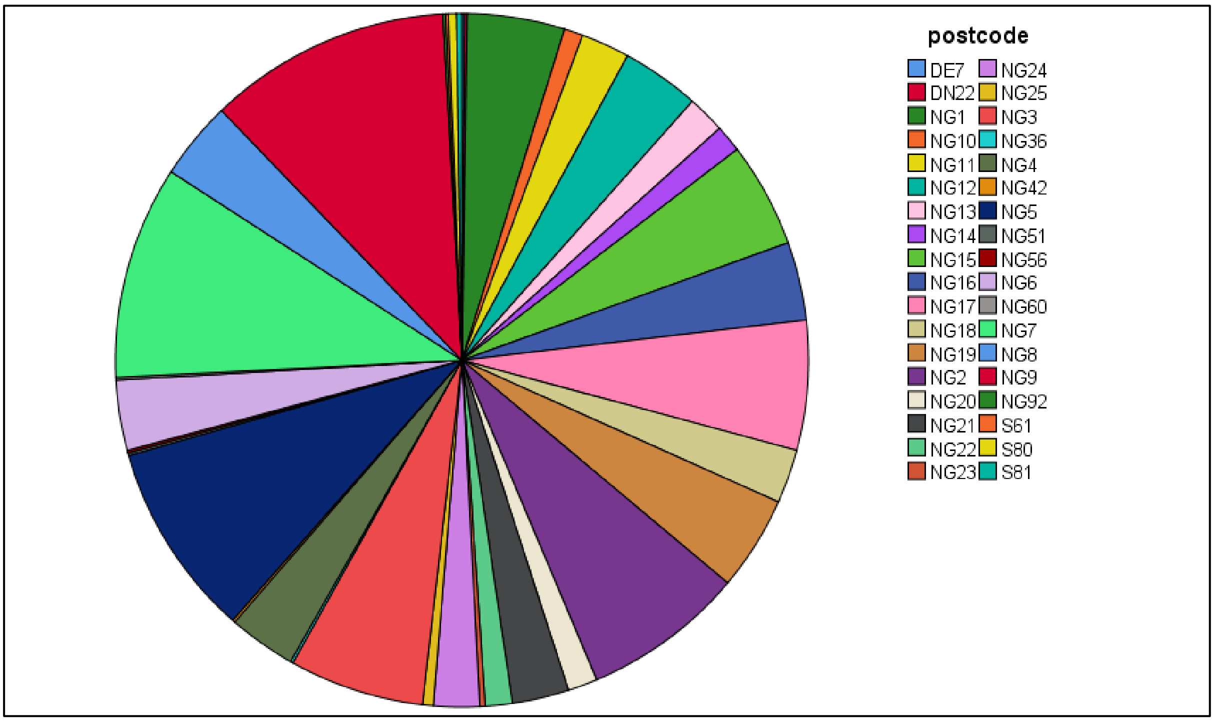
Comparing ONS data and data from the present study at Time 1 (T1), Time 2 (T2), and Time 3 (T3): gender, ethnicity, and age

Variable		**ONS Data: Nottingham**	**ONS Data: Nottinghamshire**	**Present Study T1**	**Present Study T2**	**Present Study T3**
Gender	Male	50.31%	49.21	28.43%	24.90%	23.24%
	Female	49.69%	50.79%	69.56%	73.54%	74.69%
Ethnicity	White UK	65.40%	92.60%	80.50%	80.74%	81.95%
	White Irish	0.90%	0.50%	0.88%	0.58%	0.83%
	White Other	5.20%	2.40%	6.42%	5.84%	5.81%
	Asian	13.10%	1.90%	5.16%	5.06%	1.87%
	Black	7.30%	0.70%	2.64%	2.72%	2.90%
	Mixed Race	6.70%	1.40%	2.77%	3.50%	1.04%
Age (years)	15-19	8.53%	6.70%	3.65%	3.70%	3.32%
	20-24	14.78%	9.75%	15.85%	15.37%	12.66%
	25-29	9.77%	7.81%	17.36%	19.26%	17.22%
	30-34	7.12%	6.71%	20.25%	17.90%	19.29%
	35-39	5.98%	6.07%	13.84%	13.81%	15.98%
	40-44	5.24%	5.76%	9.31%	8.17%	8.30%
	45-49	5.12%	5.98%	7.04%	7.39%	7.26%
	50-54	5.30%	6.29%	5.03%	5.25%	6.02%
	55-59	4.95%	6.10%	2.89%	3.89%	3.53%
	60-64	4.08%	5.11%	1.64%	1.75%	2.28%
	65-69	3.43%	4.47%	1.38%	1.36%	1.87%
	70-74	3.00%	4.44%	0.88%	0.97%	1.04%
	75-79	2.01%	3.12%	0.75%	0.97%	1.04%
	80-84	1.55%	2.29%	0.13%	0.19%	0.21%
	85-89	1.00%	1.41%	0.00%	0.00%	0.00%
	90+	0.62%	0.80%	0.00%	0.00%	0.00%

Note: ONS gender and ethnicity data are from the 2011 census via ons.gov.uk/2011census. ONS age data are from the official estimates of the population at mid-2020 via nottinghaminsight.org.uk/Document-Library/Document-Library/aAXGKdr. For the ONS age data, Nottinghamshire is defined as ‘Greater Nottingham’ (including Nottingham, Broxtowe, Gedling and Rushcliffe, plus the 2020 ward estimates for the Hucknall part of Ashfield). Some totals may not be 100%: this may be due to rounding, or because some participants are not included in the data (e.g., non-binary participants in the present study are not included in the gender columns). Although the age categories begin at 15-19 years, this is due to the ONS using these age groupings: all the participants in the present study were aged 18 or older.

Figure 2.1

Pie chart depicting the range of postcode areas for the T1 participants



Four hundred and eight participants completed all three (T1, T2, and T3) surveys (285 Prolific Academic participants, 123 Nottinghamshire services participants; 94 male, 306 female, 7 non-binary, 1 other; mean age = 36.05 years, standard deviation = 12.84 years, age range = 18-83 years).

Survey Measures

- *Demographic variables* (e.g., gender, age, ethnicity, employment status, sexual orientation, living situation, disability status, place of birth).
- *Engagement with loneliness services* was measured by asking participants "How many services, resources, or groups that aim to increase social connection (e.g., meeting others) and/or reduce loneliness within Nottingham City or Nottinghamshire have you engaged with?" and "How would you rate the availability of services, groups or resources within Nottingham and Nottinghamshire that aim to increase social connection and/or reduce loneliness?". On this latter item, participants could score between 1 ("very poor") and 5 ("very good").
- *Opinions towards loneliness services* were measured by asking participants to select one main service that they use and to answer the following questions: "How satisfied

are you with this service?” (participants could score between 1 (“extremely dissatisfied”) and 5 (“extremely satisfied”), with higher values indicating more satisfaction); “How frequently in a typical month do you engage with this service?” (participants could score between 1 (“less than once a month”) and 6 (“more than four times a month”), with higher values indicating greater frequency); and “How would you rate the quality of this service?” (participants could score between 1 (“very poor”) and 5 (“very good”), with higher values indicating higher quality).

- *Barriers to accessing loneliness services* was measured with an adapted version of the Instrumental Barriers sub-scale of the Barriers to Access to Care Scale (Clement et al., 2012). Participants rated the extent to which each barrier stopped, delayed, or discouraged them from accessing loneliness services. Participants could score between 0 (“not at all”) and 3 (“a lot”) on the overall measure, with higher values indicating a larger negative effect of the barriers.
- *Loneliness* was measured using the Office for National Statistics (2018) Loneliness Measure (e.g., “how often do you feel that you lack companionship?”). Participants could score between one (“never”) and five (“always”), with higher values indicating higher loneliness.
- *Wellbeing* was measured with the Office for National Statistics Personal Wellbeing Scale (Benson et al., 2019; e.g., “I am satisfied with my life”). Participants could score between 1 (“I disagree) and 4 (I strongly agree”), with higher values indicating better personal wellbeing.
- *Mental health* was measured with the Depression, Anxiety, and Stress Scale (Wise et al., 2017; e.g., “I found it hard to wind down”). Participants rated how they felt during the past week and could score between 0 (“did not apply to me at all”) and 3 (“applied to me very much, or most of the time”) for each item. Participants could score between 5 and 20 for depression, between 3 and 12 for anxiety, and between 6 and 24 for stress, with higher values indicating higher levels of depression/anxiety/stress.
- *Physical health* was measured with a Single Item Subjective Health Measure (Idler et al., 1990). Participants were asked “How would you rate your health at the present time?”. Participants could score between 1 (“bad”) and 5 (“excellent”), with higher values indicating better health

- *Number of doctor appointments* was measured by asking participants to state the number of doctor/General Practitioner appointments they had attended in the last three months.
- *Staying connected during COVID-19* was measured by asking participants “To what extent have you been able to stay connected to your groups during the COVID-19 (Coronavirus) pandemic?” and “To what extent have you been able to use technology to stay connected to your groups during the COVID-19 (Coronavirus) pandemic?” Participants could score between 1 (“not at all”) and 5 (“to a very great extent”) for each question, with higher values indicating better connectivity.
- *Group identification* was measured with a strength of group identification scale (Doosje et al., 1995). Participants responded to each item with reference to their local community (e.g., “I identify as a member of my local community”), using a scale ranging between 1 (“I strongly disagree”) and 7 (“I strongly agree”). Participants then answered each question with reference to their family, and then answered each question with reference to a third social group to which they belong, which they could choose themselves. For each measure (community identification, family identification, chosen group identification), higher values indicate stronger identification with that group.
- *Social support* was measured with a social support scale (Haslam et al., 2005). Participants responded to each item with reference to their local community (e.g., “Do you get the emotional support you need from other people in your local community?”), using a scale ranging between 1 (“not at all”) and 7 (“completely”). Participants then answered each question with reference to their family, and then answered each question with reference to a third social group to which they belong, which they could choose themselves, e.g., hobby group, activity group, friends group. For each measure (community support, family support, chosen group support), higher values indicate stronger support from that group.
- *Perceived discrimination* was measured by asking participants the discrimination item from the Margins of Society Alienation Scale (Travis, 1993; “I often feel discriminated against”), using a scale ranging between 1 (“I strongly disagree”) and 7 (“I strongly agree”).
- *Subjective social status* was measured with two adaptations of the McArthur Scale of Subjective Social Status (e.g., Operario et al., 2004). Participants’ *subjective social*

status within their community was measured by asking participants: “Imagine a ladder with ten rungs. Think of this ladder as representing where people stand in your community. At the top of the ladder are the people who are the best off-those who have the most money, the most education, and the most respected jobs. At the bottom are the people who are the worst off-those who have the least money, the least education, and the least respected jobs, or no jobs at all. The higher up you are on this ladder the closer you are to the people at the very top, the lower you are the closer you are to the people at the very bottom. Please indicate the rung where you think you stand at this point in your life, relative to other people in your community.” The *subjective social status of participants’ communities within the UK* was measured by asking participants: “Imagine a ladder with ten rungs. Think of this ladder as representing where people communities stand in the UK. At the top of the ladder are the communities which are the best off-those which have the most money, and the most educated inhabitants with the most respected jobs. At the bottom are the communities which are the worst off-those which have the least money, and the least educated inhabitants with the least respected jobs or no jobs at all. The higher up a community is on this ladder the closer it is to the communities at the very top, the lower the community is, the closer it is to the communities at the very bottom. Please indicate the rung where you think your community stands at this current time, relative to other communities in the UK.” Participants could score between 1 and 10 for each status measure, with higher levels indicating higher subjective social status.

- *Perceived stigma of seeking emotional/mental health help* was measured with an adapted version of the Stigma Scale for Receiving Psychological Help (Golberstein et al., 2008; e.g., “Receiving support for emotional or mental problems carries social stigma”). Participants could score between 1 (“I strongly disagree”) and 7 (“I strongly agree”), with higher values indicating higher perceived stigma.

Results

Engagement With and Opinions Towards Loneliness Services

Tables 2.3 and 2.4 shows participants’ levels of engagement with and strength of opinions towards loneliness services in Nottinghamshire, divided into age groups. Since the participants who were recruited outside of the Prolific Academic website were recruited via Nottinghamshire services, there was the possibility that this latter group of participants would be engaged with more services than the participants recruited via Prolific Academic. For this reason, the data have been divided into participants recruited via Prolific Academic (Table 2.3) and participants recruited via Nottinghamshire services (Table 2.4).

All age groups had engaged with between 0 and 1 services on average, and this patterning did not differ between the participants recruited from Prolific Academic and the participants recruited from Nottinghamshire services. However, it should be noted that many participants had not engaged with any services (Prolific Academic participants: *n* = 387 (85.80%) at T1, *n* = 326 (72.30%) at T2, *n* = 256 (90.10%) at T3; Nottinghamshire community participants: *n* = 215 (62.30%) at T1; *n* = 95 (67.40%) at T2, *n* = 131 (66.80%) at T3).

Table 2.3

Participants recruited via Prolific Academic: Means (and standard deviations) for questions measuring awareness of and opinions towards loneliness services, divided into age groups, at Time 1 (T1), Time 2 (T2), and Time 3 (T3)

Age Range	How many services, resources, or groups that aim to increase social connection (e.g., meeting others) and/or reduce loneliness within Nottingham City or Nottinghamshire have you engaged with?	How would you rate the availability of services, groups or resources within Nottingham and Nottinghamshire that aim to increase social connection and/or reduce loneliness? (1-5)	How satisfied are you with the main service you have engaged with? (1-5)	How frequently in a typical month do you engage with this main service? (1-6)	How would you rate the quality of this main service? (1-5)
18-25 years	T1: 0.26 (0.59) T2: 0.15 (0.39) T3: 0.16 (0.48)	T1: 3.04 (0.82) T2: 3.33 (0.65) T3: 2.88 (0.84)	T1: 3.46 (1.14) T2: 3.67 (0.78) T3: 3.63 (1.06)	T1: 3.04 (2.01) T2: 2.08 (1.68) T3: 3.50 (1.41)	T1: 3.38 (0.80) T2: 3.50 (0.67) T3: 3.87 (0.64)
26-45 years	T1: 0.15 (0.46) T2: 0.13 (0.47) T3: 0.14 (0.47)	T1: 3.32 (0.72) T2: 3.06 (0.90) T3: 3.19 (0.91)	T1: 3.61 (0.99) T2: 3.59 (1.00) T3: 3.94 (0.85)	T1: 2.32 (1.59) T2: 2.18 (1.47) T3: 3.00 (1.83)	T1: 3.68 (0.77) T2: 3.71 (0.92) T3: 3.94 (0.93)
46-65 years	T1: 0.15 (0.44) T2: 0.11 (0.32) T3: 0.09 (0.28)	T1: 3.43 (1.13) T2: 3.17 (1.17) T3: 3.25 (1.26)	T1: 3.14 (1.22) T2: 4.00 (1.10) T3: 4.50 (0.58)	T1: 3.14 (2.12) T2: 2.67 (1.86) T3: 1.50 (0.58)	T1: 3.00 (1.41) T2: 3.67 (1.37) T3: 3.75 (0.96)
Over 65 years	T1: 0.30 (0.68) T2: 0.00 (0.00) T3: 0.00 (0.00)	T1: 3.00 (0.00) T2: N.A. T3: N.A.	T1: 5.00 (0.00) T2: N.A. T3: N.A.	T1: 3.00 (2.83) T2: N.A. T3: N.A.	T1: 4.50 (0.71) T2: N.A. T3: N.A.

Table 2.4

Participants recruited via Nottinghamshire Services: Means (and standard deviations) for questions measuring awareness of and opinions towards loneliness services, divided into age groups, and Time 1 (T1), Time 2 (T2), and Time 3 (T3)

Age Range	How many services, resources, or groups that aim to increase social connection (e.g., meeting others) and/or reduce loneliness within Nottingham City or Nottinghamshire have you engaged with?	How would you rate the availability of services, groups or resources within Nottingham and Nottinghamshire that aim to increase social connection and/or reduce loneliness? (1-5)	How satisfied are you with the main service you have engaged with? (1-5)	How frequently in a typical month do you engage with this main service? (1-6)	How would you rate the quality of this main service? (1-5)
18-25 years	T1: 0.45 (0.65) T2: 0.58 (1.07) T3: 0.62 (0.94)	T1: 2.76 (1.15) T2: 3.17 (1.17) T3: 2.60 (0.84)	T1: 3.65 (1.12) T2: 3.33 (1.37) T3: 3.90 (1.23)	T1: 2.76 (1.79) T2: 2.67 (1.51) T3: 3.90 (1.91)	T1: 3.65 (1.12) T2: 3.17 (1.72) T3: 4.20 (0.63)
26-45 years	T1: 0.65 (0.96) T2: 0.51 (0.82) T3: 0.57 (0.93)	T1: 3.60 (1.11) T2: 3.17 (1.07) T3: 3.43 (0.78)	T1: 3.90 (0.99) T2: 3.59 (0.83) T3: 3.75 (0.98)	T1: 2.38 (1.53) T2: 2.55 (1.62) T3: 2.80 (1.54)	T1: 3.88 (0.99) T2: 3.69 (0.76) T3: 3.80 (0.82)
46-65 years	T1: 0.35 (0.65) T2: 0.23 (0.50) T3: 0.53 (1.26)	T1: 2.69 (1.30) T2: 2.83 (0.98) T3: 3.56 (0.88)	T1: 3.81 (0.91) T2: 3.17 (0.75) T3: 4.00 (1.12)	T1: 3.38 (2.13) T2: 2.00 (1.55) T3: 3.89 (2.15)	T1: 3.75 (0.86) T2: 3.33 (0.52) T3: 4.11 (0.78)
Over 65 years	T1: 0.77 (0.83) T2: 1.00 (1.00) T3: 1.18 (1.60)	T1: 2.71 (0.95) T2: 3.00 (0.82) T3: 3.00 (1.10)	T1: 3.14 (1.07) T2: 4.25 (0.50) T3: 4.00 (0.63)	T1: 4.14 (2.12) T2: 4.50 (1.73) T3: 3.33 (2.16)	T1: 3.57 (0.54) T2: 4.00 (0.00) T3: 3.83 (0.41)

All age groups rated service availability around the mid-point of the scale (i.e., neither good nor poor), but amongst the participants recruited from Prolific Academic at T1, the 46-65 age group rated services as being the most available, whilst the over 65 age group rated services as being the least available. Meanwhile, at T2, the 18-25 age group rated services as being most available, while the 26-45 age group rated services as least available. At T3, the 26-45 age group rated services as being the most available, whilst the 18-25 age group rated services as being the least available. Amongst the participants recruited from Nottinghamshire services, the 26-45 age group rated services as being the most available at T1 and T2, whilst the over 46-65 age group rated services as being the least available at T1 and T2. At T3 the 46-65 age group rated services as being the most available, whilst the 18-25 age group rated services as being the least available.

Most age groups rated their satisfaction with their main service around the mid-point of the scale (i.e., neither very high nor very low). Amongst the participants recruited from Prolific Academic at T1, satisfaction with the participants' main service was highest in the over 65 age group and lowest in the 46-65 age group, while at T2 it was highest in the 46-65 age group and lowest in the 26-45 age group. At T3 it was highest in the 46-65 age group and lowest in the 18-25 age group. Amongst the participants recruited from Nottinghamshire services at T1, satisfaction with the participants' main service was highest in the over 26-45 age group and lowest in the over 65 age group, while at T2 it was highest in the over 65 age group and lowest in the 46-65 age group. At T3 it was highest in the 46-65 and over 65 age groups and lowest in the 26-45 age group.

Amongst the participants recruited from Prolific Academic at T1, frequency of participants' engagement with their main service was highest in the 46-65 age group and lowest in the 26-45 age group, while at T2 it was highest in the 46-65 age group and lowest in the 18-25 age group. At T3 it was highest in the 18-25 age group and lowest in the 46-65 age group. Amongst the participants recruited from Nottinghamshire services at T1, frequency of participants' engagement with their main service was highest in the over 65 age group and lowest in the 26-45 age group, while at T2 it was highest in the over 65 age group and lowest in the 46-65 age group. At T3 it was highest in the 18-25 age group and lowest in the 26-45 age group.

Finally, most age groups rated the perceived quality of their main service around the mid-point of the scale (i.e., neither very high nor very low). Amongst the participants recruited from Prolific Academic at T1, the participants' perceived quality of their main service was highest in the over 65 age group and lowest in the 46-65 age group, while at T2 it was highest in the 26-45 age group and lowest in the 18-24 age group. At T3 it was highest in the 26-45 age group and lowest in the 46-65 age group. Amongst the participants recruited from Nottinghamshire services at T1, the participants' perceived quality of their main service was highest in the 26-45 age group and lowest in the over 65 age group, while at T2 it was highest in the over 65 age group and lowest in the 18-25 age group. At T3 it was highest in the 18-25 age group and lowest in the 26-45 age group.

Barriers to Accessing Loneliness Services

Returning to an exploration of the whole sample (i.e., combining participants recruited via Prolific Academic and participants recruited via Nottinghamshire services), barriers to accessing services affected participants most in the 18-25 age group (T1 mean = 0.69, T1 standard deviation = 0.69; T2 mean = 0.66, T2 standard deviation = 0.61, T3 mean = 0.71, standard deviation = 0.66) and least in the over 65 age group (T1 mean = 0.37, T1 standard deviation = 0.45, T2 mean = 0.38, T2 standard deviation = 0.38, T2 standard deviation = 0.42, T3 mean = 0.39, standard deviation = 0.49). The 26-45 age group and 46-65 age group fell between these two extremes (26-45 age group: T1 mean = 0.65, T1 standard deviation = 0.63, T2 mean = 0.64, T2 standard deviation = 0.62, T3 mean = 0.71, standard deviation = 0.64; 46-65 age group: T1 mean = 0.53, T1 standard deviation = 0.53, T2 mean = 0.47, T2 standard deviation = 0.53, T3 mean = 0.56, standard deviation = 0.60).

Comparing Loneliness and Personal Wellbeing Data to Population Norms

The loneliness and personal wellbeing measures that were used in this study were taken from the Office for National Statistics (ONS), which means that we can compare the loneliness and wellbeing data obtained in the present study to the loneliness and wellbeing data obtained by the ONS.

Comparing Loneliness Data

One of the items in the ONS (2018) Loneliness Measure asks participants “How often do you feel lonely?”. The ONS has recently used this item to explore loneliness levels in each English Local Authority (specifically, they explore the percentage of respondents in each area who state that they ‘often’ or ‘always’ feel lonely; ONS, 2021a). Table 2.5 compares the most recent ONS data (14th October 2020-22nd February 2021; ONS, 2021a) with the data we obtained from our participants. It is important to note that the ONS provided their participants with a five-point rating scale (‘never’/‘hardly ever’/‘occasionally’/‘some of the time’/‘often/always’) whereas in the present study, we used a slightly different rating scale (‘never’/‘hardly ever’/‘some of the time’/‘often’/ ‘always’). This means that the ONS combined ‘often’ and ‘always’ into a single response (the highest response participant could select), whereas they are separate responses in the present study. Thus, for completeness, we present the percentage of participants in our study who selected either ‘often’ or ‘always’, as well as the percentage of participants who only selected ‘always’ (the highest response participants could select).

Table 2.5

Percentages of participants in the ONS 2020-21 data who indicated that they are ‘often’ or ‘always’ lonely, divided into county areas, and compared with the loneliness data from our study at Time 1 (T1), Time 2 (T2), and Time 3 (T3)

Study	Area	Percentage
ONS 2020-21 Data	Nottingham Local Authority	12.80%
	Nottingham Local County	7.09%
	Ashfield Local Authority	6.56%
	Bassetlaw Local Authority	7.59%
	Broxtowe Local Authority	4.30%
	Gedling Local Authority	4.79%
	Mansfield Local Authority	15.24%
	Newark and Sherwood Local Authority	9.67%
	Rushcliffe Local Authority	4.78%
	Loneliness Definition	
Our Study	‘often’ or ‘always’ lonely (T1)	31.07%
	‘often’ or ‘always’ lonely (T2)	29.96%
	‘often’ or ‘always’ lonely (T3)	35.48%
	‘always’ lonely (T1)	6.92%
	‘always’ lonely (T2)	4.17%
	‘always’ lonely (T3)	7.47%

Table 2.5 indicates that the percentages of participants in the present study who indicated that they are ‘always’ lonely (6.92% at T1, 4.17% at T2, 7.47% at T3) are comparable with the percentages of participants in the ONS survey who indicated that they are ‘often’ or ‘always’ lonely. It may then be more appropriate to compare the ONS participants who indicated that they were ‘often’ or ‘always’ lonely with participants in the present study who indicated that they were ‘always’ lonely. Participants who indicated that they were ‘often’ or ‘always’ lonely in this study was a much higher percentage (31.07% at T1 and 29.96% at T2, 35.48% at T3) than in the ONS data.

Comparing Personal Wellbeing Data

Table 2.6 compares the most recent ONS data (April-June 2021; ONS, 2021b) exploring the percentage of UK participants who provided very low, low, medium, and high ratings for each of the four items of the ONS Personal Wellbeing Scale (Benson et al., 2019).

Table 2.6

Percentages of participants in the ONS 2021 data who provided very low, low, medium, and high ratings for each of the four items of the ONS Personal Wellbeing Scale, compared with the personal wellbeing data from our study at Time 1 (T1), Time 2 (T2), and Time 3 (T3)

Personal Wellbeing Item	**Source**	**Percentage of Participants Who Selected Rating**			
		Very Low	Low	Medium	High
I am satisfied with my life	ONS	4.77%	15.06%	54.24%	25.93%
	Our Study T1	18.62%	20.13%	48.81%	12.45%
	Our Study T2	16.87%	17.66%	52.98%	12.50%
	Our Study T3	15.63%	20.42%	53.33%	10.63%
What I do in my life is worthwhile	ONS	3.99%	13.39%	49.68%	32.94%
	Our Study T1	12.70%	22.39%	48.55%	16.35%
	Our Study T2	13.10%	20.24%	50.79%	15.87%
	Our Study T3	11.67%	20.63%	51.46%	16.25%
I was happy yesterday	ONS	8.14%	16.05%	42.12%	33.69%
	Our Study T1	17.86%	18.62%	44.91%	18.62%
	Our Study T2	19.25%	13.89%	49.80%	17.06%
	Out Study T3	18.54%	14.79%	49.17%	17.50%
I was not anxious yesterday	ONS	21.31%	17.26%	24.24%	37.19%
	Our Study T1	41.64%	16.35%	28.43%	13.58%
	Our Study T2	37.50%	15.48%	32.34%	14.68%
	Our Study T3	42.50%	14.79%	2.71%	15.00%

As can be seen in Table 2.6, personal wellbeing ratings were lower for participants in the present study across all time points than for participants in the ONS survey. Focusing on the ‘very low’ and ‘high’ ratings shows that, compared to the ONS participants, larger proportions of participants in the present study selected ‘very low’ ratings, and smaller proportions selected ‘high’ ratings (indicating comparatively low levels of personal wellbeing).

Loneliness and Mental Health in Each Age Group

Table 2.7 shows levels of loneliness, wellbeing, depression, anxiety, and stress for each age group. Loneliness was highest in the 18-25 age group at T1, T2, and T3. It was lowest in the 26-45 age group at T1 and in the over 65 age group at T2 and T3. Wellbeing was highest in the over 65 age group at T1, T2, and T3 and lowest in the 18-25 age group at T1 and T2, and in the 26-45 age group at T3. Depression, anxiety, and stress were all highest in the 18-25 age group and lowest in the over 65 age group at T1, T2, and T3 (except for T3 anxiety, which was lowest in the 46-65 age group).

Table 2.7

Means (and standard deviations) for Loneliness, Wellbeing, Depression, Anxiety, and Stress, divided into age groups for Time 1 (T1), Time 2 (T2), and Time 3 (T3)

Age Range	Loneliness (1-5)	Wellbeing (1-4)	Depression (5-20)	Anxiety (3-12)	Stress (6-24)
18-25 years	T1: 3.10 (0.84) T2: 3.05 (0.83) T3: 3.17 (0.86)	T1: 2.45 (0.76) T2: 2.48 (0.72) T3: 2.54 (0.72)	T1: 9.39 (4.07) T2: 9.65 (3.93) T3: 9.92 (4.36)	T1: 5.19 (2.36) T2: 5.04 (2.41) T3: 5.56 (2.61)	T1: 13.77 (4.46) T2: 13.40 (4.25) T3: 13.95 (4.61)
26-45 years	T1: 2.84 (0.96) T2: 2.85 (0.89) T3: 2.95 (0.94)	T1: 2.51 (0.79) T2: 2.57 (0.80) T3: 2.52 (0.77)	T1: 8.89 (3.99) T2: 8.68 (4.01) T3: 9.34 (4.12)	T1: 4.61 (1.99) T2: 4.36 (1.79) T3: 4.60 (1.88)	T1: 12.61 (4.26) T2: 12.63 (4.52) T3: 13.43 (4.43)
46-65 years	T1: 2.97 (1.04) T2: 2.73 (1.03) T3: 2.84 (1.10)	T1: 2.53 (0.81) T2: 2.55 (0.78) T3: 2.54 (0.83)	T1: 8.73 (3.88) T2: 8.41 (4.21) T3: 8.57 (4.09)	T1: 4.23 (1.66) T2: 3.97 (1.54) T3: 3.95 (1.37)	T1: 12.06 (3.92) T2: 10.69 (3.74) T3: 11.25 (3.82)
Over 65 years	T1: 2.86 (1.09) T2: 2.52 (1.12) T3: 2.68 (1.09)	T1: 2.67 (0.88) T2: 2.70 (0.75) T3: 2.60 (0.76)	T1: 7.96 (2.84) T2: 7.94 (3.23) T3: 7.94 (3.15)	T1: 4.13 (2.07) T2: 3.75 (1.24) T3: 4.39 (2.20)	T1: 10.30 (3.74) T2: 10.19 (3.51) T3: 10.44 (3.48)

The Relationship Between Loneliness and Mental Health

Correlations were conducted to explore the relationship between loneliness and mental health. A correlation is a measure of the strength of the relationship between two variables: it can range from -1 (perfect negative correlation) to 1 (perfect positive correlation). The closer the correlation is to -1/1, the stronger the correlation is. A positive correlation means that as one variable increases, so does the other. A negative correlation means that as one variable increases, the other declines. The correlations between loneliness and wellbeing, depression, anxiety, and stress can be seen in Table 2.8.

Table 2.8

Correlations between Loneliness, Wellbeing, Depression, Anxiety, and Stress, at Time 1 (T1), Time 2 (T2), and Time 3 (T3), as well as means (M) & standard deviations (SD)

	1.Lone T1	2.Wellb T1	3.Depr T1	4.Anx T1	5.Stress T1	6.Lone T2	7.Wellb T2	8.Depr T2	9.Anx T2	10.Stress T2	6.Lone T3	7.Wellb T3	8.Depr T3	9.Anx T3	10.Stress T3
1.Loneliness T1 (*M*: 2.92, *SD*: 0.96)	-														
2.Wellbeing T1 (*M*: 2.50, *SD*: 0.79)	-.58***	-													
3.Depression T1 (*M*: 8.96, *SD*: 3.96)	.65***	-.66***	-												
4.Anxiety T1 (*M*: 4.67, *SD*: 2.06)	.41***	-.35***	.52***	-											
5.Stress T1 (*M*: 12.72, *SD*: 4.29)	.59***	-.54***	.70***	.57***	-										
6.Loneliness T2 (*M*: 2.86, *SD*: 0.92)	.78***	-.59***	.54***	.31***	.49***	-									
7.Wellbeing T2 (*M*: 2.55, *SD*: 0.78)	-.52***	.72***	-.60***	-.36***	-.51***	-.58***	-								
8.Depression T2 (*M*: 8.83, *SD*: 4.02)	.52***	-.61***	.72***	.43***	.54***	.56***	-.71***	-							
9.Anxiety T2 (*M*: 4.43, *SD*: 1.92)	.35***	-.36***	.42***	.71***	.52***	.34***	-.39***	.53***	-						
10.Stress T2 (*M*: 12.39, *SD*: 4.40)	.46***	-.50***	.51***	.59***	.72***	.52***	-.60***	.70***	.60***	-					
6.Loneliness T3 (*M*: 2.96, *SD*: 0.97)	.80***	-.57***	.57***	.35***	.52***	.80***	-.53***	.56***	.36***	.51***	-				
7.Wellbeing T3 (*M*: 2.53, *SD*: 0.77)	-.54***	.69***	-.62***	-.30***	-.51***	-.52***	.69***	-.62***	-.35***	-.50***	-.58***	-			
8.Depression T3 (*M*: 9.26, *SD*: 4.15)	.54***	-.57***	.73***	.43***	.55***	.54***	-.60***	.78***	.43***	.61***	.64***	-.69***	-		
9.Anxiety T3 (*M*: 4.66, *SD*: 2.04)	.35***	-.34***	.42***	.68***	.49***	.36***	-.39***	.48***	.69***	.57***	.43***	-.34***	.53***	-	
10.Stress T3 (*M*: 13.02, *SD*: 4.44)	.44***	-.46***	.53***	.45***	.72***	.44***	-.46***	.53***	.49***	.75***	.53***	-.51***	.69***	.59***	-

Note: *** means $p < .001$ (this means that there is a less than 0.1% probability of obtaining this correlation by chance)

The correlations indicate strong relationships between loneliness and each of the measures of mental health and wellbeing (stress, anxiety, depression, and psychological wellbeing) in the expected directions. As can be seen in column 1 of Table 2.8, the lonelier participants felt, the lower their wellbeing was, and the higher their depression, anxiety, and stress were at T1, T2, and T3.

Longitudinal Analyses

Next, in order to explore the relationship between loneliness at T1 and mental health at T2 and T3 more rigorously, we conducted partial correlations, which allowed us to explore the nature and strength of the relationships between T1 loneliness and T2/T3 mental health (T2/T3 wellbeing, T2/T3 depression, T2/T3 anxiety, and T2/T3 stress), whilst statistically controlling for participants' pre-existing levels of wellbeing, depression, anxiety, and stress T1. There was a statistically significant negative partial correlation between T1 loneliness and T2 wellbeing ($r = -.10$, $p = .020$), and between T1 loneliness and T3 wellbeing ($r = -.18$, $p < .001$), indicating that even after accounting for T1 levels of wellbeing, the lonelier participants felt at T1, the lower their wellbeing was at T2 and T3. There were also statistically significant positive partial correlations between T1 loneliness and T2 depression ($r = .09$, $p = .035$) and between T1 loneliness and T3 depression ($r = .11$, $p = .02$). There were also statistically significant positive partial correlations between T1 loneliness and T2 anxiety ($r = .13$, $p = .005$) and between T1 loneliness and T3 anxiety ($r = .14$, $p = .002$). There was also a statistically significant positive partial correlation between T1 loneliness and T2 stress ($r = .09$, $p = .037$). These results indicate that even after accounting for T1 levels of depression, anxiety, and stress respectively, the lonelier participants felt at T1, the poorer their mental health was at T2 and T3 (although it should be noted that the correlation between T1 loneliness and T3 stress became not statistically significant).

The Relationship Between Loneliness and Physical Health

The correlations between loneliness, self-rated health, and number of doctor appointments can be seen in Table 2.9.

Table 2.9

Correlations between Loneliness, Self-Rated Health, and Number of Doctor Appointments at Time 1 (T1), Time 2 (T2), and Time 3 (T3), and means (M) and standard deviations (SD)

	1.Lone T1	2.Health T1	3.Appt T1	4.Lone T2	5.Health T2	6.Appt T2	7.Lone T3	8.Health T3	9.Appt T3
1.Loneliness T1 (*M*: 2.92, *SD*: 0.96)	-								
2.Health T1 (*M*: 3.45, *SD*: 0.94)	-.46***	-							
3.Appointments T1 (*M*: 1.18, *SD*: 1.82)	.21***	-.38***	-						
4.Loneliness T2 (*M*: 2.86, *SD*: 0.92)	.78***	-.32***	.16***	-					
5.Health T2 (*M*: 3.42, *SD*: 0.85)	-.34***	.70***	-.29***	-.37***	-				
6.Appointments T2 (*M*: 1.19, *SD*: 1.79)	.16***	-.33***	.65***	.17***	-.39***	-			
7.Loneliness T3 (*M*: 2.96, *SD*: 0.97)	.80***	-.34***	.16***	.80***	-.35***	.11*	-		
8.Health T3 (*M*: 3.37, *SD*: 0.85)	-.36***	.67***	-.28***	-.33***	.71***	-.37***	-.37***	-	
9.Appointments T3 (*M*: 1.27, *SD*: 1.77)	.15***	-.21***	.50***	.15**	-.32***	.70***	.15***	-.30***	-

Note: *** means $p < .001$ (this means that there is a less than 0.1% probability of obtaining this correlation by chance)

The correlations indicate strong relationships between loneliness and physical health. As can be seen in column 1 of Table 2.9, the lonelier participants felt, the lower their self-rated health was, and the more doctor appointments they had attended in the previous three months, at T1, T2, and T3.

Longitudinal Analyses

Next, in order to explore the relationship between loneliness at T1 and physical health at T2 and T3 more rigorously, we conducted partial correlations, which allowed us to explore the nature and strength of the relationships between T1 loneliness and T2/T3 physical health (T2/T3 self-rated health and T2/T3 doctor appointments), whilst statistically controlling for participants' pre-existing levels of self-rated health and doctor appointments at T1. There was a statistically significant negative partial correlation between T1 loneliness and T2 self-rated health (r = -.12, p = .009) and between T1 loneliness and T3 self-rated health (r = -.14, p = .003), indicating that even after accounting for T1 levels of self-rated health, the lonelier participants felt at T1, the lower their levels of self-rated health at T2 an T3. There was also a marginally statistically significant positive partial correlation between T1 loneliness and T2 GP appointments (r = .08, p = .07) and between T1 loneliness and T3 self-rated health (r = .08, p = .08), indicating that even after accounting for the number of GP appointments participants attended in the three months preceding T1, the lonelier participants felt at T1, the more GP appointments they attended in the three months preceding T2 and in the three months preceding T3.

The Relationship Between Loneliness and Social Connectedness

The correlations between loneliness, community/family/chosen group identification, and support from community/family/chosen group can be seen in Table 2.10 for T1, in Table 2.11 for T2, and in Table 2.12 for T3.

Table 2.10

Time 1 Correlations between Loneliness, Community/Family/Chosen Group Identification, and Community/Family/Chosen Group Support, and means (M) and standard deviations (SD)

	1.Loneliness T1	2.Comm Id T1	3.Com Sppt T1	4.Fam Id T1	5.Fam Sppt T1	6.Chosen Id T1	7.Chosen Sppt T1
1.Loneliness T1 (*M*: 2.92, *SD*: 0.96)	-						
2.Community Identification T1 (*M*: 4.74, *SD*: 1.50)	-.25***	-					
3.Community Support T1 (*M*: 3.40, *SD*: 1.62)	-.35***	.51***	-				
4.Family Identification T1 (*M*: 6.42, *SD*: 1.17)	-.26***	.19***	.00	-			
5.Family Support T1 (*M*: 5.56, *SD*: 1.43)	-.43***	.20***	.23***	.47***	-		
6. Chosen Group Identification T1 (*M*: 6.08, *SD*: 1.13)	-.23***	.20***	.13**	.42***	.17***	-	
7. Chosen Group Support T1 (*M*: 5.07, *SD*: 1.38)	-.30***	.22***	.31***	.17**	.32***	.45***	-

Note: *** means *p* < .001 (this means that there is a less than 0.1% probability of obtaining this correlation by chance); ** means *p* < .01 (this means that there is a less than 1% probability of obtaining this correlation by chance)

Table 2.11

Time 2 Correlations between Loneliness, Community/Family/Chosen Group Identification, and Community/Family/Chosen Group Support, and means (M) and standard deviations (SD)

	1.Loneliness T2	2.Comm Id T2	3.Com Sppt T2	4.Fam Id T2	5.Fam Sppt T2	6.Chosen Id T2	7.Chosen Sppt T2
1.Loneliness T2 (*M*: 2.87, *SD*: 0.92)	-						
2.Community Identification T2 (*M*: 4.73, *SD*: 1.42)	-.17***	-					
3.Community Support T2 (*M*: 3.42, *SD*: 1.46)	-.24***	.53***	-				
4.Family Identification T2 (*M*: 6.44, *SD*: 1.07)	-.20***	.21***	.13**	-			
5.Family Support T2 (*M*: 5.60, *SD*: 1.32)	-.40***	.11*	.22***	.52***	-		
6. Chosen Group Identification T2 (*M*: 6.07, *SD*: 0.86)	-.15*	.21***	.16**	.27***	.14*	-	
7. Chosen Group Support T2 (*M*: 5.05, *SD*: 1.30)	-.27***	.23***	.36***	.23**	.37***	.53***	-

Note: *** means *p* < .001 (this means that there is a less than 0.1% probability of obtaining this correlation by chance); ** means *p* < .01 (this means that there is a less than 1% probability of obtaining this correlation by chance); * means p < .05 (this means that there is a less than 5% probability of obtaining this correlation by chance)

Table 2.12

Time 3 Correlations between Loneliness, Community/Family/Chosen Group Identification, and Community/Family/Chosen Group Support, and means (M) and standard deviations (SD)

	1.Loneliness T3	2.Comm Id T3	3.Com Sppt T3	4.Fam Id T3	5.Fam Sppt T3	6.Chosen Id T3	7.Chosen Sppt T3
1.Loneliness T3 (*M*: 2.96, *SD*: 0.97)	-						
2.Community Identification T3 (*M*: 4.67, *SD*: 1.42)	-.07	-					
3.Community Support T3 (*M*: 3.42, *SD*: 1.51)	-.21***	.59***	-				
4.Family Identification T3 (*M*: 6.40, *SD*: 1.02)	-.24***	.07	.03	-			
5.Family Support T3 (*M*: 5.57, *SD*: 1.34)	-.39***	.02	.13**	.56***	-		
6. Chosen Group Identification T3 (*M*: 5.96, *SD*: 0.94)	-.14*	.32***	.21***	.22***	.13*	-	
7. Chosen Group Support T3 (*M*: 5.03, *SD*: 1.24)	-.22***	.16**	.30***	.12*	.32***	.53***	-

The correlations indicate strong relationships between loneliness and social connectedness in the form of social identification and social support. As can be seen in column 1 of Table 2.10, Table 2.11, and Table 2.12, the more participants identified with their local community, family, and a chosen group, and the more support they perceived themselves as receiving from these three groups, the less lonely they felt at T1, T2, and T3 (although note that the correlation between loneliness and community identification was not statistically significant at T3). Additional analyses showed that the more participants identified with their local community at T1, their family at T1, and their chosen group at T1, and the more support they perceived themselves as receiving from these three groups at T1, the less lonely they felt at T2 and at T3 (*p*s < .006, meaning that there is a less than 0.6% probability of obtaining these correlations by chance).

Providing further support for the relationship between social connectedness and loneliness, participants who were in relationships felt less lonely at T1, T2, and T3 than those who were not in relationships (T1: $r = -.33$, $p < .001$, T2: $r = -.28$, $p < .001$, T3: $r = -.28$, $p < .001$), and participants who lived with others felt less lonely at T1 and T2 than those who lived alone (T1: $r = -.21$, $p < .001$, T2: $r = -.12$, $p = .009$, T3: $r = -.11$, $p = .02$).

Longitudinal Analyses

Next, in order to explore the relationship between social connectedness at T1 and loneliness at T2 and T3 more rigorously, we conducted partial correlations, which allowed us to explore the nature and strength of the relationships between key T1 variables (community/family/chosen group identification, community/family/chosen group social support, relationship status, and whether or not the participant lives alone) and T2/T3 loneliness whilst statistically controlling for participants’ pre-existing levels of loneliness at T1. Two of the partial correlations was statistically significant: the relationship between T1 family support and T2 loneliness, when controlling for T1 loneliness ($r = -.16$, $p = .016$), and the relationship between

T1 chosen group support and T2 loneliness, when controlling for T1 loneliness (r = -.14, p = .037). This indicates that even after accounting for T1 levels of loneliness, the more family support and chosen group support participants reported at T1, the less lonely they felt at T2.

The Relationship Between Loneliness and Variables Associated with Stigma and Discrimination

The correlations between loneliness and a range of variables associated with stigma and discrimination can be seen in Table 2.13. As can be seen in column 1 of Table 2.13, loneliness correlated with the demographic variables and all the other variables at T1. Specifically, non-male participants (i.e., female and non-binary participants) felt lonelier than male participants, non-heterosexual participants felt lonelier than heterosexual participants, and participants with a disability felt lonelier than participants without a disability Moreover, participants felt lonelier if they: felt more discriminated against; perceived their personal subjective social status to be low; perceived their community's subjective status to be low; and perceived stigma around mental or emotional health help-seeking to be high. The same patterning of correlations was observed at T2 and at T3.

Table 2.13

Correlations between Loneliness, Gender, Sexual Orientation, Disability, Perceived Discrimination, Subjective Personal Status, Subjective Community Status, and Perceived Stigma of Seeking Mental Health Help at Time 1 (T1)

	1.Lone T1	2.Gend	3.Orient	4.Disab	5.Disc T1	6.P Stat T1	7.C Stat T1	8.Stig T1
1.Loneliness T1	-							
2.Gender (male=1, not male=2)	.14***	-						
3. Orientation (1 = hetero 2 = not hetero)	.18***	.08*	-					
4.Disability (yes=1, no=2)	-.23***	-.03	-.15***	-				
5.Discrimination T1	.42***	.12**	.22***	-.24***	-			
6.Personal Status T1	-.31***	-.09*	-.07	.19***	-.27***	-		
7. Community Status T1	-.25***	-.02	-.09*	.12**	-.19***	.39***	-	
8. Stigma of Seeking Help T1	.27***	-.02	.01	-.13***	.35***	-.26***	-.14***	-

Note: *** means $p < .001$ (this means that there is a less than 0.1% probability of obtaining this correlation by chance); ** means $p < .01$ (this means that there is a less than 1% probability of obtaining this correlation by chance); * means $p < .05$ (this means that there is less than 5% probability of obtaining this correlation by chance)

Longitudinal Analyses

Next, in order to explore the relationship between sources of stigma at T1 and loneliness at T2 and T3 more rigorously, we conducted partial correlations, which allowed us to explore the nature and strength of the relationships between T1 sources of stigma and T2/T3 loneliness whilst statistically controlling for participants' pre-existing levels of loneliness at T1. There were statistically significant positive partial correlations between T1 gender and T2 loneliness ($r = .10$, $p = .029$), between T1 sexual orientation and T3 loneliness ($r = .10$, $p = .03$), between T1 loneliness and T3 personal subjective social status ($r = -.11$, $p = .02$), and between T1 perceived stigma of mental health help-seeking and T2 loneliness ($r = .13$, $p = .004$). This indicates that even after accounting for T1 levels of loneliness, non-male participants and participants who perceived there to be high levels of stigma surrounding mental health help-seeking experienced higher levels of loneliness at T2, while non-heterosexual participants and participants with lower subjective social status experienced higher levels of loneliness at T3.

Loneliness and Staying Connected During COVID-19

Loneliness negatively correlated with both measures of connectedness during COVID-19 (at T1, the correlation between loneliness and the item "To what extent have you been able to stay connected to your groups during the COVID-19 pandemic?") was -.31, $p < .001$; the correlation between loneliness and the item "To what extent have you been able to use technology to stay connected to your groups during the COVID-19 pandemic?" was -.23, $p < .001$). This means that the more participants felt able to stay connected to their groups during COVID-19 (either in general or though technology more specifically), the less lonely they felt. The same patterning of correlations was found at T2 and T3, as well as across the time-points (i.e., the more participants felt able to stay connected to their groups during COVID-19 at T1, the less lonely they felt at T2 and T2: correlations for the two connection items were $r = -.25$, $p < .001$ and $r = -.17$, $p < .001$ at T2 and $r = -.25$, $p < .001$ and $r = -.16$, $p < .001$ at T3. However, when partial correlations were computed, neither was significant at T2 or at T3 (i.e., when controlling for T1 levels of loneliness, participants' perceived ability to stay connected to their groups at T1 did not correlate with their loneliness levels at T2 or at T3 (*p*s = .54 and .20 respectively at T2, and .57 and .99 respectively at T3).

Table 2.14 shows the extent to which participants in each age group felt they could stay connected to their groups during the COVID-19 pandemic.

Table 2.14

Means (and standard deviations) for each age group's ability to stay connected during the COVID-19 pandemic at Time 1 (T1), Time 2 (T2), and Time 3 (T3)

Age Range	To what extent have you been able to stay connected to your groups during the COVID-19 pandemic? (1-5)	To what extent have you been able to use technology to stay connected to your groups during the COVID-19 pandemic? (1-5)
18-25 years	T1: 2.90 (1.00) T2: 3.00 (0.96) T3: 2.91 (0.97)	T1: 3.86 (1.06) T2: 3.85 (1.11) T3: 3.68 (1.13)
26-45 years	T1: 2.72 (1.06) T2: 2.69 (0.96) T3: 2.78 (0.99)	T1: 3.49 (1.20) T2: 3.53 (1.13) T3: 3.49 (1.10)
46-65 years	T1: 2.48 (1.09) T2: 2.51 (1.12) T3: 2.47 (1.12)	T1: 3.27 (1.31) T2: 3.19 (1.30) T3: 3.14 (1.28)
Over 65 years	T1: 2.65 (1.03) T2: 2.56 (1.03) T3: 2.39 (1.09)	T1: 2.96 (1.15) T2: 3.06 (1.18) T3: 2.78 (1.44)

The 18-25 age group felt that they were most able to stay connected to their groups during COVID-19 at T1, T2, and T3, and they also felt most able to stay connected to their groups via technology use at T1, T2, and T3. The 46-65 age group felt least able to stay connected to their groups at T1 and T2, while the over 65 age group felt least able to stay connected to their groups via technology at T1 and T2. At T3, the over 65 age group felt least able to stay connected to their groups and felt least able to stay connected to their groups via technology.

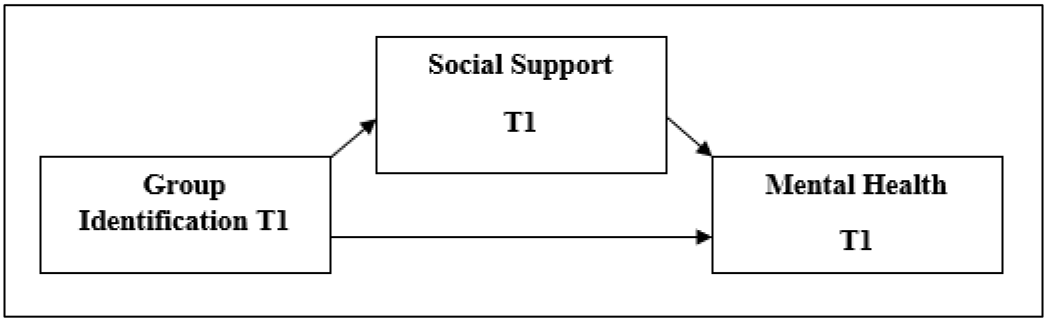
Mediation Analyses

Time 1 Cross-Sectional Mediation Analyses

Previous research indicates that one way in which social connectedness benefits mental health is via social support (e.g., Haslam et al., 2018). More specifically, research has shown that the more participants identify with a group (i.e., feel a subjective sense of belonging to the group), the more they perceive that they receive the social support that they need from fellow group members, which in turn predicts better mental health. We tested this prediction in our T1 data (i.e., does group identification at T1 positively predict social support at T1, which in turn positively predicts mental health at T1?). The model we tested can be seen in Figure 2.2. This is known as a mediation model: in this specific case, we are predicting that social support will mediate (i.e., explain) the relationship between group identification and mental health. The model was tested multiple times for identification and support with each of the three group-types (i.e., community identification and support, family identification and support, and chosen group identification and support), and for each mental health variable (personal wellbeing, loneliness, depression, anxiety, and stress).

Figure 2.2

Depiction of cross-sectional Time 1 (T1) mediation model



Our analyses indicated that the mediation model was significant (i.e., less than 5% probability of the findings being due to chance) for the following variables:

- Strength of participants’ identification with their local community at T1 positively predicted the extent to which participants perceived themselves as receiving social support from fellow community members at T1, which in turn positively predicted personal wellbeing at T1, and negatively predicted loneliness, depression, and stress at T1
- Strength of participants’ identification with their family at T1 positively predicted the extent to which participants perceived themselves as receiving social support from fellow family members at T1, which in turn positively predicted personal wellbeing at T1, and negatively predicted loneliness, depression, anxiety, and stress at T1.
- Strength of participants’ identification with their chosen group at T1 positively predicted the extent to which participants perceived themselves as receiving social support from

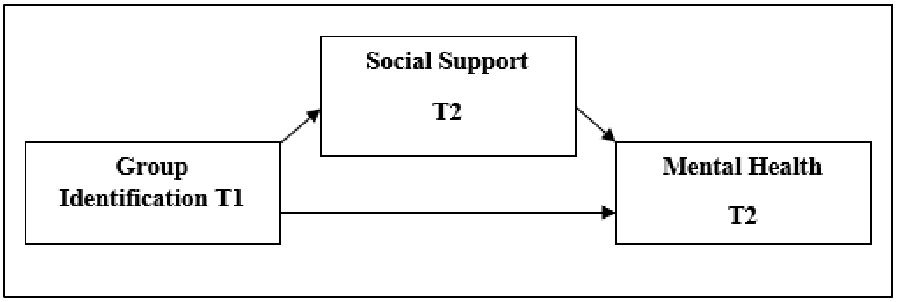
fellow chosen group members at T1, which in turn positively predicted personal wellbeing at T1, and negatively predicted loneliness at T1.

Longitudinal Mediation Analyses

We then tested the same mediation models longitudinally (e.g., does group identification at T1 predict social support at T2, which in turn predicts mental health at T2?). The model we tested can be seen in Figure 2.3. The model was again tested multiple times for identification and support with each of the three group-types (community identification and support, family identification and support, and chosen group identification and support), and for each mental health variable (personal wellbeing, loneliness, depression, anxiety, and stress). The T1 versions of any T2 variables included in the model (i.e., social support and mental health) were statistically controlled for, so that only change in social support and mental health between T1 and T2 were explored in the analysis (rather than the levels of social support and mental health that already existed at T1).

Figure 2.3

Depiction of longitudinal mediation model



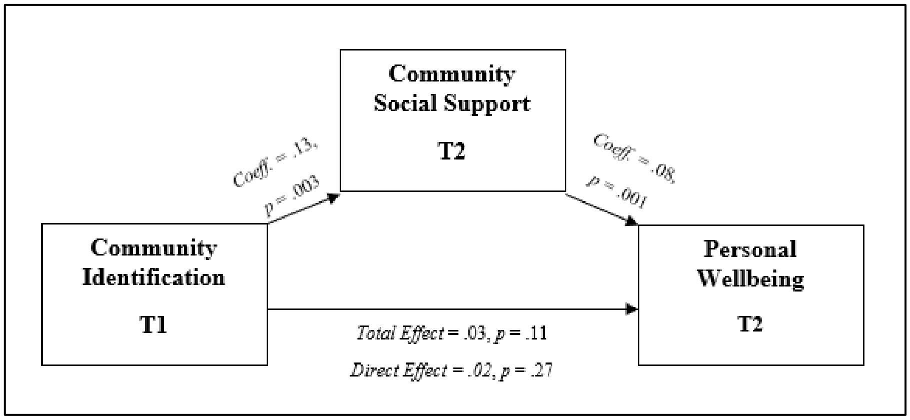
Note: in each analysis, the T1 versions of the social support variable and the mental health variable were controlled for, but do not appear in this figure.

The analyses showed that the model was statistically significant (i.e., less than 5% probability of the findings being due to chance) for the following variables only:

- Strength of participants' identification with their local community at T1 positively predicted the extent to which participants perceived themselves as receiving social support from fellow community members at T2, which in turn positively predicted personal wellbeing at T2 (when controlling for community support and personal wellbeing at T1). This specific model can be seen in Figure 2.4.

Figure 2.4

Statistically significant longitudinal mediation model



Note: The T1 versions of community social support and personal wellbeing were controlled for, but do not appear in this figure.

This model was also tested with the T3 data: the T1 Community Identification > T2 Community Social Support > T3 Personal Wellbeing model was tested and the T1 Community Identification > T3 Community Social Support > T3 Personal Wellbeing model was tested, and neither were statistically significant. None of the models predicting loneliness across time points were significant.

Discussion

Although a convenience survey sample should not be considered to be completely representative of the wider population, our sample does share some key traits with the ONS census data for Nottingham and Nottinghamshire. For example, the percentages of participants within each ethnic group in the sample fall between the Nottingham and Nottinghamshire ONS percentages. In terms of age, although our sample did contain slightly more younger and slightly fewer older people than the general population, there was not a large discrepancy, and our participants ranged between 18 and 83 years. Finally, although our sample contained a larger proportion of women than the general population, this is typical for psychological research (e.g., Smith, 2008), and women also tend to be more frequent users of community services such as education, arts, music, and religious groups (Fancourt & Steptoe, 2018). Together, these observations suggests that we would expect a survey which explores people's experiences of loneliness services within the local community to recruit more female than male participants, which we found to be the case.

The longitudinal survey study reveals some key findings about our participants. The average number of Nottinghamshire loneliness services with which participants had engaged was relatively low (between 0 and 1), and the average rating for service availability was around the scale's mid-point (meaning that participants rated service availability as being neither good nor poor). While these findings suggest that there may be general loneliness service awareness and accessibility issues within Nottinghamshire, the data for the 18-25 age group are particularly noteworthy. Specifically, it was found that perceived quality of the participant's main service was lowest in the 18-25 (young adult) age group at T2, and at T3 the 18-25 age group rated services as being least available (compared to the other age groups). Amongst the Prolific Academic participants, service satisfaction was also lowest amongst the 18-25 age group at T3. Moreover, the 18-25 age group perceived barriers to accessing services as affecting them more than was reported by any other age group at T1, T2, and T3. When coupled with the finding that loneliness, depression, anxiety, and stress were all highest in the 18-25 age group, and that wellbeing was lowest within this group, this suggests that the 18-25 age group are facing significant challenges around loneliness, mental health, and loneliness service engagement. This was observed despite the finding that the 18-25 age group felt most able to stay connected to their groups during the COVID-19 pandemic (both in general terms and via technology), thus suggesting that this age group may be facing social and mental health issues that transcend the challenges of the pandemic, and perhaps that online social connection lacked in effectiveness for reducing loneliness.

Comparing the data for the measures we obtained from the ONS (loneliness and personal wellbeing) with the ONS's contemporary data exploring the same measures indicated that the percentages of participants in the present study who rated themselves as being 'always' lonely was comparable to the percentages of ONS 2020-21 survey participants who rated themselves as being 'often' or 'always' lonely. This finding suggests greater levels of loneliness in this sample but may be due to the differing nature of the rating scale options used in the present study and in the ONS survey, rather than the participants in the present study being lonelier than participants in the ONS survey. However, it did appear to be the case that participants in the present study experienced lower levels of personal wellbeing than participants in the ONS survey, with larger percentages of participant selecting very low responses to each of the personal wellbeing items, compared to participants in the ONS survey data gathered in 2021.

Returning to the topic of loneliness, the data also revealed important associations between loneliness and a range of other variables. Specifically, participants who were lonelier experienced more mental and physical ill-health, including attending more appointments with a doctor. Moreover, loneliness also correlated with a range of variables associated with stigma and discrimination, including gender, sexual orientation, disability status, perceived discrimination, subjective social status, subjective community status, and perceived stigma around seeking mental health help. However, people who identified strongly with their local community, family, and/or chosen group experienced less loneliness, as did people who received more social support from these groups, people who felt more able to stay connected to their groups during the COVID-19 pandemic, people in relationships, and people who lived with others.

Cross-sectional mediation model analysis revealed that participants' identification with their local community, family, and chosen group positively predicted various aspects of mental health via increases in perceived social support from the specific group in question. These findings support previous research (e.g., Haslam et al., 2018) which highlights that a key mechanism through which social connectedness benefits mental health is via increased perceptions of social support. When explored longitudinally, only one of the mediation models remained statistically significant: T1 community identification positively predicted T2 community social support, which in turn positively predicted T2 personal wellbeing. This finding highlights the potential long-term wellbeing benefits of feeling connected to one's local community: something that local loneliness services attempt to encourage.

Overall, although the correlational nature of the study means that we cannot draw conclusions about whether changes in one variable cause changes in another variable, these results support the idea that social connectedness is an important antidote to feelings of loneliness and mental ill-health.

Study 3

Introduction

Study 3 aimed to gain insight (through in-depth semi-structured interviews) into the experiences of individuals who have suffered loneliness or experienced a desire for social connection and have accessed a range of services or activities for reducing loneliness and facilitating social connection. These interviews explored social relationships and personal circumstances prior to service use, the effects of loneliness, experiences of accessing and engaging with services, and thoughts on service availability, accessibility, and effectiveness. Exploring common themes across the interview data using thematic analysis provides insight into the key features of loneliness within Nottinghamshire and recommendations for effective service provision. These in-depth qualitative data compliment the quantitative data collected in Study 2, and the service user perspective compliments the service provider perspective captured in Study 1B.

Methods

Participants

Participant recruitment to the interview study was conducted through several avenues. Participants who completed the Study 2 survey were invited to leave their contact details if they were interested in participating in the interview study. Participants were also recruited through advertising of the study to services within the Study 1A database (which covers a range of service types and service users in terms of demographics and specific needs). Finally, the study was advertised to local Community Support Hub Groups and through the Tackling Loneliness Collaborative network.

Thirty participants representing a range of demographics and service experiences were then selected from those who had volunteered to take part in the interview. These participants were contacted either by email or by telephone and were invited to take part in an interview exploring their experiences of social isolation or loneliness, their experiences with services designed to facilitate social connection, and their thoughts on local services. All participants received £20 in shopping vouchers for taking part in the interview. Participant details can be found below in Table 3.1.

Table 3.1

Participant Demographics and Type of Service Used

Variable	Response	Number	% of Total
Gender	Female	15	50
	Male	14	46.67
	Genderfluid	1	3.33
Ethnicity	White English/Welsh/Scottish/N. Irish/British	22	73.33
	Asian/Asian British	4	13.33
	Other	2	6.67
	Black	1	3.33
	Prefer not to say	1	3.33
Marital Status	Married	15	50
	Single	8	26.67
	Divorced	5	16.67
	Widowed	2	6.67
Qualifications	Postgraduate degree (for example MA, PhD, PGCE) (or equivalent)	8	26.67
	Degree (for example, BA, BSc) (or equivalent)	7	23.33
	Professional Qualifications (for example, teaching, nursing, accountancy)	5	16.67
	A levels / AS levels / VCEs / Higher diploma	3	10
	GCSEs	2	6.67
	Other vocational / work related qualifications	2	6.67
	No qualifications or education	2	6.67
	BTEC National / City and Guilds Certificate	1	3.33
Housing	Privately Owned	19	63.33
	Privately Rented	7	23.33

	Social Housing	4	13.33
Employment	Retired	15	50
	Employed full-time	5	16.67
	Unemployed	5	16.67
	Part-Time Employed	2	6.67
	Carer for relative/friend	1	3.33
	Student	1	3.33
	Housewife/husband	1	3.33
Location	Nottingham	17	56.67
	Nottinghamshire	13	43.33
Service Type	Multiple Services	9	30
	Educational	7	23.33
	Peer Support (e.g., self-help or 12 step groups)	6	20
	Activity (e.g., craft groups or choirs)	4	13.33
	Befriending	2	6.67
	Parent Support	1	3.33
	Carer Support	1	3.33

Participants were aged between 22 and 86 years, with an average age of 60.9 years and a standard deviation of 17.05 years. The length of time participants had lived locally ranged between 6 months and 56 years, with an average of 20.48 years and a standard deviation of 16.38 years.

Data Collection

Participants took part in in-depth semi-structured interviews, which were conducted remotely either over video call or by telephone. Interviews lasted approximately one hour, and questions asked covered the following topics:

1) Social networks, wellbeing, and circumstances prior to service engagement

2) Service engagement, including any volunteering roles if applicable

3) If and how participants' lives changed since service engagement

4) Awareness, availability, and effectiveness of local services

The impact of the pandemic and Coronavirus restrictions were explored throughout these sections where relevant. All interviews were audio-recorded and transcribed using automatic transcription software, and transcripts were then manually checked for accuracy.

Data Analysis and Results

The interview data were analysed using Thematic Analysis, following the method described in Braun and Clarke (2006). First the transcripts were read to familiarise the researcher with the data. Extracts were then coded inclusively to identify discrete datapoints within the transcripts. Related codes were grouped together to form larger, over-arching themes, representing key messages expressed across the interviews. These themes were discussed within the research team to refine and validate the thematic grouping. This resulted in three final themes, each with three sub-themes, which are shown in Table 3.2.

Table 3.2

Summary of Themes and Subthemes

Theme	Sub-Theme
1. Experiences of Loneliness	1.1 Lacking a Shared Identity
	1.2 Effects of Loneliness
	1.3 Compounding Factors
2. Barriers and Facilitators to Service Use	2.1 Structural Factors
	2.2 Individual Factors
	2.3 Service User Identity
3. Consequences of Service Use	3.1 Better Mental Health
	3.2 Better Relationships
	3.2 Circumstances Leading to Negative Outcomes

Theme 1- Experiences of Loneliness

In line with much psychological research, loneliness occurred when participants lacked both quantity of social connections and quality of close connections. For some participants this was a chronic state, but most had experienced a significant reduction in their number of relationships because of major life events such as bereavement and retirement. Even for those with a network of relationships, low quality social contact did not necessarily lessen feelings of loneliness. If contact occurred in relationships which were superficial or lacked a sense of commonality, these were typically less psychologically effective than contact which occurred in relationships where the person felt they shared a meaningful connection.

Loneliness had a profound effect on participants, affecting them emotionally, behaviourally, and socially. In terms of mental health, participants with high levels of loneliness reported anxiety, depression, binging behaviour, and intense cravings for social contact. The effects of loneliness and isolation were often compounded by a range of other stressors occurring simultaneously, such as financial difficulties, health problems, and the effects of Coronavirus restrictions. In other words, for many participants, loneliness was part of more complex social, medical, and financial needs.

Subtheme 1.1- Lacking a Shared Identity

At the core of the experience of loneliness was the sense of lacking a close connection to others. Participants described loneliness occurring as a result of a lack of shared bond of commonality; that is, social connections with other people who are identified as being ‘like me’ in some meaningful way. Those who had such a bond felt a sense of belonging. The absence of this bond often occurred through a reduction in both the quantity and, vitally, the quality of the social connections. Social contact with others did not necessarily relieve feelings of loneliness if there was an absence of shared identity. This was particularly the case for those with specific identities, such as carers.

Loss in the number of social connections underpinned by a shared social identity occurred through major life transitions, most commonly bereavement, splitting up with a partner, retirement, moving home, and going into Coronavirus lockdowns. These ‘transitions’ had served to fragment social networks and leave individuals bereft of the close contact and social support they had previously enjoyed and were also felt as a loss of meaning. This created a void in both participants’ social lives and their sense of self, leading to feelings of loneliness:

When people say to you, what do you do? And I could say oh I work for [company]. Can't say that anymore, now I work at home. There isn't that, yeah, there isn't that identity. [...] I *crave that feeling of belonging, belonging to something. And I think, from speaking to you, I've realised I probably have a need to belong to a number of different things to make up who I am.* (Participant 17, Male, 54, Activity Service)

Losing these shared identities left participants feeling like outsiders, unable to relate to or be understood by others who were not seen as sharing common interests or life experiences. Often the gap between their previous richer social life and their current state of isolation accentuated their feelings of isolation.

Loneliness itself also became a barrier to forming new relationships. Some participants described loneliness as stigmatising, because as well as experiencing the negative outcomes of being lonely, participants found that others who did not have the same experiences (e.g., of mental health difficulties, caring responsibilities, or even the experience of loneliness itself) did not know how to respond, or responded negatively, to their attempts to discuss their loneliness-related difficulties. This lack of shared experience meant that participants often felt 'alone in a crowd', with their social contacts not reducing feelings of loneliness if that contact lacked the quality of shared identity:

It's very difficult to share an experience that no one else has had the experience of. So in that case, I could talk to people about it who would have no understanding of what I'm talking about. And you feel isolated and lonely because you haven't got a shared space. […] Because if you don't feel that anyone can understand what you're talking about or going through y'know, you can be, you can have lots of people around you, but you're lonely because you've got no sense of connection. (Participant 14, Female, 62, Educational Service)

Participants from vulnerable groups, such as carers, were especially susceptible to loneliness through this feeling of lacking shared experience with others. Although caring responsibilities gave participants a sense of purpose, these responsibilities could also be very isolating. This was both because caring responsibilities were so time-consuming that they reduced the opportunity to socialise, and because of a lack of understanding and connection with others who had no experience of caring. The role of a carer was described as being all-consuming, and participants felt that they needed occasional breaks for both emotional and practical reasons; for example, to allow them time to attend appointments. In the extract below the participant, who is a carer, describes the situation of a fellow service user to exemplify the isolation caused by the demands of caring:

Where loneliness can set in and isolation can set in, I mean, if you consider [young carers] they're not getting, they're not getting a life. And in fact, one of the people that used to come to [service], with his mother to [service], he was a young man of thirty. Looking after his mum, he'd given up his job to look after his mum. She had some mental problems. And I said to him, you know, what, what do you do? He said, well, I can't do anything, I cannot meet up with people my own age, because I don't have time. I'm looking after my mum. I mean, that poor young man was isolated. […] It's, it's like, a whole part of the population that are, that is behind the windows looking out. And no one's seeing them, behind, do you know what I mean? (Participant 5, Female, 67, Multiple Services)

In effect, the social identity of being a carer left this group especially vulnerable to social and psychological isolation from others. This intensified during lockdown, both for carers and the individuals being cared for, who were also described as experiencing isolation and loneliness. More generally across the sample, lockdown often accentuated loneliness among the most socially vulnerable by compounding their limited access to social resources, shutting down opportunities to make new contacts, and intensifying their existing experience of isolation.

Subtheme 1.2- Effects of Loneliness

Research on the effects of loneliness has shown a wide range of psychological and physical impacts beyond the immediate feeling of loneliness itself. Our participants clearly evidenced the full range of these effects on health and wellbeing, reporting physical, emotional, behavioural, and social consequences, and often reported that these had increased over the course of the pandemic.

Although the pandemic was a significant contributor to and exacerbator of loneliness, isolation and loneliness occurred before the pandemic occurred and restrictions were introduced. Participants typically reported a history of loneliness deriving from complex social situations which had sometimes resulted in severe mental and physical outcomes:

Interviewer: *Did you ever worry about feeling isolated?*

Yeah, it hurt me quite a lot because I felt like I had nobody to like, turn to if I felt ill and […] if something happened to me. If my mum, because my mum wasn't working at the time, but when Mum was obviously talking about starting to work, that worried me and I couldn't turn to my sister and I had to depend on my Mum, what if something happened to my mum, because then I'd have nobody. You know, I had no one to depend on, no, I didn't know where to turn for help or anything. Like it was just really, like it got me down and like I just panicked about life, living, every day. I just couldn't cope. My family nurse would come round when she came to see me and she'd find me shaking on the floor and not being able to cope. Because I just didn't know what to do. (Participant 9, Female, 22, Parent Support Service)

For many participants, these experiences of loneliness were worsened by the pandemic and lockdown restrictions. Behaviourally, participants reported an increase in binging behaviours such as an increase in alcohol, food, and television consumption. This was not simply the product of boredom or self-indulgence, but a maladaptive way of coping with the intense emotions accompanying loneliness:

Participant 1: *Somehow not seeing people did feel incredibly weird and isolating.*

Interviewer: *Yeah. And how did that affect you then?*

Participant 1: *I definitely didn't cope very well, in the first lockdown. I definitely drank more wine. I definitely ate more. I wasn't really motivated, to, to do any things that I knew would be good for me.* (Female, 62, Activity Service)

In terms of the emotional facets of loneliness, the most commonly reported were depressed mood, anxiety, and a marked reduction in energy and motivation. This reduction in motivation was sometimes reported as feeling lazy, but was accompanied by the depressed mood and perceived lack of control commonly associated with poor mental health. Once more this was exacerbated by the pandemic, and was linked closely to a lack of variety in activities, structure, and routine:

Like sometimes I used to be like, is this the same routine again? Get up in the morning. And just, it was all online learning. It was all I felt like, what am I doing? I don't know sometimes I didn't feel motivated to get up. You don't feel like doing anything. You don't, you feel like, 'When is this gonna end?'. (Participant 2, Female, 39, Multiple Services)

Some participants reported physical consequences related to the behavioural and emotional effects of loneliness, including disrupted sleep and weight gain. Socially, loneliness was characterised by intense cravings for contact, especially face-to-face and physical contact (such as a desire to be hugged), as well as with talk of homesickness and missing everyday social interactions such as chatting, eating together, or being made a cup of tea:

…everything [is] in the home… and no one's even there to make them a cup of tea. I've really missed someone else making me a cup of tea, you know, little things like that mean an awful lot, if someone else can make you a cup of tea or make you a meal that you haven't cooked. Little things like that, you know. (Participant 5, Female, 67, Multiple Services)

Subtheme 1.3- Compounding Factors

Notably, the effects of loneliness were typically compounded by a number of other factors or stressors occurring simultaneously, such as health problems, financial difficulties, or relationship problems, all of which could be mutually reinforcing. This combination of factors was described as becoming overwhelming, and often was the precipitant to service engagement:

Interviewer: *Was it lockdown that led you to start using the services?*

Participant 3: *Combined with a series of bereavements. And a split up with a partner. And definitely lockdown impacted on my work. And the death of my friend, and also taking on responsibility of his partner with cognitive issues. So, it's a combination, it's a real sort of shitstorm, loads of things all coming together at the same time. But loss of income is huge. I say self-employed, but effectively, I'm not doing anything. I've been living off of my savings. And that's had a huge impact, so lack of status, disconnect from people, and then the grief sort of* *compounded as well. And also, the impact of domestic violence as well. So, as I say, so, it's been…*

Interviewer: *Quite a lot, all together*.

Participant 3: *Yes, yes.*

(Female, 62, Activity Service)

For many participants, loneliness was not a distinct experience, but was bound up with a range of intersecting problems and challenges. However, notably, most of these other problems had a socially isolating quality. As we see above, bereavement and relationship breakdown are both major life transitions usually accompanied by social as well as personal loss. Unemployment also involves a loss of social connectedness, as well as loss of meaning and purpose, while financial hardship often socially isolates individuals who have less time and resource to engage in social interactions. Each factor serves to compound and intensify the sense of isolation and loneliness:

I've got a daughter and her grandchildren. And I've got a son, or not a son, I haven't got a son because he died. And he died as well, so that would be something that was happening around about that time. So I had a lot… oh, and also my grandson, who was his son came to live with me, him and his partner came to live with me. Because they had no way to live. So there was a lot going on, really. […] So what happened was, my son died. I can't remember how long ago it was because I block it. It's probably seven years ago or something like that. And then I retired fully, and packed in the one day […] So I think what happened was, I'd got a lot of things happening, my son died as well. So it was all very…everything was just very blurred, you know what I mean? Lots of things happening. (Participant 12, Female, 76, Educational Service)

Theme 1 Summary

The causes of loneliness among the sample were quite varied, often arising from significant relationship, health, or economic changes for these individuals, which had left them socially vulnerable. Likewise, there were a range of mental, physical, and behavioural effects of loneliness. These typically preceded the pandemic but were sometimes exacerbated by the social restrictions imposed by the Government. For some participants, the causes of loneliness were multiple and complex, such that the overwhelming nature of their situation added to their distress. However, a commonly revealed sentiment was the importance of meaningful social connection and a sense of shared identity and belonging, and how an absence of this shared sense of connectedness and understanding promoted feelings of loneliness, especially for those who were already vulnerable to such feelings due to specific challenges and identities. In essence, loneliness resulted from participants' lack of a connection or a bond of commonality with others which could satisfy their cravings for quality interactions.

Theme 2- Barriers and Facilitators to Service Use

When talking of the actual uptake of services to alleviate loneliness, participants discussed a number of factors that either prevented or facilitated service use. These consisted of both structural and individual-level deterrents, including both psychological and physical barriers at the individual level. Structural barriers included availability and awareness of services, complicated service processes, financial constraints, and issues around digital access. Individual barriers consisted of health problems such as mobility issues and anxiety around Coronavirus, and psychological barriers in the form of overcoming the effects of loneliness and the courage required to 'get through the service door'. Finally, developing a strong sense of connection with the service was, for many, a pre-requisite for successful service engagement.

Subtheme 2.1- Structural Factors

Service availability and awareness were the first structural barrier to overcome. Although there were mixed views on service availability, the majority of participants felt that people are not aware of the services that are available. This was felt to be particularly the case for certain groups such as families, older people, and those without access to the internet. This was linked to both a perceived lack of advertising, and the perceived inefficacy of the advertising that does exist. It was felt that potential service users are only aware of services if they actively search for them, rather than services making themselves known. To combat this, participants discussed advertising directly to people in places where they already go; leaflets, activity booklets and newsletters posted through doors were widely recommended, as well as advertising in GP surgeries, libraries, supermarkets, schools, religious buildings, and town squares, where people are likely to see them:

Leaflets dropped in everybody's door because I don't think I knew about [service]. I knew because of where I was. And there's people on this street who could do with that. There's people in this area that could do with that. In the school, my son's primary school, there was people that could have done with that. Nobody knows about it. They need to, they just, they just like advertise to the big, big…. like, maybe they advertise in the wrong places, they're not advertising to people. They're not advertising to the people in need. […] I don't see the advertisement. They need to advertise at the schools, and they need to come one day, maybe give an assembly or something. Or do something. But how are people supposed to know if they don't… if they just get the funding, but they're not really accessing everybody who needs it. There's a lot of people that might still need it who don't go and attend it. (Participant 2, Female, 39, Multiple Services)

However, even when participants were aware of services, some reported that complicated and time-consuming procedures deterred their uptake. Some participants felt that accessing services once they had found them requires a large amount of time, effort, and the excessive provision of personal information. Lack of communication between services resulted in being ‘passed pillar to post’, and often necessitated repeating the same information to different people. Participants felt that access processes should be streamlined, and that services should be more joined up:

You know, so these areas of feeling isolated, because you don't know the information, you don't know, there's nothing out there that we kind of, you kind of need when somebody gets ill like this, and you feel isolated in that alone, you need to be given all the information in one booklet of, one final booklet that tells you everything you need to know. You don't need to be wasting time researching and finding out looking up basic needs at times. And then being sent pillar to post. (Participant 5, Female, 67, Multiple Services)

Some suggested that a process of collecting and then sharing information between services would help those in distress navigate services more easily:

People say they don't want to be telling the same tale every time they make a phone call to a different organisation, they want one point of contact and one person who can supply the information, not to tell them all about it, but say, you need to contact this person. And they've also suggested, if people agree, that information is recorded and shared, so then they don't have to go through the whole, you know…because the one thing you haven't got is time. If you're looking after somebody with high needs. You haven't got time to, you know, be on the phone all the time or, you know, filling in forms and all this endless… (Participant 6, Female, 71, Peer Support Service)

Financially, low cost or free services were reported to be the most accessible, especially for those on limited incomes. Costly courses or services requiring regular or lengthy travel could be financially prohibitive. However, a lack of funding for these services, as well as the impact of the pandemic on personal budgets, was reported as undermining free local service provision. In addition, the loss of low cost or free transport (especially community buses) and community spaces in which to host services were major blows to the continuing accessibility and survival of this universal provision:

We are social animals, we need contact. Social media is nice. It's pretty good. Ringing on the phone is nice as well. bumping into people in the park is pretty cool as well. But it is not the same as having a place where you have a group of friends who understand and get you and don't judge […] we absolutely need those community spaces. And I am concerned that if we continue to try and cut services in inverted commas, actually we'll lose some very good stuff. There are some people doing some incredible work out there. And they need that help. (Participant 29, Genderfluid, 49, Peer Support Service)

Participants also discussed the advantages of and barriers to accessing services and supports online. Some expressed mixed feelings about the transition to online service use but recognised that it was necessary during Coronavirus restrictions. The perceived positives aspects of online access were that it was more convenient than having to travel and it reduced some of the psychological barriers to service use. In part this was attributable to distanced participation lowering the anxiety that accompanied approaching services, especially for those who felt high levels of stigma. Engaging by distance over the internet gave a sense of safety and security as people were reaching out from their home environments:

If you, if you'd said to me, there's this event but you have to make your way there. I think that would have been a barrier. I think the fact that it's a lot, it feels safe in your own home, interacting with people on a screen, you can make a choice to switch your video off. You can make a choice to say actually, I need to leave early, I'm going to go and make a cup of tea […] When my anxiety has been really high the thought of getting from A to B for a certain time would, that would be a barrier. So I would say being online, being in your, comfortable in your own home environment. But you're still getting some, some social, social interaction. So it's kind of like a safety blanket being safe at home, just doing it across the screen. (Participant 1, Female, 62, Activity Service)

Online connection through social media and forums also allowed participants to interact with people with similar experiences from across the world. For some however, there was a strong sense that although meeting online was 'better than nothing', it was not an adequate substitute for face-to-face social contact. Transitioning to online provisions also created a level of digital inequality in terms of availability of access and familiarity with technology. For some group-based activities, this dramatically reduced attendance, particularly among older service-users who were less confident with technology. For those who did attend, there was often technical problems, and some service providers struggled to adapt to delivering services online:

Interviewer: *Did the fact they moved online, and were all Zoom or whatever, did that change the nature of the relationships at all?*

Participant 16: *Yes, they're not as good, they are more distant. They're more 'tasky', actually. You lose some of the social richness […] Basically, they're always pretty jolly social affairs, with the sort of, you know, the sort of social interactions alongside the actual whatever we were looking at. And when we went online, which we did during the lockdowns, well, firstly,* *the attendance dropped by half. And secondly, you felt more distant from people. I mean, you know, you didn't get that, that sense of developing relationships*. (Male, 70, Educational Service)

Subtheme 2.2- Individual Factors

Even once people had found and approached services, there remained a variety of barriers to service uptake. Some of these related to the individual characteristics of the service users, with physical barriers including difficulty travelling, particularly if they had disabilities or mobility problems. In addition, over the course of the pandemic, worry about COVID-19 was also a key health concern which could deter people from traveling to engage with services, especially if they were older and/or clinically vulnerable:

I would like to do more things, [interviewer's name]. If there were other things out there. But I would really like to do with my age group. I don't think that's easy to find. Because I think my age group or we're still working. You know what I mean? And that's, that's a bit harder. And also, I'm now finding it hard to go out of an evening. For driving purposes. I've got some cataracts on my eye, and I don't prefer to drive in the evening, because of the lights, headlights coming towards you. It affects your eyes. So, I'm a bit limited that I can only go somewhere that I can walk now. Or if I had to catch a bus. Or if my husband felt up to, he can drive, he's got an adapted car, if he felt up to taking me, but then it would mean him having to come out again to pick me up again and things like that. (Participant 5, Female, 67, Multiple Services)

Psychologically, accessing services was described as requiring a good deal of courage to 'get through the door', with attending alone being especially difficult. This difficulty was compounded by the effects that loneliness, isolation, and other stressors had on participants' psychological resources and interpersonal confidence. In effect, long periods of isolation and loneliness had a corrosive effect on participants' social confidence and skills, resulting in increased difficulty in engaging in basic social interactions with service providers:

Interviewer: *Did you feel any hesitation or was there anything that made it feel difficult to go along?*

Participant 27: *Yes. I stood outside for a bit before I actually went in, somebody saw me standing outside and they said can we help you? […] Just leaving the house was a chore. As I say I spent the best part of two years just sitting in the corner on the settee, I didn't have any curtains open I just sat more or less in the dark. So actually going out of the house, and to do it on my own, was a massive achievement.*

Interviewer: *Yeah, a really big step.*

Participant 27: *I got tongue tied just talking to [service provider] because I didn't know her.* (Male, 67, Befriending Service)

Subtheme 2.3- Service User Identity

Once participants had found, accessed, and attended services, beneficial engagement then often hinged on whether they developed a sense of connection with the service. These connections were created both through a recognition of sharing important characteristics with other service users, and through interpersonal engagement with others in the service.

Being properly introduced and involved at the start of group encounters had a positive effect in engaging new participants, especially for those involved in community-based group activities, and especially when both group leaders and members actively welcomed and engaged newcomers. This allowed for the development of a shared sense of identity within the group, and when this was present, participants reported a sense of belonging and felt understanding.

However, if this sense of commonality and welcoming is absent, then a shared identity fails to form, undermining positive social contact and connection. In such cases participants did not feel involved in or a part of the group, and often did not continue to attend the service:

Participant 12: *And one woman did talk to me, a really nice [...] she was very, it was very useful to actually meet, she sat next to me. Probably if she hadn't spoke to me, I might not have gone again. You know, you're not a part of it. You don't feel like, these people don't make you feel a part of it. So it's good I think to go along with somebody. And then they can introduce you to people and explain things to you, but I just went along by myself.*

Interviewer: *Yeah. And because you have had this woman that sort of talked…*

Participant 12: *…talked to me, and was very nice and explained things to me. And so that was, you know, that was good.* (Female, 76, Educational Service)

As well as properly introducing and welcoming new service-users, service leaders and other members being supportive and accepting of participants for who they are was perceived as important for developing a sense of connection and belonging. This was expressed through having the time and space to share within the service and being treated as an individual rather than 'as a number' by group leaders. It was also important that service-providers established a nurturing, supportive relationship with service users, where the service-user felt that the service-provider understood their difficulties and their point of view:

She'd just like dismiss me and not help me or anything and I didn't see her or anything. And in the end, I just told her I was fine and just got her to leave me alone. But I've got, I've got a new one now which, she's much better and she's helped me quite a lot to be honest […] She listened to what I said, and she did a referral for support from [service] and things and she's really sort of listened to me and checked in on me. And I know I could ring her and she's very understanding of what I'm trying to say. And even if I am not right in what I'm saying, she would understand why I'm trying, like why I'm saying what I'm saying, if that makes sense. (Participant 9, Female, 22, Parent Support Service)

A particularly important component of being able to share and connect was having a sense of commonality formed through shared experiences:

I came across people who had a shared problem. I had never come across this before. So, it was a specialist community of people […] who I got to know, safely. […] And so the relief was intense, immediate, and sustained. Because I'm still with groups of people, I've come to know myself as a person really, who has general emotional difficulty. […]. And this, this came into my life, to help me with social contact, with loneliness, with someone who I could share problems with. And in that first group, it was of course, an intensely close experience, because these were people who had a shared difficulty. (Participant 18, Male, 66, Peer Support Service)

However, group dynamics could also serve to exclude new members. If there was a sense of groups being an exclusive 'clique', or space that space is not provided for the service user to share, a sense of connection fails to form. In these cases, participants reported feeling excluded and like outsiders. This led to worries about fitting in, and a lack of connection:

I suppose the unhelpful is when groups of people all sit with their friends, and you don't feel that you can approach that group because they're cliquey. But I, I'm sort of a bit aware that I can be in the clique, if you see what I mean now, because I know a lot of people, but I know that is off-putting and also when I was getting better from being ill, and this was way before I joined [service], it didn't take much to knock my confidence back. And for me to feel that everybody was more interesting, more dynamic, more everything than I was. (Participant 13, Female, 68, Educational Service)

Theme 2 Summary

A number of the barriers and facilitators to service uptake were practical or due to the specific circumstances of the individual. Low levels of awareness, as well as high levels of bureaucracy and financial cost could serve to prevent individuals accessing the services they needed. The pandemic compounded these issues for specific groups, with medical vulnerability and lack of digital access also forming barriers to uptake, especially among the elderly.

These practical concerns could be compounded by psychological difficulties. As noted above, loneliness can be self-perpetuating; it can corrode social skills and raise anxiety, such that interactions with strangers on sensitive topics become much more difficult to navigate. Conversely, the factors facilitating service usage were those which helped individuals overcome these psychological challenges. Feelings of having one’s needs recognised and validated by others within the service and of being welcomed and supported by others helped participants overcome initial anxieties and reticence. A sense of shared commonality among service-users and a feeling of being understood by the service-provider helped facilitate this sense of belonging, though exclusive group dynamics could also serve to undermine this effect.

Theme 3- Consequences of Service Use

Participants engaged with a wide range of services in many different forms, and most reported that service use had very positive effects on their wellbeing. Improvements in mental health included a marked increase in perceived confidence, resilience, and mood. Relationships increased in both quantity and quality, creating a sense of community and belonging. However, it was apparent that these benefits were only evident if participants experienced a psychological connection (or identification) with other group members. Notably, without this connectedness, service use could actually have negative effects on wellbeing. Furthermore, participants discussed some limitations to what services could achieve. For those with complex or intractable problems, multiple sources of support were sometimes required to make a difference. Moreover, it was evident that community-based services were not necessarily a suitable substitute for formal mental health support.

Subtheme 3.1- Better Mental Health

In addition to improvement in mood and a sense of wellbeing, a central benefit reported from service use was a marked increase in personal confidence. This manifested in a number of ways. Participants described increased purposefulness or ‘finding themselves again’ through service use, as well as feeling more confident that they will be accepted for how and who they are. This was also reflected in greater interpersonal confidence, with those who had experienced social anxiety as a result of prolonged isolation and loneliness reporting a decrease in these symptoms:

I've got more, I've definitely got more confidence now, four years ago, I probably wouldn't have said boo to a goose. I was in a really dark place. I just didn't want to… I mean, my partner was, I was scared to go out, because I didn't want to come back, and obviously my partner, she would be scared of letting me go out on my own. Because she didn't know whether I was going to come back or not. And so I just sat, as I said, two years I spent in isolation just sitting there without curtains open or anything. Now, we haven't got any curtains because now I want to see the world […] That's, that's where I am, that's where I am in myself. I missed out on two years and I want to see the world go by now and I just keep the curtains open. And [at the *service] now, I can have a laugh and a joke, I call the bingo.* (Participant 27, Male, 67, Befriending Service)

Improved mood and confidence often led to an increase in activity; service use branched out into doing more activities, including activities that participants felt they would not have had the confidence to do before engaging with the service. Having more routine and structure also had positive effects, as participants felt more grounded and energised by having things to do and to look forward to. Service use also facilitated this increased activity through increased resilience: participants felt more able to deal with stressors after service use, as increased confidence and social networks acted as psychological safety nets. Alongside improvements in confidence, activity, and resilience, service use acted as a welcome distraction and respite. All of these aspects combined meant that participants felt that service use was protective against depression:

I'm not scared to go out anymore. I can go out confidently, and I'll just go to different new places, meet new people, I'll be less like depressed, because I've got more people to talk to. And I know I can just pop out to them. So like a group or a play centre, and just chat with any parents that are there. And like, yeah, less nervous. It's just really like boosted me up, like, in my happiness and my confidence. And yeah, it's really changed me. (Participant 9, Female, 22, Parent Support Service)

Subtheme 3.2- Better Relationships

Service engagement also resulted in improved social relationships, which for many was the key benefit of their activity. Participants reported that service use dramatically increased the number of social connections they had, with the opportunity to meet a range of different people with whom they would not otherwise have interacted. As well as broadening participants' social networks in terms of the quantity of relationships, service use also led to a deepening of social connection, with participants developing strong relationships with other service users:

I now know some people, I know some people in that group in a way that their closest family will never know them. And they know me in ways that my family will never know me. […] when I'm in that room, I know I'm with friends who have been so unbelievably supportive to me. I, I certainly feel and have, you know, have had contacts, if I got into a difficulty, I could phone them. I know we could speak with each other openly. I know it would be, I could trust them. I know they would be supportive of me. And I hope they know the same in return. And some of them do, do that. (Participant 18, Male, 66, Peer Support Service)

This improvement was reported in terms of the quantity, quality and diversity of relationships which enhanced both the depth and the resilience of social networks. In effect the activity served to scaffold the development of the participants' networks. This combination of increased quantity and quality of relationships gave participants a sense of belonging; whereas before they had felt like strangers, disconnected and separate, establishing local relationship made them feel at home and a part of their community:

I now have a series of relationships that are somewhere on a spectrum, okay. At one end of the spectrum, I know people, you know, I have a huge as it were circle of acquaintances to the point where, you know, I mean, whereas before I always felt a bit of a stranger in where I live, but now, you know, chances are, if I walk out the door, I'll be able to say hello, and hello, how are you? Not just your immediate neighbours, but to other people I've met through the [service]. So that's the sort of, that's the as it were smallest, the least profound sort of relationship. And at *the other end of the spectrum, I've got people, you know, there are people who I now count amongst my closest friends* (Participant 16, Male, 70, Educational Service)

In addition to establishing new connections, service use also led to improvements in participants' existing relationships. This was due to both improvements in confidence and mental health, which in turn improved the quality of their interactions with others in their social circle. Having a wider social network provided participants with a broader range of sources of support and a greater sense of resilience. This meant that participants were less reliant on their previous connections, resulting in less strain being placed on these relationships:

I'm a lot more confident and not relying on people as, because it was put a lot of pressure on Mum to rely on her all the time. So, I'm a lot more confident not having to rely on her [...] Me and my daughter have a much better bond now, because we're both just a lot happier. And I've got a new relationship which is more stable now. Which has made things a lot better for me. So, I've got, every aspect of my life is a lot better now. (Participant 9, Female, 22, Parent Support Service)

Subtheme 3.3- Circumstances leading to negative outcomes

The positive benefits of service use evidently depended on a number of key factors in order to unlock the positive social and psychological benefits to participants. In addition to being aware of the service and having the means to access it, service-users needed to form a bond with the service. Indeed, a failure to form a connection with the service or the loss of this sense of shared identity after the end of service-use could actually lead to negative outcomes. Moreover, there were limits to what service-use alone could achieve. For those with complex needs or severe mental health issues, community services may not be sufficient or a suitable substitute for formal mental health support. Although service use usually resulted in broad improvements in wellbeing, these benefits were only accessible if a sense of connection to the service (a sense of shared identity with providers and other clients) was present. If this bond failed to form, then service use could be experienced negatively:

Anyway, last week, he went along to a craft session. And, you know, he, they got him making something. He's 66 years old, okay. They got him making something. And they gave him some lunch. And he came home and he just cried. And he said, 'What am I doing, at 66 years of age, doing a craft session with people who are so much older than me, who, who just haven't got the conversation?' […] Because it made him feel so bad. If you understand what I mean, it's like, if he was with people his age, if he was with men, his age, not women in their 70s, 80s, or whatever, if he was with some men his age that were doing crafts together. Do you know what I mean? Something that was applicable for the person. It may have made his day be very different. (Participant 5, Female, 67, Multiple Services)

Furthermore, new relationships formed within some of the group activities were limited to the formal meetings, as participants were typically discouraged from sharing contact details and forming relationships outside of the service. While this stemmed from concerns around confidentiality, it meant that participants sometimes felt low or disconnected after a meeting, with some reporting feeling a 'psychological dip' after the end of a course of service-use or activities. In effect, the regulations around extra-activity contact meant that there was sometimes a limit to the extent to which those new relationships could scaffold social activity outside of the group, and so at the end of participation the close connections within the group could be suddenly lost:

The other thing that I thought was problematic was that it was only six weeks. And after the six weeks that's it, the mat's pulled from under your feet, and you're thrown back into your situation. Because of confidentiality, there's no sharing of phone numbers or, so we can't initiate a do it yourself, let's continue this group. So that too is, so that only it being six week is a problem. […] and the others, again, the people on the on the course, all struggling, but bonded, we were a real crew. We didn't go to the pub afterwards. I noticed that. I was sort of sad when it was over after the hour, and I had to go back to my house and be on my own again. (Participant 3, Female, 62, Activity Service):

Participants also felt that there were limitations to what services could achieve. For participants with complex social and health needs there was acknowledgement that one service was unlikely to solve all of their issues, and that they would probably need to access multiple services to make significant improvements to their wellbeing. There was also a recognition that community-based services targeted at improving social connectedness cannot easily replace formal mental health support, especially for those with more severe mental health issues. It therefore appeared that combining mental health support with service use might be necessary for some service users:

But it was a combination of - I'm doing a triangle shape here - three things. So, the counselling has kept going. And I've got that for 26 weeks or more. So that's laid down a longer foundation. And I see the sort of [service] and [service] on that line. And I think if I'd done either of those alone, in isolation, it would have just been… make you feel better for a few minutes, and then you know, or a few… and then stop it. And that's not, that wasn't good enough. […] Engaging with having the combination, so it's a package. Having the package of the counselling, the [service] and the [service]. (Participant 3, Female, 62, Activity Service)

Theme 3 Summary

Participants talked extensively about the perceived benefits of taking part in their service. For most, they experienced an alleviation and a reversal of the effects of loneliness. These tended to be reported as cumulative, such that the positive mood, energy, and activity levels associated with using the service then led to an increase in more general social activity. In the most successful cases, this contributed to a broader sense of connection to the locale, as well as a heightened sense of belonging. In part this improvement is attributable to the psychological connection users formed with their service, and it was notable that benefits were lessened or even negative when this bond and sense of fit was not present. Other benefits accrued through the impact of the activity on service-users' other social relationships. New social bonds forged due to participants engaging in the service/activity could help take the pressure off existing relationships which had suffered due to over-reliance or the effects of stress. More generally, the increase in quantity and quality of relationships led to participants feeling more resilient, as well as more connected. However, there were several important barriers to connection, including the transient nature of some services/activities and barriers towards creating sustained contact.

Discussion

The themes identified in the interviews resonate with much existing literature on the causes and consequences of loneliness, as well as with previous research into the effectiveness of loneliness-reduction interventions. In particular, the finding that the presence of a shared sense of connection to others was felt to be the 'active ingredient' of their service fits with much research into the benefits of groups for health (e.g., Haslam et al., 2018, 2019; Kellezi et al., 2019; Wakefield et al., 2020). However, the findings also attest to the range of factors which exacerbate loneliness, as well as the factors which can impede uptake and effectiveness of loneliness-reducing services. Below we review these in turn and consider what implications these might have for service development and coordination across the city and county.

First, it is evident that loneliness is a serious and consequential problem for our interviewees. The experiences and symptoms reported to us fit with previous research on this condition but were clearly at the more severe end of the spectrum. Some had long-term social vulnerabilities as a result of their personal life experiences, and these often had disrupted their social connections. Others belonged to socially vulnerable groups whose life circumstances predisposed them to social isolation and loneliness, such as carers or the elderly. Most of these individuals reported that the pandemic had significantly exacerbated the causes of their loneliness, as well as intensifying the experience of loneliness itself. Our first main finding is thus that there appears to be significantly increased need for services among those who were already socially vulnerable before the COVID-19 pandemic. We would suggest that attempts to scope unmet needs start with these populations.

However, our second point would be that, in the main, services do appear to work. The testimony of the majority of participants was that their service-use had positive and sometimes transformative effects on their mental health and wellbeing. While previously their loneliness led to lethargy, depression, and increased social anxiety, participants' service use typically led to an uplift in mood, increased energy, and enhanced self-confidence. In other words, the services that participants were using were reported to directly counter and often reverse the negative consequences of loneliness. In effect, services initiate a virtuous cycle of positivity, activity, and social connectedness which go beyond the single activity and enrich participants' broader social networks, with the most successful services resulting in enhanced feelings of community belonging. We would suggest that, where appropriate, consideration be given to ways of extending the social benefits of services beyond the activities themselves, and that enhanced community belonging should be considered as a desired outcome of service provision.

Third, as noted above, the interviews give a very a good insight into the core psychological mechanisms through which services have their effects. Loneliness was often attributed to a lack of connectedness with others and in particular a ‘shared sense of identity’ based on a sense of mutual understanding, trust, and support. Services which fostered this sense of connection worked well for participants, and those who felt welcomed, heard, and understood were those who identified with their service and reported most benefits from their engagement. In particular, group leaders were reported to be pivotal in setting the norms of inclusion and initiating inclusive behaviours. Given the importance of group dynamics for the success of services, we would suggest that some consideration be given regarding the advice and training given to those running groups and activities in the community in order to enhance the ability of their services to engage more users.

Conversely, we also have an insight into when and why service uptake did not occur. In practical terms there were the range of barriers known to deter service, use including lack of awareness, high costs, and inaccessibility. From a psychological perspective, it was notable that participants experiencing loneliness had increased social anxiety, apprehension, and stigma consciousness when approaching services (which may intensify the challenges of talking to strangers) as well as experiences of excessive bureaucracy (which meant they needed to repeat their details and experiences to multiple staff or providers). As noted above, mental health problems such as social anxiety are well-documented effects of chronic loneliness, but it is apparent from our interviews that they serve to deter individuals from seeking and accepting help. We would suggest that services which scaffold participation by either providing one-to-one support or by extending a warm welcome early in the contact process will be more successful in tackling these increasingly prevalent long-term effects of loneliness.

Fourth, we have some insight into why specific groups may be especially vulnerable to loneliness at this time, and what can be done about this. Specific groups such as carers, those who have experienced major life transitions and/or grief, and people in financial distress already tend to have impoverished or fragile social networks. These networks have been further damaged by COVID-19, since the social restrictions and increased pressure on finances have further impaired people's ability to maintain social activity. Group-specific challenges such as the medical vulnerability of older adults, cancer patients, and others with complex medical needs further compound this isolation. Indeed, efforts to overcome social restrictions such as online provision may inadvertently serve to exclude groups without the means or the skills to engage. Services targeting the needs of vulnerable groups are often keenly aware of their excessive social vulnerability but need to communicate clearly that they understand and are willing to accommodate and overcome these challenges.

Fifth, our findings point to the importance of recognizing that many of those experiencing from loneliness have multiple complex needs. Some of our participants report harrowing stories of experiencing relationship loss, financial stress, and/or illness in quick succession, leading to their feelings of loneliness being experienced as overwhelming loss. A single service may help with the immediate effects of loneliness for such individuals but is unlikely to provide all the support they require to address the root causes of the problems in their lives. We would recommend identifying ways of joining up provision for especially vulnerable clients which prevent placing a bureaucratic burden upon them and maximize their chance of accessing the range of services they need.

Of course, there are several limitations that need to be borne in mind when interpreting these results. We must acknowledge that recruiting people with extreme social vulnerability is very difficult, not least because heightened social anxiety, depression, and depleted social skills make sharing their experiences difficult. Consequently, we are likely to have captured more positive than negative experiences of service usage in our sample. Nonetheless, to have captured at least some negative experiences of services means that these experiences are to some degree represented in our analysis. Also, these interviews have been undertaken at a particular timepoint within a rapidly changing social and economic environment. For example, we expect that while

COVID-19 will remain an important factor exacerbating the loneliness of many individuals and groups, financial hardship will play an increasingly significant role in the social vulnerability of many individuals and families, especially in disadvantaged areas. Consequently, we advise that regular scoping of emerging needs occurs in order to remain alive to the ways in which the complex economic (as well as medical and social) challenges facing the population give rise to intense loneliness among different demographics.

General Discussion

Project Summary

Loneliness has been recognised as a worldwide burden on health and wellbeing. It disproportionately affects the elderly and socially/economically/medically vulnerable groups, serving to compound their isolation and marginalisation. Its cognitive and psychological effects are complex, such that chronic loneliness leads to heightened anxiety and threat-perception as well as social withdrawal, hence becoming self-perpetuating. The COVID-19 pandemic has served to exacerbate the prevalence of loneliness and to increase health inequalities.

Within this context, our research project had three aims: to understand the experience of loneliness and the social needs of residents of Nottinghamshire; to assess the services and resources currently in place to address these needs; and to explore the impact of engagement with loneliness-reducing services upon service-users.

Study 1A and B Summary

Study 1A captured the range and diversity of loneliness-reducing services across the county and city. Bringing together and synthesizing information from existing databases, we identified a total of 213 services which report addressing loneliness as their primary (69) or secondary (144) aim. These services are diverse in nature, being composed of both national and local organisations and varying in the specificity of their offer, from general (those with a broad remit to enhance social connectedness and those targeting the elderly, women, youth groups) to specific (e.g., those focused on specific disabilities, illness, ethnic, occupational groups). The medium through which they operate also varies, with some offering exclusively face-to-face support, others operating online, and a small proportion offering a blended provision. In effect, what we have uncovered is a broad range of varied offer across the county.

Study 1B considered a subsample of these services in more detail. Examining the responses of 36 services to detailed questions about their provision, we noted once more the diversity of the organisations involved in terms of their scale and reach. At the same time, it is evident that many share common goals regarding the provision of social support, the engagement of their members in social activities, and of course the broad aim of loneliness reduction. Many services report success in meeting the needs of clients, though we also noted a set of prevalent and substantial barriers to effective delivery, including resourcing, staff, training, outreach and engagement, and accessibility. In terms of resource, low levels of funding or the perceived inflexibility of funding resources (as well as the uncertainty in the funding environment) can prevent the recruitment and retention of core staff and limit the ability to deliver services. In terms of accessibility, reaching those experiencing loneliness is an inherently difficult task and one which service-providers recognise can be compounded by issues of physical disability and accessibility, psychological concerns (e.g., anxiety, confidence, and stigma), and economic deprivation, which can limit the ability of clients to avail themselves of services.

Study 1B also detailed the impact of COVID-19 on service-user needs and delivery and showed that the pandemic has disproportionately affected the groups and individuals who have been previously vulnerable to loneliness. The elderly were noted as being especially disadvantaged, as the pandemic has disrupted their already fragile social networks as well as placing some of them in the medically vulnerable category. For the population more generally, social restrictions have led to some being trapped in challenging domestic situations and lacking peer support, and others have lacked the ability to access services which could help to address their needs. Services themselves have been affected in a variety of ways, including through reductions in staff budgets, as well as illness and shielding among staff and volunteers (many of whom are themselves elderly). They have done their best to adapt where possible by providing their services at distance or by creating new outdoor activities for clientele, and for some services new methods of remote contact have been welcomed and will be retained in combination with traditional service delivery in the future. While diversification of provision has proved successful in many instances, it has also created some additional barriers, including digital exclusion among clients who are unable or unwilling to use digital connectivity to avail themselves of support, and a lack of skills and/or training in making digital adaptations to service delivery within some services.

Most of the sample of service representatives who completed the survey felt their service was likely to be sustainable and able to deliver services for at least the next 12 months. However, this was not unanimously the case, and variations in feelings of being well-supported were evident across services. While the sample size was small and postcode details for services were not always provided/available, analyses using the indices of deprivation suggested that those services in areas of high deprivation more often reported feeling that they were not well supported.

Study 2 Summary

Study 2 reported the findings from the online survey of 797 residents of Nottinghamshire across three time points. While this is not a completely representative sample (it includes more females than males and fewer in the older age categories than in the younger age categories), it is relatively well matched to the most recently available ONS data across the range of demographics measures for Nottingham and Nottinghamshire and provides insight into the range of experiences across the city and county, as well as the different levels of need and service uptake among different social groups. We noted a sizable proportion of the population across all demographic categories report some degree of loneliness. Analysis of the ONS loneliness data for the area suggests that loneliness is slightly higher in this sample than in the ONS sample, although measurement variations should be noted. Loneliness is reported as being especially high among the young adult age group (18-25 years) and was lowest in the over 65 years age group. At the same time, we note that the ability to remaining connected and to use digital technology to remain connected during the Coronavirus pandemic was highest among the young adult age group, suggesting a complex relationship between perceptions of social relationships, online social connection, and loneliness.

This is concerning, as our results also indicate significant and strong associations between loneliness and poorer mental health (depression, anxiety, and stress), as well as general wellbeing across all time points. Marginalised, stigmatised, and/or disadvantaged groups appear to be at particular risk of loneliness and negative health outcomes, with significant links between gender, sexual orientation, disability, and perceived discrimination and social status, reflecting national trends. Those who reported a greater sense of stigma around help-seeking also reported higher levels of loneliness. These negative mental health associations are accompanied by both poorer reported physical health among those reporting loneliness and increased healthcare usage (in the form of recent GP appointments), pointing to a likely increased burden on healthcare services as a result. These findings also mirror national data (as reported by the ONS) and international data during the pandemic, although comparisons between our data and the ONS data indicate that wellbeing was lower in this sample than the ONS data collected in this area in 2020/21. Our sample also allows an exploration of the barriers to service use among these participants. In terms of age, young adult participants typically reported the greatest levels of barriers to service usage and service satisfaction.

This study also revealed the importance of a sense of identification (i.e., a shared sense of belonging and connectedness) with meaningful social groups, including families, the community and groups of participants' choosing, e.g., hobby, friends, or activity group) and how these groups were seen to provide social support. This social connection and support were shown to be closely linked to better mental health and reduced loneliness across the survey time points. This is important given that those living alone or not in relationships were more likely to report greater loneliness. Longitudinal analyses showed that a key predictor of better mental health over time was feeling part of the community and having a sense of perceived community support; something that services often try to promote as a longer-term goal.

Study 3 Summary

Study 3 provided a qualitative exploration of service-user experiences of loneliness and social connection within Nottingham and Nottinghamshire, as well as an examination of the predictors and outcomes of loneliness and isolation. The study also sought to enable an exploration of the impact of COVID-19 on the longstanding needs of residents, as well as the efficacy of service delivery and of services' adaptations during the pandemic. Across thirty interviews with Nottinghamshire residents of mixed ages, the study revealed three primary features of interviewees' experiences.

First, loneliness was caused by multiple factors, including relationships changes, health challenges, and bereavement, but it was also exacerbated by compounding stressors such economic hardship and events such as the pandemic and the social changes it brought about. The outcomes were emotional, behavioural, and psychological, but at the core of the experiences was the sense of a lack of being connected to others in a meaningful way, which prevented feelings of belongingness, commonality, and being understood. Second, there was a variety of perceived and experienced barriers to effective service engagement and reconnection with others, which could lead to further isolation. Barriers ranged from lack of knowledge of services, unwillingness to engage with excessive bureaucracy, inability to physically access services, and psychological issues such as social anxiety. Being supported to access and attend services could help overcome these issues, and once within a service, feelings of being welcomed, included, and having a sense of fit and understanding with others aided the development of successful social connection. Whereas experiences of being marginalised and feeling unwelcome led to disengagement and negative service experiences. Finally, the interviewees shared their positive experiences of service engagement, which they associated with reduced loneliness, increased confidence, and renewed energy. Positive service engagement was often also linked with enhanced social activity outside of the services, and this could lead to more familiarity and beneficial connection with the community at large. However, it was felt that these radiating benefits could be undermined in situations where barriers were in place or when services were short-term and/or closed, thereby preventing sustained contact between group/service members.

Implications

Drawing together the extensive findings from the four studies, we can identify several broad implications, which lead to a series of evidence-based recommendations.

Experiences of Loneliness and Social Connection

The data collected from service representatives and from residents using survey and interview methods indicate that there are significant needs regarding loneliness and wellbeing across Nottinghamshire, which are roughly in line with data collected both locally and nationally. Specifically, loneliness is closely linked with poorer health and wellbeing in various forms, and is compounded by a series of social, economic, and health-related circumstances. Loneliness has been exacerbated by the Coronavirus pandemic, but this is more marked in populations which already faced challenges or experienced vulnerabilities. A key factor linked with loneliness is a sense that people lack meaningful social connection and the support, belonging, and understanding that this brings. Conversely, a sense of shared identity and belonging, whether it arises from family, friends, community, or activities and groups linked to services, can bring about health and wellbeing benefits which can be cumulative over time. It is therefore vital that residents have opportunities for social connection in order to reduce their loneliness and improve their health and wellbeing.

Experiences of Service Use: Successes and Failures

Nottingham and Nottinghamshire have a varied range of services that address loneliness and lack of social connection both directly and indirectly. Some are for the general public, and others provide targeted support for specific groups. Knowledge of services and service engagement is often reported as being low, and increased access to services and the building of service satisfaction is required in order to ensure wellbeing benefits. There appears to be lower satisfaction with services amongst young adults compared to older adults, but barriers to access exist across the community in various forms, including physical accessibility, the burden of bureaucracy, and psychological experiences/expectations. In the context of the Coronavirus pandemic, digital exclusion and service adaptation have also been an issue. Services themselves report a range of needs, including service-user engagement and access to flexible funding to support core costs such as staffing, and the time and resources needed to train volunteers. Service engagement can have a positive and cumulative impact on service-users' health and wellbeing if they are supported to join and access services, if they are made to feel welcome, included, and understood, and if they can then form a lasting connection with others. However, services need to know how to promote these environments in order to encourage social and psychological connections, otherwise there is a risk of disengagement and worsening of loneliness and disconnection.

Diversity of the Population

Our survey indicated a wide range of levels of need and experiences of service usage. In terms of loneliness, we noted high levels among the lower age group (18-25 years) reflecting a more general national trend towards loneliness among this age group. These findings must be treated with some caution however, as previous research has indicated a reluctance to disclose loneliness (particularly among the older generation), and so our self-report data may be under-estimating the actual prevalence of loneliness among our sample. We also note a range of service access and satisfaction, which is again unevenly distributed across age groups. Whilst our sample has more females relative to the general population, it is generally well-matched with the ONS's Nottingham/Nottinghamshire demographics, and our data reveal previously established trends in terms of associations between vulnerable groups and increased loneliness that are deserving of monitoring and investment.

Diversity of the Provision

As noted above, the services aimed at reducing loneliness across the county are diverse in terms of size, focus, and offer. On the one hand this poses a considerable challenge to the oversight and coordination of this effort. Given the diversity of the groups supported, a single approach to loneliness reduction is unlikely to fit with the remit or the aims of all organisations, and a single type of support is unlikely to address all service-users' needs. On the other hand, diversity has the benefit of offering more resilience to the effects of COVID-19 safety measures. A wide range of online and offline offers means that during times of lockdown, some services remained in operation, while afterwards (in the transition to a less restrictive social environment), face-to-face interaction was then available to combat the effects of chronic isolation and loneliness more effectively.

Resourcing Needs

Across the responses a common theme was the need for adequate resourcing to maintain service delivery and to offset the challenges of the pandemic. Resourcing for staff and operational costs were reported as particularly important to obtain, as without these organisations are vulnerable to high levels of staff turnover and difficulties in recruiting new staff. These challenges were exacerbated by the Coronavirus pandemic, which saw a reduction in the organisations' ability to attract funding, as well as pressures on staff and volunteers occasioned by illness and shielding.

Offsetting the Impact of the COVID-19 pandemic

The effects of COVID-19 pandemic were evident across the responses from services and service-users. In line with the broader patterning of effects noted by the ONS and the scientific community, the pandemic has served to exacerbate existing social inequalities and challenges. Groups and individuals who were previously vulnerable to COVID-19 are now increasingly marginalised and isolated, and the already pressured services addressing their needs are now very overstretched. In effect the COVID-19 pandemic has served as a litmus test for social vulnerability and resilience. Services have adapted where they can, and hybrid provision of distance and in-person services appear to be particularly successful, but adaptations have brought new challenges regarding access and provision.

Recommendations

- The diversity of provision of service across the county and city parallels the wide range of need and experience evident in our survey of residents. This provides an initial indication that that the breadth and range of provision is therefore appropriate. However, it is evident that some residents find gaining access to knowledge of services difficult, and more methods of advertisement and outreach are needed to engage residents in need.
- Given the diversity of organisations across Nottinghamshire, a central oversight body would help ensure a comprehensive coverage of provision and awareness of service gaps, reduce potential duplication, increase visibility of services and activities, and potentially provide targeted support for organisations.

- The diversity of organisations identified also suggests that flexible funding would be more useful than task-specific funding to allow organisations to meet their full range of specific organisational needs, including core running costs.
- Funding for staffing and operational costs appears to be particularly urgent, as this longstanding need has been exacerbated by the COVID-19 pandemic. Given the increased pressure on the third sector to deliver loneliness reduction services, it would seem appropriate that investment in infrastructure as well as service delivery should follow.
- Support for digital provision of services and digital access among users also appears to be an urgent need in the case of future responses to the Coronavirus pandemic. Many organisations are hampered by their own ability to deliver their services online and are facing barriers of digital exclusion among their service users and communities.
- There are clear relationships between vulnerability, isolation, marginalisation, and loneliness, as well as links between mental and physical ill health and loneliness. There are therefore significantly increased needs for services among those who are socially vulnerable. Services need to be directed at supporting these vulnerable community members. Attempts to scope unmet need should thus involve paying specific attention to these populations first.
- Successful engagement with services can lead to expanding social networks outside of the groups involved. Thus, where appropriate, consideration should be given to ways of extending the social benefits of services beyond shorter-term activities in a more sustained fashion, and enhanced *community* belonging should be considered as an additional beneficial outcome of service provision.
- Given the importance of group dynamics that lead to a sense of belonging and connection for the success of services, we suggest that advice and training are needed in order to enhance the ability of services to engage more users and to avoid the risks associated

with service-users feeling marginalised, misunderstood, or unwelcome within groups and services.

- We suggest that services which scaffold participation by either providing one-to-one interpersonal support or by extending a warm welcome early in the contact process will be more successful in tackling the effects of loneliness by facilitating a sense of shared identity and reducing feelings of exclusion.
- Services that target vulnerable groups are often aware of their clients' specific needs and vulnerabilities, but services must be appropriately supported in their service delivery so that they feel equipped to deal with clients' needs. Moreover, services should communicate their understanding of these needs and their willingness to accommodate and overcome these challenges to their service-users in order to ensure engagement.
- In order to prevent disengagement in services that promote social connection and support, we recommend identifying ways of joining up health and social provision for especially vulnerable clients, thus reducing the bureaucratic burden upon them and maximising their chance of accessing the full range of services they need.
- As many residents reported a range of experiences which compound loneliness, we advise that regular scoping of emerging needs occurs in order to maintain awareness of the ways in which the complex economic, medical, and social challenges facing the local population give rise to increased loneliness among different demographics.

References

Academy of Medical Sciences (2020) Survey results: Understanding people's concerns about the mental health impacts of the COVID-19 pandemic. Retrieved from http://www.acmedsci. ac.uk/COVIDmentalhealthsurveys (Accessed July, 22nd 2020).

Age UK (2016). Testing promising approaches to reducing loneliness: Results and learnings of Age UK's loneliness pilot. Retrieved from https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/health--wellbeing/rb_2016_testing_promising_approaches_to_reducing_loneliness_report.pdf

American Psychological Association. (2017, August 5). Social isolation, loneliness could be greater threat to public health than obesity. *ScienceDaily*. Retrieved from www.sciencedaily.com/releases/2017/08/170805165319.htm

Banerjee, D., & Rai, M. (2020). Social isolation in Covid-19: The impact of loneliness.

International Journal of Social Psychiatry https://doi.org/10.1177/0020764020922269

Bangee, M., & Qualter, P. (2018). Examining the visual processing patterns of lonely adults. *Scandinavian Journal of Psychology*, *59*, 351-359. https://doi.org/10.1111/sjop.12436

Benson, T., Sladen, J., Liles, A., & Potts, H. W. (2019). Personal Wellbeing Score (PWS)—a short version of ONS4: development and validation in social prescribing. *BMJ open quality*, *8*(2), e000394. https://doi.org/10.1136/bmjoq-2018-000394

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. DOI:10.1191/1478088706qp063oa

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet, 395*(10227), 912–920. https://doi.org/10.1016/S0140-6736(20)30460-8

Bu, F., Steptoe, A., & Fancourt, D. (2020). Loneliness during a strict lockdown: Trajectories and predictors during the COVID-19 pandemic in 38,217 United Kingdom adults. Social Science & Medicine, 265, 113521. https://doi.org/10.1016/j.socscimed.2020.113521

Cacioppo, J. T., & Cacioppo, S. (2018). Loneliness in the modern age: An evolutionary theory of loneliness (ETL). *Advances in Experimental Social Psychology, 58*, 127-197. Doi: 10.1016/bs.aesp.2018.03.003

Cacioppo, J.T., & Hawkley, L.C. (2005). People thinking about people: The vicious cycle of being a social outcast in one's own mind, In K.D. Williams, J.P. Forgas, & W.Von Hippel, (Eds.), *The social outcast: Ostracism, social exclusion, rejection, and bullying* (pp.91-108). New York: Psychology Press.

Cacioppo, J. T., & Hawkley, L. C. (2009). Perceived social isolation and cognition. Trends in Cognitive Sciences, 13, 447-454. https://doi.org/10.1016/j.tics.2009.06.005

Cacioppo, J. T., Hawkley, L. C., Ernst, J. M., Burleson, M., Berntson, G. G., Nouriani, B., & Spiegel, D. (2006). Loneliness within a nomological net: An evolutionary perspective. Journal of Research in Personality, 40(6), 1054–1085. doi:10.1016/j.jrp.2005.11.007

Cacioppo, J. T., Hughes, M. E., Waite, L. J., Hawkley, L. C., & Thisted, R. A. (2006). Loneliness as a specific risk factor for depressive symptoms: cross-sectional and longitudinal analyses. *Psychology and Aging, 21*(1), 140.

Cacioppo, J. T., & Patrick, B. (2008). *Loneliness: Human nature and the need for social connection*. New York: W. W. Norton and Company.

Chawla, K., Kunonga, T. P., Stow, D., Barker, R., Craig, D., & Hanratty, B. (2021). Prevalence of loneliness amongst older people in high-income countries: A systematic review and meta-analysis. PloS one, 16(7), e0255088. https://doi.org/10.1371/journal.pone.0255088

Clement, S., Brohan, E., Jeffery, D., Henderson, C., Hatch, S. L., & Thornicroft, G. (2012). Development and psychometric properties the Barriers to Access to Care Evaluation scale (BACE) related to people with mental ill health. *BMC Psychiatry, 12*(1), 1-11. https://doi.org/10.1186/1471-244X-12-36

Coll-Planas, L., del Valle Gómez, G., Bonilla, P., Masat, T., Puig, T., & Monteserin, R. (2017). Promoting social capital to alleviate loneliness and improve health among older people in Spain. *Health & social care in the community, 25*(1), 145-157. https://doi.org/10.1111/hsc.12284

Coyle, C. E., & Dugan, E. (2012). Social isolation, loneliness and health among older adults. *Journal of Aging and Health, 24*(8), 1346-1363. DOI: 10.1177/0898264312460275

Cruwys, T., Wakefield, J. R., Sani, F., Dingle, G. A., & Jetten, J. (2018). Social isolation predicts frequent attendance in primary care. *Annals of Behavioral Medicine, 52*(10), 817-829. Doi: 10.1093/abm/kax054

Doosje, B., Ellemers, N., & Spears, R. (1995). Perceived intragroup variability as a function of group status and identification. *Journal of Experimental Social Psychology, 31*(5), 410-436. https://doi.org/10.1006/jesp.1995.1018

Durcan D. & Bell, R. (2015) *Reducing social isolation across the lifecourse: Institute of Health Equity Public Health England*. Retrieved from www.gov.uk/government/uploads/system/uploads/attachment_data/file/461120/3a_Social_isolation-Full-revised.pdf

Fancourt, D., & Steptoe, A. (2018). Community group membership and multidimensional subjective wellbeing in older age. *Journal of Epidemiology and Community Health*, *72*(5), 376-382. http://dx.doi.org/10.1136/jech-2017-210260

Fong, P., Haslam, C., Cruwys, T., & Haslam, S. A. (2021). “There’sa Bit of a Ripple-effect”: A Social Identity Perspective on the Role of Third-Places and Aging in Place. *Environment and Behavior*, *53*(5), 540-568. https://doi.org/10.1177%2F0013916520947109

Fong, P., Cruwys, T., Robinson, S. L., Haslam, S. A., Haslam, C., Mance, P. L., & Fisher, C. L. (2021). Evidence that loneliness can be reduced by a whole-of-community intervention to increase neighbourhood identification. *Social Science & Medicine, 277*, 113909. https://doi.org/10.1016/j.socscimed.2021.113909

Ford, S., Scholz, B., & Lu, V.N. (2015). Social shedding: Identification and health of men’s sheds users. *Health Psychology, 34*(7), 775-778. DOI: 10.1037/hea0000171

Golberstein, E., Eisenberg, D., & Gollust, S. E. (2008). Perceived stigma and mental health care seeking. *Psychiatric Services*, *59*(4), 392-399. https://doi.org/10.1176/ps.2008.59.4.392

GOV.UK (2018a). Government’s work on tackling loneliness. Retrieved from https://www.gov.uk/government/collections/governments-work-on-tackling-loneliness

GOV.UK (2018b). £20 million investment to help tackle loneliness. Retrieved from https://www.gov.uk/government/news/20-million-investment-to-help-tackle-loneliness

Groarke, J. M., Berry, E., Graham-Wisener, L., McKenna-Plumley, P. E., McGlinchey, E., & Armour, C. (2020). Loneliness in the UK during the COVID-19 pandemic: Cross-sectional results from the COVID-19 Psychological Wellbeing Study. PloS one, 15(9), e0239698. https://doi.org/10.1371/journal.pone.0239698

Haslam, C., Cruwys, T., Chang, M. X. L., Bentley, S. V., Haslam, S. A., Dingle, G. A., & Jetten, J. (2019). GROUPS 4 HEALTH reduces loneliness and social anxiety in adults with psychological distress: Findings from a randomized controlled trial. *Journal of Consulting and Clinical Psychology*, *87*(9), 787. https://doi.org/10.1037/ccp0000427

Haslam, C., Jetten, J., Cruwys, T., Dingle, G. A., & Haslam, S. A. (2018). *The new psychology of Health: Unlocking the social cure*. London: Routledge.

Haslam, S. A., O'Brien, A., Jetten, J., Vormedal, K., & Penna, S. (2005). Taking the strain: Social identity, social support, and the experience of stress. *British Journal of Social Psychology*, *44*(3), 355-370. https://doi.org/10.1348/014466605X37468

Hawkley, L.C., Browne, M.W., & Cacioppo, J.T. (2005). How can I connect with thee? Let me count the ways. *Psychological Science*, *16*, 798-804. https://doi.org/10.1111/j.14679280.2005.01617.x

HM Government. (2018). A connected society: A strategy for tackling loneliness–laying the foundations for change. Department for Digital, Culture, Media and Sport, London.

Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., ... & Ford, T. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet Psychiatry*.

Hoffart, A., Johnson, S. U., & Ebrahimi, O. V. (2020, June 6). Loneliness and social distancing during the COVID-19 pandemic: Risk factors and associations with psychopathology. Retrieved from psyarxiv.com/j9e4q. https://doi.org/10.31234/osf.io/j9e4q

Horesh, D., Kapel Lev-Ari, R., & Hasson-Ohayon, I. (2020). Risk factors for psychological distress during the COVID-19 pandemic in Israel: Loneliness, age, gender, and health status play an important role. *British Journal of Health Psychology*. https://doi.org/10.1111/bjhp.12455

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. Per*spectives on Psychological Science*, 10(2), 227-237.

Idler, E. L., Kasl, S. V., & Lemke, J. H. (1990). Self-evaluated health and mortality among the elderly in New Haven, Connecticut, and Iowa and Washington counties, Iowa, 1982–1986. *American Journal of Epidemiology, 131*(1), 91-103. https://doi.org/10.1093/oxfordjournals.aje.a115489

Ingram, I., Kelly, P. J., Haslam, C., O'Neil, O. J., Deane, F. P., Baker, A. L., & Dingle, G. A. (2020). Reducing loneliness among people with substance use disorders: Feasibility of 'Groups for Belonging'. *Drug and Alcohol Review, 39*(5), 495-504. https://doi.org/10.1111/dar.13121

Jetten, J., Haslam, C., Haslam, S. A. (2012). *The social cure: Identity, health and wellbeing*. London: Psychology Press.

Jones, W. H., Hobbs, S. A., & Hockenbury, D. (1982). Loneliness and social skill deficits. *Journal of Personality and Social Psychology, 42*, 682-689.

Kearns, A., Whitley, E., Tannahill, C., & Ellaway, A. (2015). Loneliness, social relations and health and wellbeing in deprived communities. Psychology, Health & Medicine, 20, 332-344. https://doi.org/10.1080/13548506.2014.940354

Kellezi, B., Wakefield, J. R. H., Stevenson, C., McNamara, N., Mair, E., Bowe, M., ... & Halder, M. M. (2019). The social cure of social prescribing: a mixed-methods study on the benefits of social connectedness on quality and effectiveness of care provision. *BMJ Open, 9*(11), e033137. http://dx.doi.org/10.1136/bmjopen-2019-033137

Killgore, W. D., Cloonan, S. A., Taylor, E. C., & Dailey, N. S. (2020). Loneliness: A signature mental health concern in the era of COVID-19. *Psychiatry research*, *290*, 113117. https://doi.org/10.1016/j.psychres.2020.113117

Kimberlee, R. (2015). What is social prescribing? *Advances in Social Sciences Research Journal*, *2*(1). https://doi.org/10.14738/assrj.21.808

King, M. (2018). Working to address the loneliness epidemic: perspective-taking, presence, and self-disclosure. *American Journal of Health Promotion*, *32*(5), 1315–1317.

Knowles, M. L., Lucas, G. M., Baumeister, R. F., & Gardner, W. L. (2015). Choking under social pressure: Social monitoring among the lonely. *Personality and Social Psychology Bulletin*, *41*(6), 805-821. https://doi.org/10.1177/0146167215580775

Lasgaard, M., Friis, K., & Shevlin, M. (2016). “Where are all the lonely people?” A population-based study of high-risk groups across the life span. *Social Psychiatry and Psychiatric Epidemiology*, *51*(10), 1373-1384. https://doi.org/10.1007/s00127-016-1279-3

Leigh-Hunt, N., Bagguley, D., Bash, K., Turner, V., Turnbull, S., Valtorta, N., & Caan, W. (2017). An overview of systematic reviews on the public health consequences of social isolation and loneliness. *Public Health*, *152*, 157-171. Doi: 10.1016/j.puhe.2017.07.035

Lim, M. H., Gleeson, J. F., Rodebaugh, T. L., Eres, R., Long, K. M., Casey, K., ... & Penn, D. L. (2020). A pilot digital intervention targeting loneliness in young people with psychosis. *Social psychiatry and psychiatric epidemiology*, *55*(7), 877-889. https://doi.org/10.1007/s00127-019-01681-2

Mann, F., Bone, J. K., Lloyd-Evans, B., Frerichs, J., Pinfold, V., Ma, R., . . . Johnson, S. (2017). A life less lonely: The state of the art in interventions to reduce loneliness in people with mental health problems. Social Psychiatry and Psychiatric Epidemiology: The International

Journal for Research in Social and Genetic Epidemiology and Mental Health Services, 52, 627–638. http://dx.doi.org/10.1007/s00127-017-1392-y

Masi, C. M., Chen, H. Y., Hawkley, L. C., & Cacioppo, J. T. (2011). A meta-analysis of interventions to reduce loneliness. Personality and Social Psychology Review, 15(3), 219-266. https://doi.org/10.1177%2F1088868310377394

McNamara, N., Stevenson, C., Costa, S., Bowe, M., Wakefield, J., Kellezi, B., Wilson, I., Halder, M., & Mair, E. (2021). Community identification, social support, and loneliness: The benefits of social identification for personal well-being. *British Journal of Social Psychology*. https://doi.org/10.1111/bjso.12456

NHS England (2019). Social prescribing and community-based support: Summary guide. Retrieved from: https://www.england.nhs.uk/publication/social-prescribing-and-community-based-support-summary-guide/

Office for National Statistics (2018). Office for National Statistics Loneliness Measure. Retrieved from: https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/measuringlonelinessguidanceforuseofthenationalindicatorsonsurveys

Office for National Statistics (2018). Office for National Statistics Loneliness Measure. Retrieved from: https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/measuringlonelinessguidanceforuseofthenationalindicatorsonsurveys

Office for National Statistics (2018). Loneliness – what characteristics and circumstances are associated with feeling lonely? Retrieved from:

https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/lonelinesswhatcharacteristicsandcircumstancesareassociatedwithfeelinglonely/2018-04-10

Office for National Statistics (2020). Coronavirus and the social impacts on Great Britain: 29 May 2020. Retrieved from: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandthesocialimpactsongreatbritain/29may2020

Operario, D., Adler, N. E., & Williams, D. R. (2004). Subjective social status: Reliability and predictive utility for global health. *Psychology & Health, 19*(2), 237-246. https://doi.org/10.1080/08870440310001638098

Ormsby, J., Stanley, M., & Jaworski, K. (2010). Older men's participation in community-based men's sheds programmes. *Health & social care in the community*, *18*(6), 607-613. DOI: 10.1111/j.1365-2524.2010.00932.x

Pilisuk, M., & Minkler, M. (1980). Supportive networks: Life ties for the elderly. *Journal of Social Issues*, *36*, 95-116.

Prezza, M., Amici, M., Roberti, T., & Tedeschi, G. (2001). Sense of community referred to the whole town: Its relations with neighboring, loneliness, life satisfaction, and area of residence. *Journal of Community Psychology, 29*(1), 29–52. https://doi.org/10.1002/1520-6629(200101)29:1<29::AID-JCOP3>3.0.CO;2-C

Ryan, G. W., & Bernard, H. R. (2000). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research.* (Second ed., pp. 769-802). California: Sage Publications

South, J., Giuntoli, G., Kinsella, K., Carless, D., Long, J., & McKenna, J. (2017). Walking, connecting and befriending: a qualitative pilot study of participation in a lay-led walking group intervention. *Journal of Transport & Health, 5*, 16-26. https://doi.org/10.1016/j.jth.2016.12.008

Stickley, A., & Koyanagi, A. (2016). Loneliness, common mental disorders and suicidal behavior: Findings from a general population survey. *Journal of Affective Disorders*, *197*, 81-87. DOI: 10.1016/j.jad.2016.02.054

Travis, R. (1993). The MOS Alienation Scale: An alternative to Srole's Anomia Scale. *Social Indicators Research*, *28*(1), 71-91. https://doi.org/10.1007/BF01086717

Valtorta, N. K., Kanaan, M., Gilbody, S., Ronzi, S., & Hanratty, B. (2016). Loneliness and social isolation as risk factors for coronary heart disease and stroke: Systematic review and meta-analysis of longitudinal observational studies. *Heart*, *102*(13), 1009-1016.

van Tilburg, T. G. (2021). Social, emotional, and existential loneliness: a test of the multidimensional concept. *The Gerontologist*, *61*(7), e335-e344. https://doi.org/10.1093/geront/gnaa082

Wakefield, J. R. H., Kellezi, B., Stevenson, C., McNamara, N., Bowe, M., Wilson, I., ... & Mair, E. (2020). Social Prescribing as 'Social Cure': A longitudinal study of the health benefits of social connectedness within a Social Prescribing pathway. *Journal of Health Psychology*, 1359105320944991. https://doi.org/10.1177/1359105320944991

Wilson, R. S., Krueger, K. R., Arnold, S. E., Schneider, J. A., Kelly J. F., Barnes L. L., Tang Y., & Bennett D. A. (2007). Loneliness and risk of Alzheimer disease. *Archives of General Psychiatry*, *64*, 234–240.

Wise, F. M., Harris, D. W., & Olver, J. H. (2017). The DASS-14: Improving the construct validity and reliability of the Depression, Anxiety, and Stress Scale in a Cohort of Health Professionals. *Journal of Allied Health*, *46*(4), 85E-90E. https://www.ingentaconnect.com/content/asahp/jah/2017/00000046/00000004/art00020#

Yanguas, J., Pinazo-Henandis, S., & Tarazona-Santabalbina, F. J. (2018). The complexity of loneliness. Acta Bio Medica, 89(2), 302. DOI: 10.23750/abm.v89i2.7404