Covid-19

The effects of isolation and social distancing on people with vision impairment

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Guide Dogs

ISBN-9780853583332

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Executive summary

This report presents findings from research on the effects of Covid-19 on people with vision impairment, based on a survey of 937 respondents. The survey contained closed questions and open free text questions, both of which are analysed in this report. The survey specifically addressed constraints to everyday life activities (work, education, leisure, recreation, etc.), the extent to which these were negotiated and how this impacted wellbeing during Covid-19. Additionally, it considered levels of support from essential services and engagement with social distancing measures. The research was undertaken in collaboration with Guide Dogs. Survey respondents include Guide Dogs service users and affiliates of Guide Dogs and Visionary who have vision impairment or care for someone who does.

The sample of respondents has several key characteristics: 62% have severe vision impairment, 35% are guide dog owners and 37% have underlying health problems that make them vulnerable to Covid-19. More specifically, the most frequent comorbidities include: diabetes I/II, asthma, heart disease/COPD, immunosuppression, arthritis; cancer and kidney dysfunction.

In response to the rapid spread and increasing mortality rates of Covid-19, the UK government initiated lockdown measures (isolation and social distancing) in March 2020. Accordingly, all people were advised to leave their homes for essential needs only. Indeed, our research supports an overall reduced level of activity during this time:

- 84% are “much less” active in terms of mobility.
- 62% experienced reduced activity related to work, study and volunteering.
- 60% experienced reduced exercise, hobbies and other activities.
- 28% of responses to the free text questions specifically addressed how restrictions impeded daily and anticipated function.

Using Constraints Negotiation Theory to better understand the types of constraints faced during Covid-19 and the ways respondents negotiated them, the findings suggests that the interpersonal constraints were the strongest. Specifically, “I have been more concerned about the wellbeing of loved ones” was the strongest interpersonal constraint. While “I have been more concerned for my own health” was

the strongest intrapersonal constraint, and “places I normally like to go to have been closed” was the strongest structural constraint.

In terms of negotiating the constraints of Covid-19, respondents most agreed with the statement, “I have made use of technologies (e.g. for work, keeping in touch with people or shopping)”. Those with a higher household income, severe impairment and a guide dog are significantly better at negotiating constraints. In particular, the issue of what would help people with vision impairment to navigate the ongoing Covid-19 situation was raised by 15% of the free text responses.

Alongside the adoption of lockdown measures came an overall concern for people’s wellbeing in terms of both the effects of isolation on an individual’s mental state, but also in terms of access to essential services. Respondents were ambivalent about maintaining good wellbeing during the Covid-19 situation, as “good state of mind”, “sleep OK”, “satisfied with life overall” and “optimistic about the future” all received similarly moderated responses. Responses to levels of support were more positive overall. Respondents rated the support they have received from delivery and medical services most positively, while transport and government services were less positively rated on average. Those aged under 70, living alone or with severe vision impairment feel they received significantly poorer levels of support from services.

More specifically, the 2-metre social distancing rule drew immediate criticism and concern from people with vision impairment, as was reported in the media. Indeed, respondents “tend to disagree” that they have confidence in observing the 2-metre rule in all situations. Those aged under 70, with severe vision impairment or who have a guide dog have significantly less confidence in abiding by the 2-metre rule and issues associated with it. This issue was also raised independently by 8% of the respondents who provided free text responses.

Introduction

In December 2019, global news media began reporting on a novel coronavirus infecting people in parts of China. By January 2020, the World Health Organization (WHO) confirmed cases of the virus had spread to other parts of the world and had officially named it “severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)”. In this same month, the UK government initiated a self-isolation recommendation for people returning from travel in specific geographic regions and launched the “Catch it, Bin it, Kill it” campaign to reduce the spread. By March 2020, the WHO declared “coronavirus disease 2019”, or shortened to **Covid-19**, a global pandemic.

While the UK government initially instituted a “herd immunity” strategy, the rapid rise in infection and mortality rates led to the enactment of lockdown measures on the 23rd March. Specifically, the “stay at home” lockdown included:

- **Isolation**, meaning only go outside for food, health reasons or work (but only if you cannot work from home);
- And, **social distancing**, which means if you must go out, stay 2 metres (6ft) away from other people at all times.

Aims and objectives

While effective at bringing down the infection rates, these strict lockdown measures also presented a number of challenges, barriers and constraints to everyday life that were disproportionately experienced across the population. Thus, this research aims to understand the effects of these constraints on people with vision impairment, including:

- The support received from essential services during Covid-19;
- Their engagement with lockdown measures, specifically isolation and social distancing;
- The constraints faced to maintaining independent lives (work, leisure, recreation, etc.) during Covid-19;
- How these constraints were negotiated and their related coping strategies;
- Overall wellbeing during Covid-19 and future projections.

Collectively, these aims informed four **objectives** of the research:

- Describe barriers and challenges to maintaining independent lives and accessing essential services during Covid-19.
- Investigate levels of constraint, negotiation and wellbeing during Covid-19.
- Compare experiences (constraints, negotiation strategies and wellbeing outcomes) during Covid-19 by personal characteristics such as age, severity of vision impairment and the presence of underlying health problems.
- Inform support and intervention strategies for vulnerable populations as lockdown measures continue and adapt into the future.

Rationale

People tend to fare poorly when isolated and are dramatically affected by perceived social isolation (Cacioppo & Hawkley, 2009). Perceived social isolation (i.e., loneliness) is a risk factor for, and may contribute to, a range of negative effects, including poorer overall cognitive performance, faster cognitive decline and depressed mood or/and attitudes. These effects impact on emotions, decision making, behaviour and social interactions that may contribute to morbidity more generally. Modest evidence suggests that vision impaired adults are more at risk from loneliness and the effects of social isolation than the general population (Hodge & Eccles, 2013).

While vision impairment itself is not a condition that increases vulnerability to Covid-19, vision impairment is often comorbid (McLean et al., 2014). As a result, the consequences of increased levels of stress, shifts in nutrition patterns and diminished access to essential services can potentially interact with, and exacerbate, a range of medical conditions (Kalantar-Zadeh & Moore, 2020). Further, the high prevalence of comorbidities suggests more people with vision impairment will need to isolate for longer than the general population, and as a result, they may also need additional access to support services.

Moreover, anecdotal accounts suggest that the highly visual nature of the 2-metre rule has created problems for people with vision impairment who are not as easily able to judge distance and who cannot see the 2-metre marking barriers and signage. For example, in April, the BBC reported a number of challenges in the piece “Coronavirus: Being blind during the pandemic” (Pounds, 2020).

Thus, this study is particularly timely and contributes to two key areas of Guide Dogs' Human Behavioural Sciences (HBS) Research Strategy:

- Promotes high quality research that will enhance understanding of the needs and wants of people with sight loss and support the wellbeing of all organisational stakeholders.
- Will communicate research results to Operations' and Campaigns' departments to maximise organisational impact for the benefit of our customers, their family and friends and all affected by sight loss.

Moreover, the work supports the HBS programme focus on undertaking research that:

- Evidences the needs of people with sight loss and their wider support network.
- Identifies enablers to people with sight loss living independently, living well and living actively.
- Increases Guide Dogs understanding of our impact and identifies potential areas for improvement.
- Providing an evidence base for instigating human behaviour change which will support Guide Dogs in achieving it strategy.

Theoretical framework

Constraints are a part of everyday life but can be experienced differently by each individual. A constraint is any factor that acts as a (perceived or actual) barrier or hindrance to participation in an activity. They are conceptualised hierarchically with intrapersonal constraints (personality, individual wants, etc.) to be the first hurdle to participation, followed by interpersonal constraints (other people, relationships, responsibilities, etc.), then finally structural constraints (time, money, access, etc.) (Crawford & Godbey, 1987).

Built from this understanding of constraints, Constraints Negotiation Theory (CNT) within leisure studies intends to more specifically understand how various constraints interact with one another and the extent to which individuals negotiate constraints based on the strength of their motivation and the resources available to them (Crawford et al., 1991; Jackson et al., 1993). CNT has since been expanded into recreational studies (Little, 2002; Ma & Ma, 2014), disability studies (Henderson et

al., 1995; Burns & Graefe, 2007; Loucks-Atkinson & Mannell, 2007; Lyu et al., 2013; McKercher & Darcy, 2018), research on educational (Levine-Rasky, 1998; O'Connor, 2002; Fazio & Karrow, 2013) and occupational environments (Dellinger & Williams, 1997; Evetts, 2000; Hubbard & Mannell, 2001; McQuarrie & Jackson, 2002; Heinz, 2003), and transportation and tourism research (Nyaupane & Anderek, 2008; Lee et al., 2012; McKercher & Darcy, 2018; Park & Chowdhury, 2020), among others.

CNT is built on six propositions (Jackson et al., 1993):

1. Participation is dependent not on the absence of constraints but on negotiation through them. Such negotiation may modify rather than foreclose participation.
2. Variations in the reporting of constraints can be viewed not only as variations in the experience of constraints but also as variations in success in negotiating them.
3. Absence of the desire to change current behaviour may be partly explained by prior successful negotiation of structural constraints.
4. Anticipation of one or more insurmountable interpersonal or structural constraints may suppress the desire for participation.
5. Anticipation consists not simply of the anticipation of the presence or intensity of a constraint but also of anticipation of the ability to negotiate it.
6. Both the initiation and outcome of the negotiation process are dependent on the relative strength of, and interactions between, constraints on participating in an activity and motivations for such participation.

The application of CNT to living with vision impairment during Covid-19 offers a number of potential insights. Conceptually, Covid-19 lockdown measures present a variety of constraints that impede the ability of all people to function as usual. Moreover, the ever-changing parameters of isolation and social distancing measures add complexity to these constraints, particularly in the form of uncertainty. Given the policies are government-based, we anticipate some structural constraints to be particularly difficult to negotiate. However, considering the additional disability constraints experienced by people with vision impairment in their normal daily life, the constraints of Covid-19 are anticipated to be more severe and the resources available to them to negotiate these constraints less accessible.

For example, the 2-metre social distancing rules have been put in place in shops and on public transportation through the use of visual signage and barriers. However,

people with vision impairment cannot see these markings and guide dogs have not yet been trained to recognise and react to them. As such, they present structural constraints, but also interpersonal constraints, in that the presence of other people makes proper distancing more difficult when vision is impaired, and also influences intrapersonal constraints, such as reduced confidence to follow the 2-metre rules. Collectively, these intrapersonal, interpersonal and structural constraints associated with the 2-metre rule, specifically, might reduce participation in activities outside of one's home beyond what was intended by the measure itself. By including questions related to respondents' attitudes towards the 2-metre and confidence in their ability to abide by it, we aim to assess the relationship of social distancing policies to Covid-19 constraints.

Literature suggests that highly motivated people perceive fewer constraints to performing an activity or perceive more strategies to negotiating constraints (Hubbard & Mannell, 2001). Further, Loucks-Atkinson and Mannell (2007) observe among people with a disability, greater confidence in the successful use of negotiation resources results in greater motivation and effort to negotiate, which leads to higher levels of participation. As such, this survey addresses the strengths of a number of negotiation strategies during Covid-19. However, Lyu et al. (2013) specifically identify the psychological trait of extraversion as a critical factor in people with disabilities' willingness to negotiate constraints. Because people with vision impairment are more at risk from loneliness and the effects of social isolation (Hodge & Eccles, 2013), we have incorporated a number of wellbeing indicators into the survey to complement the participation, constraints and negotiation variables of the theoretical framework. These were adapted from the European Social Survey (Huppert et al., 2009) Personal and Social Well-being indicators related to overall state of mind (e.g. happiness, depression, anxiety), satisfaction with life and confidence about the future.

Moreover, McKercher and Darcy (2018) suggest disaggregating constraints, grouping them instead into hierarchical tiers which represent movement from constraints faced by all people (Tier 1) to specific impairment effects, which are highly individualistic. As such, they argue that Tier 2 constraints are faced by all people with disabilities, including ignorance, attitudes and trustworthiness of information and Tier 3 constraints are issues unique to specific disabilities (physical, mobility, vision, hearing, etc.). Finally, Tier 4 constraints are moderating factors of impairment effects, and as such are the direct embodiment of constraints relating to

the individual's functioning. Therefore, multiple disabilities and/or comorbidities add greater complexity to negotiating constraints. People with vision impairment face additional hurdles to maintaining active, independent lives, and vision impairment is often a comorbidity (McLean et al., 2014), suggesting people with vision impairment will be isolating longer than the general population during Covid-19. As a result, they may also need greater support from government, medical, transport and delivery services in order to overcome the constraints of isolation. Therefore, we have included a measure of the level of support received from these particular services.

Implications

This project offers a number of practical findings that are timely to the current situation in which the UK, and indeed the world, as we continually adapt to the impacts of Covid-19 on daily life. Further, the use of Constraints Negotiation Theory as a framework for this study adds to our theoretical understanding of the influence of confidence and access to resources on the ability to negotiate constraints, as well as to the potential of constraints negotiation and implications for wellbeing.

Approach

Guide Dogs is the working name of The Guide Dogs for the Blind Association, which is a British charitable organisation that helps blind and partially sighted people across the UK through the provision of guide dogs, mobility and other rehabilitation services. The research team was contacted by Guide Dogs on 16th April regarding the design of a survey aimed at understanding the effects of Covid-19 on people with vision impairment. Over the following weeks, the research team drafted a self-completion, online survey in collaboration with Guide Dogs' Research and Innovation Team and Campaigns Team.

The survey was designed within the Qualtrics online platform. The initial version was tested by the Guide Dogs Accessibility team on the 6th May, and alterations to improve user-friendliness were implemented. Following these adjustments, the survey was piloted with four guide dog owners. Unfortunately, the format of some questions, especially those in profile matrix format, presented access challenges for some screen readers, which added tremendously to the duration of survey completion. As a result, the research team revised the entire survey, including editing questions for succinctness, removing any potential redundancy and altering the question formats from profile matrices to multiple choice style.

The survey consisted of 44 questions (see Appendix 1). Question 1 asked about vulnerability to Covid-19. Questions 2 to 6 asked about level of activity during Covid-19 compared to before. Questions 7 to 18 addressed the strength of the constraints presented by the Covid-19 situation. Questions 19 to 22 then focussed on the strength of negotiation strategies to overcome constraints. Questions 23 to 26 asked about wellbeing. Questions 27 to 30 rated the levels of support received from various services during Covid-19. Questions 31 to 36 gathered demographic data. Questions 37 to 41 focussed specifically on the 2-metre social distancing rule. Questions 42 to 44 were free text responses in which respondents could speak about their vulnerability to Covid-19, how it might impact their future and any further comments they wished to add.

An invitation to participate in the survey, including a link to it, was emailed to Guide Dogs' members via the Guide Dogs Communications Team on the 19th May. Approximately 1600 people were reached with this email communication. Then, on

the 22nd, the survey link was emailed by Visionary to their members. Visionary is an umbrella organisation of sight loss charities that includes Guide Dogs. On the same date, the Guide Dogs Campaigns Team sent the survey link by email to a list of individuals external to Guide Dogs, but who do have or care for someone with vision impairment.

In addition to the online survey, respondents were given an option of arranging a telephone-based survey in which the individual's responses were recorded in the online survey by a member of Guide Dogs' staff. A total of 16 respondents chose this method of participation.

The survey closed on 7th June, at which time all responses were downloaded from Qualtrics and imported into SPSS for analysis. The sample was examined for incomplete responses, leaving 937 valid responses for the analysis. Descriptive and frequency analyses were carried out on responses to closed questions, along with independent samples t-tests to compare differences in response according to personal characteristics. Responses to the three free response questions (Questions 42 to 44) were analysed using Textometrica, which is a web-based text analysis tool that helps to examine word frequencies, identify co-occurrences, and generate visualisations and graphs. A total of 263 comorbidity responses to Q42 were included in the text analysis. Responses to Q43 and Q44 were semantically similar and therefore analysed as one corpus, which consisted of 662 responses.

Sample characteristics

The survey accumulated 9% of responses on the first day of the mailing of the invitation to Guide Dogs' members. A second, larger spike in responses, representing 50%, came within the two first days of the email link being sent by Visionary and the Guide Dogs Campaigns Team to their external mailing list (Figure 1).

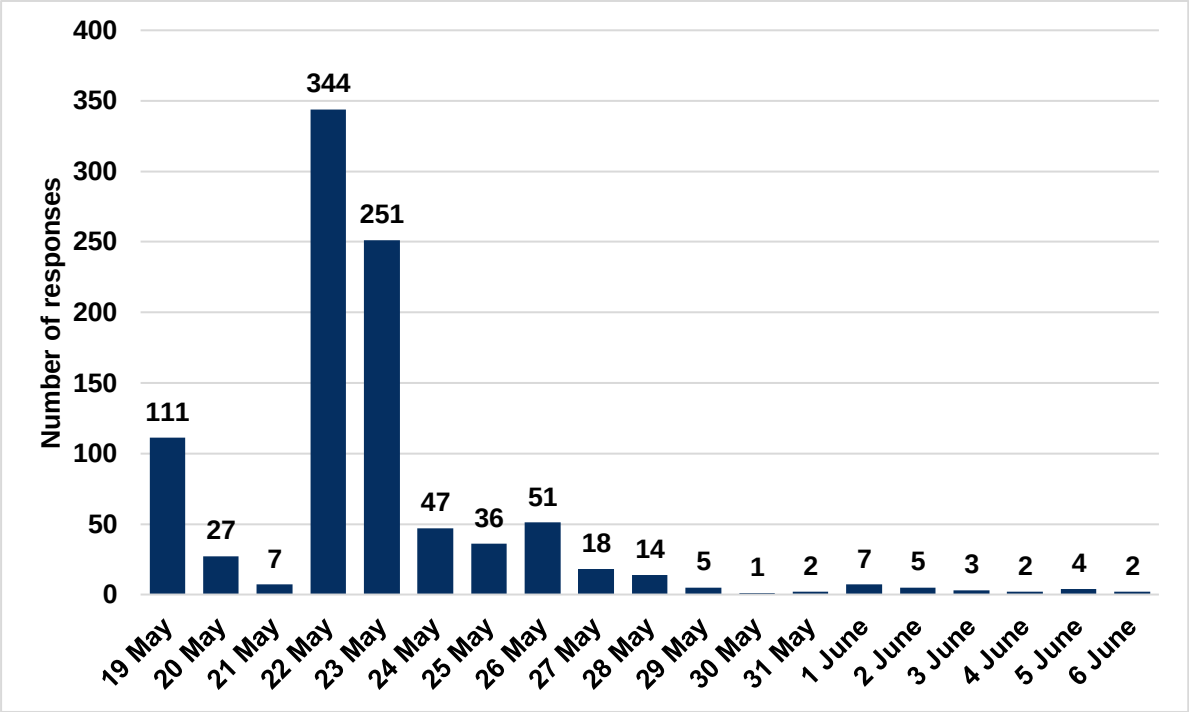

Figure 1. Timing of survey responses

While the total number of responses to the survey link was 1182, there were 245 non-completes that were removed from the sample before analysis. This left 937 responses which form the basis for the analysis and findings presented in this report. Participants had the option "prefer not to say" to all demographic questions, and as a result, the sample size varies accordingly.

Breakdowns of the demographic characteristics are summarised in Table 1. The majority of respondents (62%) are female, with 17% of the sample within the vulnerable Covid-19 age group of 70+ years of age. Almost 90% have a household income of £50,000 or less, and 28% live alone. 62% have a severe impairment and just over one third own a guide dog. In terms of vulnerability to Covid-19, Figure 2

shows that almost 40% have underlying health problems that make them vulnerable to Covid-19. Over 10% feel they may have had symptoms. Three respondents (0.3%) have tested positive and received hospital treatment for Covid-19.

Table 1. Sample characteristics

Characteristic	Category	Frequency	Valid percent
Gender	Female	573	62
	Male	355	38
Age	18-29 years	58	6
	30-39 years	81	9
	40-49 years	132	14
	50-59 years	235	26
	60-69 years	263	28
	70+ years	161	17
Household income	Less than £25,000	397	57
	£25,001 - £50,000	218	32
	More than £50,00	77	11
Household composition	Alone	260	28
	No other adults, with children	13	2
	One or more adults, with children	76	8
	One or more adults, no children	562	62
Vision impairment	Mild	142	18
	Moderate	165	20
	Severe	501	62
Guide dog ownership	Yes	307	35
	No	580	65

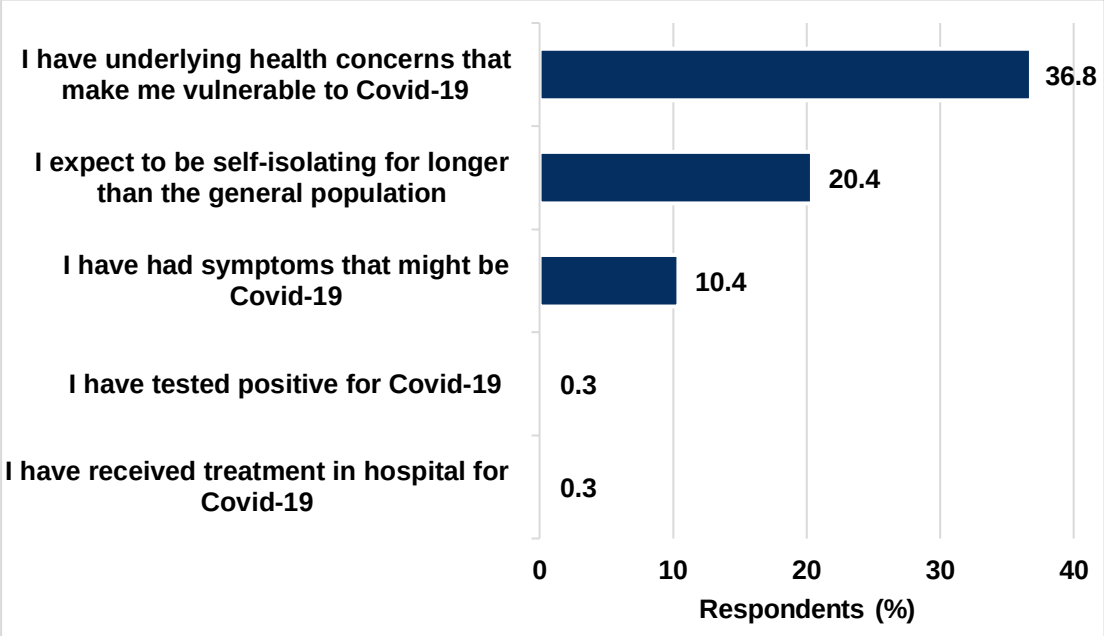

Figure 2. Vulnerability to Covid-19. Respondents were able to choose all that apply.

Survey findings: Closed questions

When considering the findings of this survey of vision impaired people's experiences during Covid-19, it is important to keep in mind the unique context of the situation. While Constraints Negotiation Theory has been examined in numerous contexts, it has not yet been applied to such a restrictive social setting. The lockdown measures put in place, specifically isolation and social distancing, were aimed to directly reduce participation in a number of activities. In this way, our findings demonstrate the effectiveness of these policies. However, constraints do not fully prevent all associated activities, as we have all experienced during Covid-19, negotiations of constraints through coping strategies, adaptation or innovation have been central to maintaining active, independent lives, which includes work, education, leisure, recreation, but also access to essential services. Thus, applying CNT to this context allows us to investigate the actual strength of the lockdown measures, but also the mitigating factors of negotiation and their implications for wellbeing. In this way, constraints are not simply barriers, but also opportunities for thinking differently about motivation and need. Thus, the significance of these findings extends well beyond the context of Covid-19.

Participation

Participation is not simply measured as either "participation" or "non-participation", but it changes over time, with context and in relation to resources and ability to negotiate constraints. For example, overall, respondents were "slightly less active" during the Covid-19 situation compared to before it, with a score of 2.2 (on a scale from "1 much less active" to "5 much more active") across all statements (Figure 3), which demonstrates the general strength of lockdown measures and their ubiquitous application throughout society.

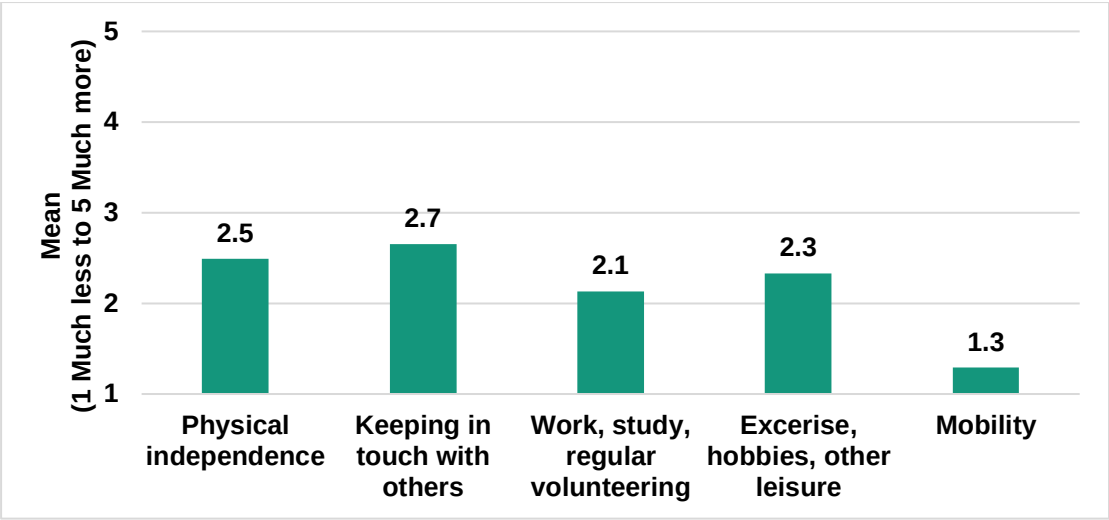

Figure 3. Level of activity during the Covid-19 situation compared to before, based on average of responses

Looking more closely at the types of responses to questions about activity levels, we can see a more nuanced picture (Figure 4). Mobility is most affected with 84% stating that they were “much less” active. Work, study and volunteering were reduced for 62% of respondents, and similarly exercise, hobbies and other activities were reduced for 60% of the sample. The closures of most public places, lack of access to transportation and restrictions about physically proximate social interactions has certainly had an impact.

However, a closer inspection reveals that for some respondents, activity levels stayed the same or even increased, including keeping in touch with others (54%) and physical independence (51%). This suggests the majority were either relatively unaffected by isolation and social distancing measures or were successful in negotiating the constraints presented by lockdown. Indeed, a number of policies and initiatives were put in place to combat isolation and help people negotiate the constraints presented by lockdown. This is discussed further in the negotiation of constraints section, below.

As such, we can also examine participation levels within the sample (Table 2). Specifically, those with underlying health problems (Figure 5), a lower household income (Figure 6), severe vision impairment (Figure 7) or a guide dog (Figure 8) were significantly less active. As a result, someone who has all three of these characteristics is likely to be extremely less active.

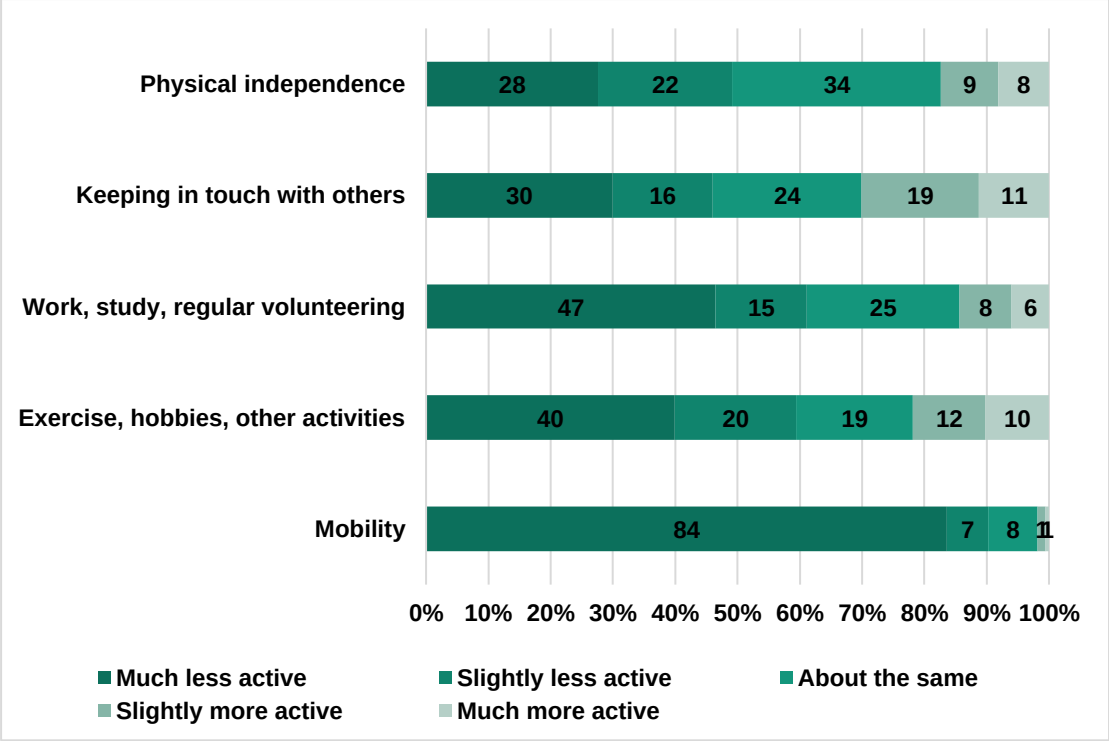

Figure 4. Level of activity during the Covid-19 situation compared to before, based on type of response

Table 2. Mean participation by respondent characteristics

Variable	Characteristic	N	Mean	SD	Independent Samples t-test
Gender	Female	573	2.257	0.822	t 1.888, p.059
	Male	354	2.152	0.828	
Age	70+	161	2.309	0.860	t 1.543, p.123
	Under 70	768	2.198	0.821	
Underlying health problems	Yes	345	2.006	0.813	t -6.115, **p.000**
	No	590	2.343	0.811	
Household income	Over 50,000	77	2.625	0.835	t 4.754, **p.000**
	50,000 or less	615	2.156	0.814	
Household composition	Live alone	257	2.116	0.808	t -2.146, p.032
	Live with others	651	2.246	0.830	
Vision impairment	Severe	501	2.068	0.780	t -4.086, **p.000**
	Other	307	2.307	0.847	
Guide dog owner	Yes	307	2.083	0.767	t -2.932, **p.003**
	No	580	2.253	0.845	
Had Covid-19 or symptoms	Yes	99	2.174	0.785	t –0.561, p.575
	No	836	2.224	0.833	

Note: t-test results in bold are significant at the 95% confidence level.

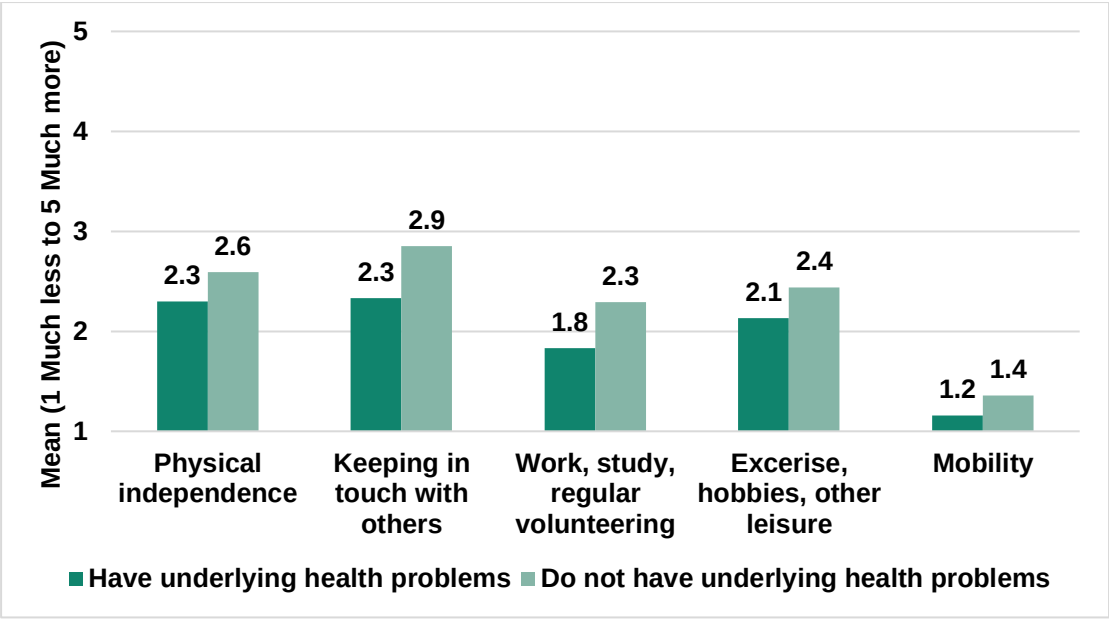

Figure 5. Activity during Covid-19, compared to before, based underlying health problems

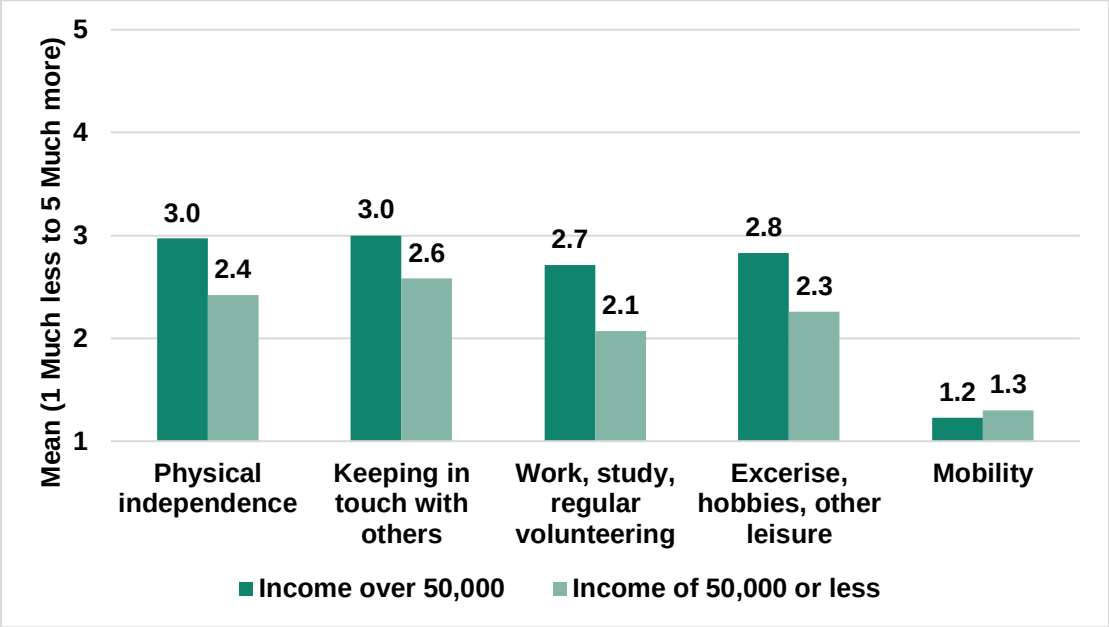

Figure 6. Activity during Covid-19, compared to before, based on income

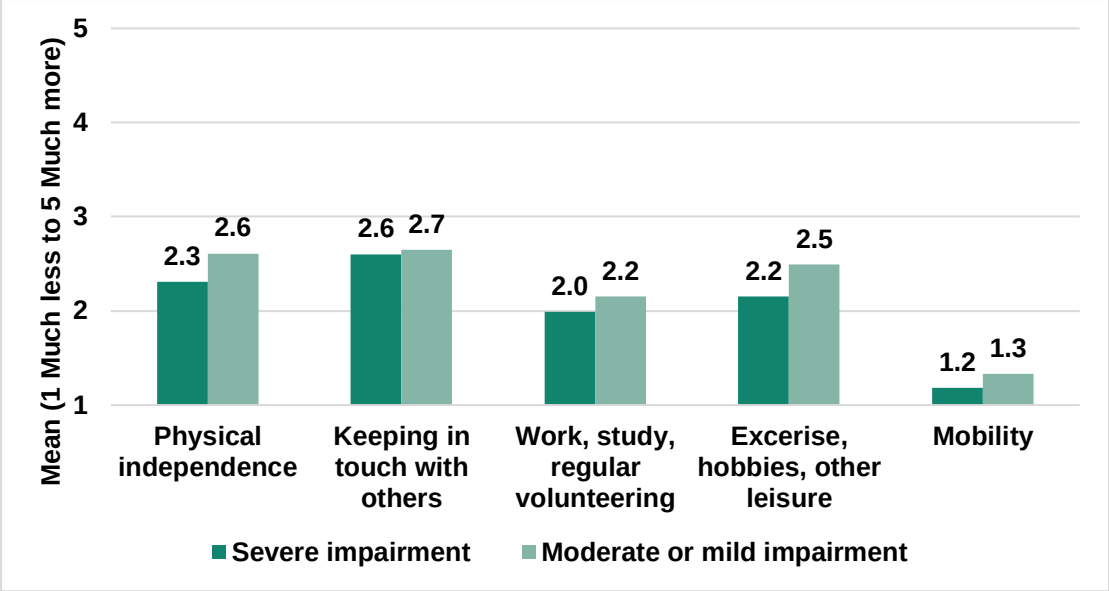

Figure 7. Activity during Covid-19, compared to before, based on vision impairment

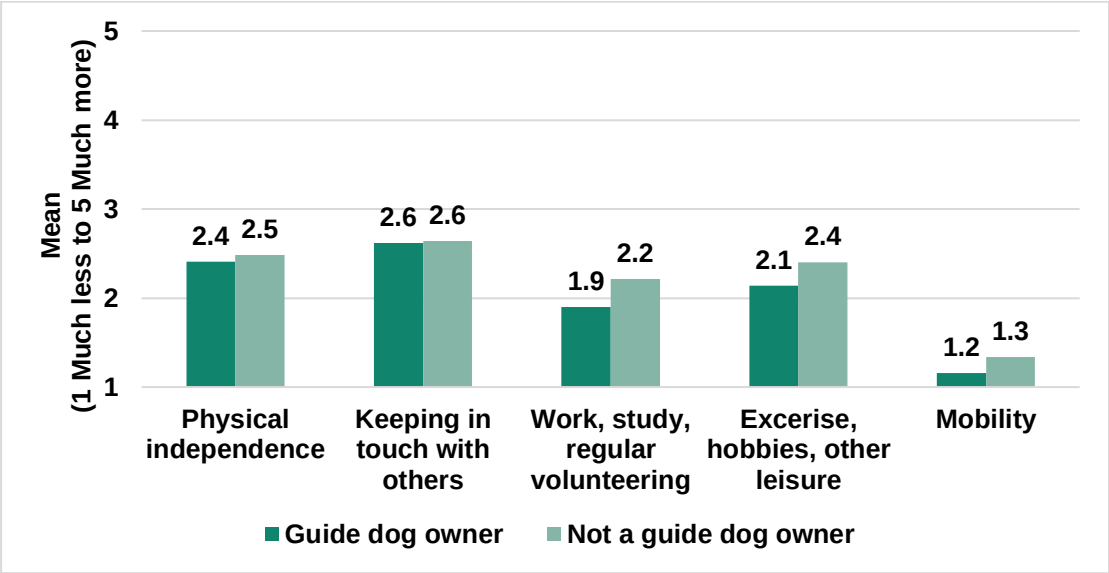

Figure 8. Activity during Covid-19, compared to before, based on guide dog ownership

Intrapersonal constraints

Conceptually it is understood that constraints are confronted and negotiated hierarchically, with intrapersonal constraints being the most immediate and structural constraints the most distant to an individual's participation. As a result, intrapersonal constraints are also conceived as being the most powerful. They relate to psychological states and attributes that interact with activity preferences, more than intervening between preferences and participation. In other words, intrapersonal

constraints are often the precursors to interest or disinterest in an activity. These include, for example, self-perceptions related to ability and skill, but also mental state (depression, anxiety, boredom), and can be influenced by internalised group attitudes, such as religiosity and socialisation.

On average, respondents “neither agree nor disagree” that they were experiencing more intrapersonal constraints during the Covid-19 situation compared to usual, with a score of 3.3 (on a scale from “1 strongly disagree” to “5 strongly agree”) across all statements (Figure 9). They “tend to agree” about being more concerned for their own health and about being more worried about everything during Covid-19, compared to before, as might be expected during a global pandemic.

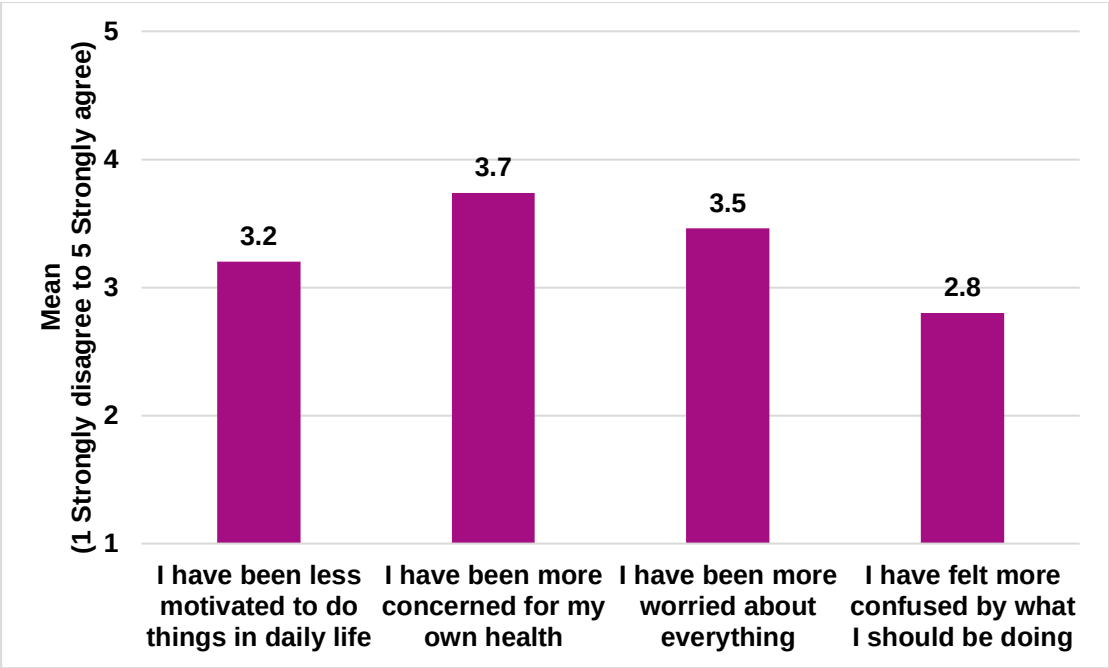

Figure 9. Agreement with intrapersonal constraints during Covid-19, based on average of responses

However, examining the types of responses in more detail, it is particularly interesting to note the diversity of experiences with the “confusion” intrapersonal constraint. When asked about their level of agreement on “I have felt more confused by what I should be doing”, there was a relatively similar response rate to most of the possible answer choices. Looking more closely at the intrapersonal constraints by demographics (Table 3), it is observed that those aged under 70 (Figure 11), with underlying health problems (Figure 12) or a lower household income (Figure 13)

were significantly more constrained personally. As a result, someone who has all three of these characteristics is likely to experience intrapersonal constraints more strongly.

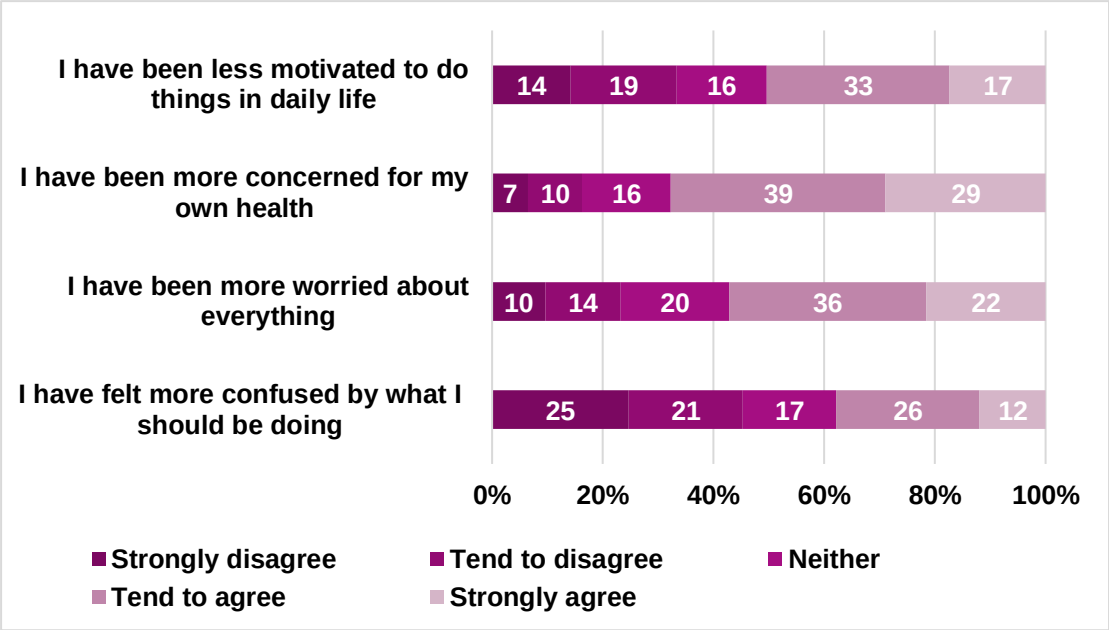

Figure 10. Agreement with intrapersonal constraints during Covid-19, based on response type

Table 3. Mean intrapersonal constraints by respondent characteristics

Variable	Characteristic	N	Mean	SD	Independent Samples t-test
Gender	Female	573	3.300	0.906	t 0.273, p.785
	Male	353	3.283	0.947	
Age	70+	160	3.110	0.894	t -2.776, **p.006**
	Under 70	768	3.332	0.925	
Underlying health problems	Yes	345	3.498	0.893	t 5.228, **p.000**
	No	589	3.176	0.917	
Household income	Over 50,000	77	2.984	0.869	t -3.046, **p.002**
	50,000 or less	615	3.322	0.923	
Household composition	Live alone	256	3.305	0.924	t 0.172, p.864
	Live with others	651	3.293	0.920	
Vision impairment	Severe	501	3.259	0.932	t -1.566, p.118
	Other	307	3.364	0.924	
Guide dog owner	Yes	307	3.205	0.936	t -2.317, p.021
	No	579	3.355	0.908	
Had Covid-19 symptoms	Yes	99	3.434	0.909	t 1.589, p.112
	No	835	3.278	0.921	

Note: t-test results in bold are significant at the 95% confidence level.

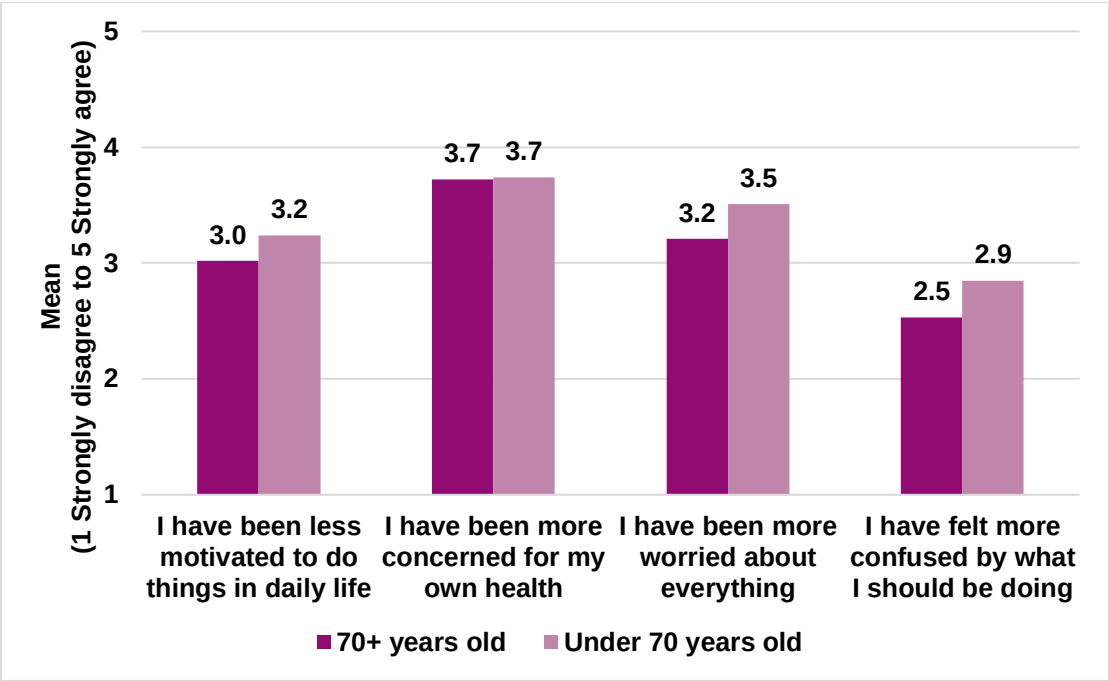

Figure 11. Intrapersonal constraints based on age

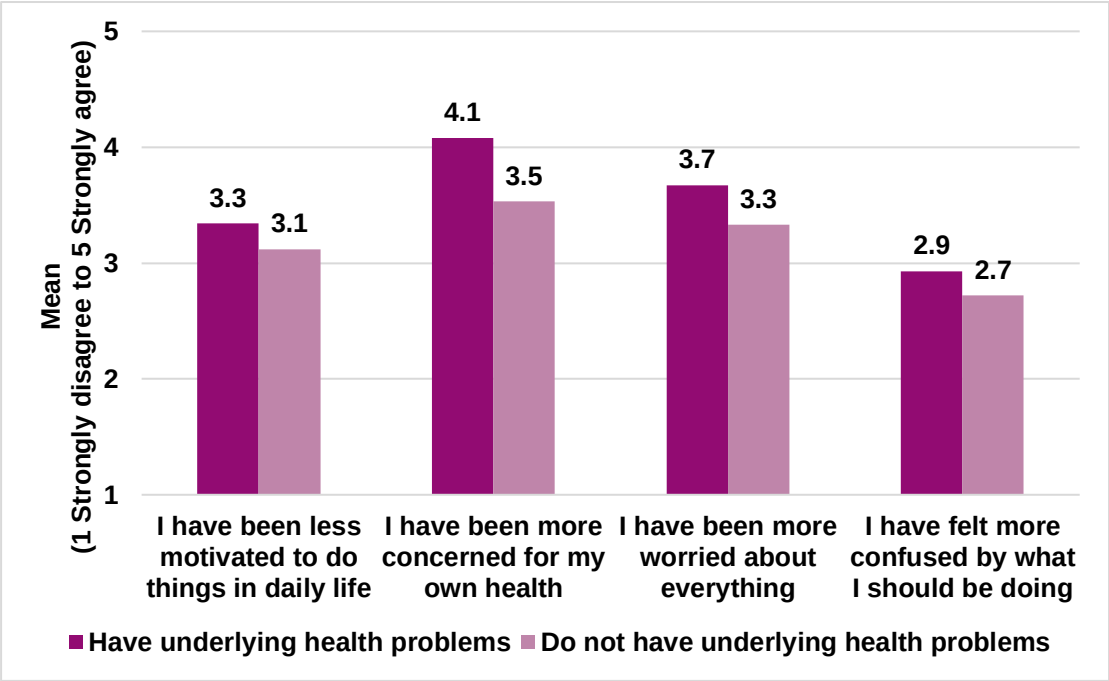

Figure 12. Intrapersonal constraints based on underlying health problems

Figure 13. Intrapersonal constraints based on income

Interpersonal constraints

Interpersonal constraints are based on social interactions and personal relationships. As a result, they most affect the sociality of the activity or the social consequences of participation. For example, a relationship status of “single” can be a constraint to participating in activities that require a partner, with a negotiation strategy being to bring a friend. Conversely, a “partnered” status can be a constraint if one partner enjoys participating in an activity which the other does not, meaning that negotiations must be made around time together, time apart and participation despite non-interest. Of course, interpersonal constraints extend beyond these types of relationships to the ways in which social interactions, including attempts to avoid social interaction, such as is the case with lockdown measures, can be constraints.

On average, respondents “tend to agree” that they were experiencing more interpersonal constraints during the Covid-19 situation compared to before it, with an average score of 4.3 (on a scale from 1” strongly disagree” to “5 strongly agree”) across all statements (Figure 14). With the enactment of specific isolation and social distancing measures, this is to be expected. All people have been instructed to avoid crowds, keep a 2-metre distance from others whenever possible and during the first weeks of lockdown, everyone was instructed to “shelter at home”, only going out for

essential reasons. Such broad measures have certainly had an impact on the respondents' attitudes towards others.

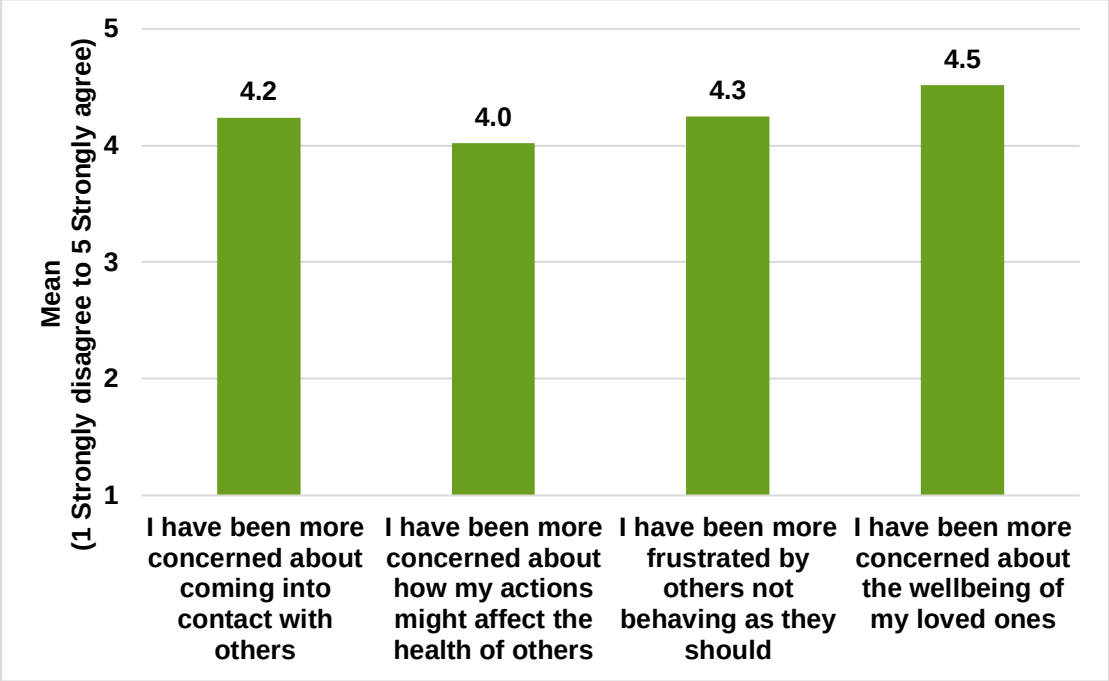

Figure 14. Agreement with interpersonal constraints, based on average response

In addition to interpersonal constraints being generally high (Figure 15), respondents "strongly agree" about being more concerned about their loved ones (64%) and frustrated by others not behaving as they should (54%). They "tend to agree" about being concerned for the implications of their own actions as well as those of others. Looking more closely at the interpersonal constraints by demographics (Table 4), it is observed that those with underlying health problems (Figure 16) or living alone (Figure 17) were significantly more constrained by concerns about others. As a result, someone who possesses both of these characteristics is more likely to experience interpersonal constraints more strongly. Indeed, these demographic combinations are among the groups more likely to be reliant on others and in need of additional support from essential services.

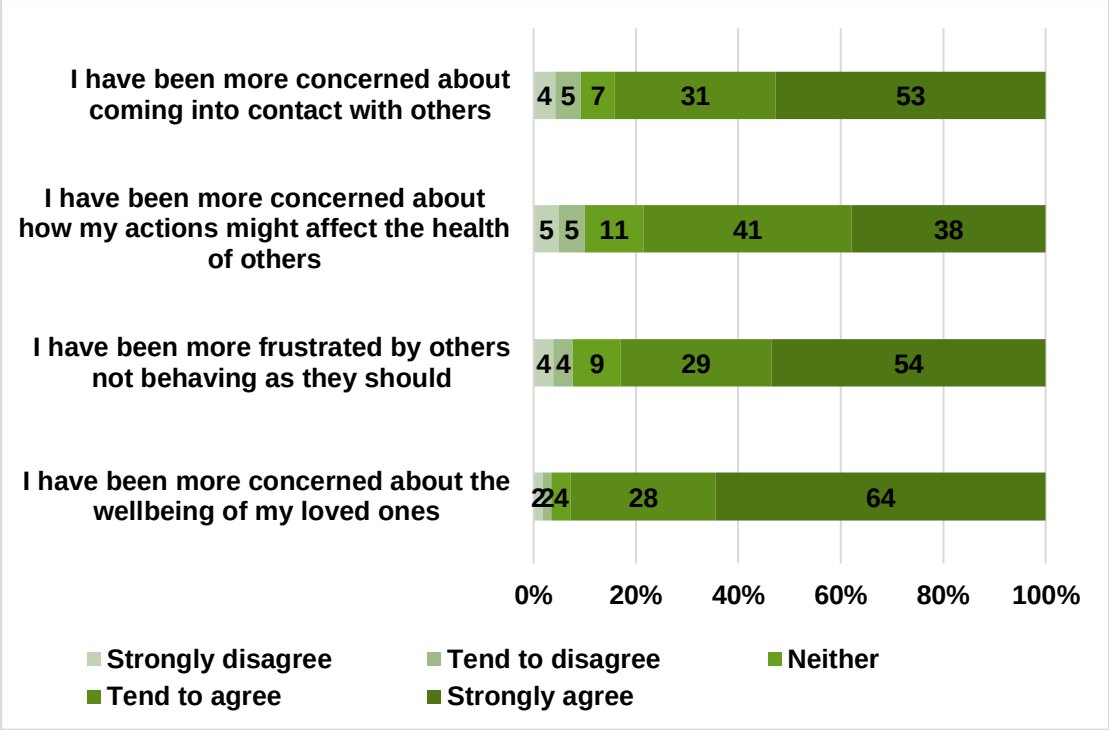

Figure 15. Agreement with interpersonal constraints, based on response type

Table 4. Mean interpersonal constraints by respondent characteristics

Variable	Characteristic	N	Mean	SD	Independent Samples t-test
Gender	Female	573	4.254	0.906	t 0.273, p.785
	Male	353	4.256	0.947	
Age	70+	161	4.206	0.802	t -0.921, p.357
	Under 70	768	4.266	0.745	
Underlying health problems	Yes	345	4.390	0.657	t 4.498, **p.000**
	No	590	4.173	0.797	
Household income	Over 50,000	77	4.331	0.702	t 0.621, p.535
	50,000 or less	615	4.275	0.751	
Household composition	Live alone	257	4.116	0.819	t -3.441, **p.001**
	Live with others	651	4.308	0.727	
Vision impairment	Severe	501	4.211	0.796	t -2.114, p.035
	Other	307	4.328	0.711	
Guide dog owner	Yes	307	4.239	0.763	t -0.256, p.798
	No	580	4.253	0.760	
Had Covid-19 or symptoms	Yes	99	4.420	0.682	t 2.330**, p.020**
	No	836	4.234	0.762	

Note: t-test results in bold are significant at the 95% confidence level.

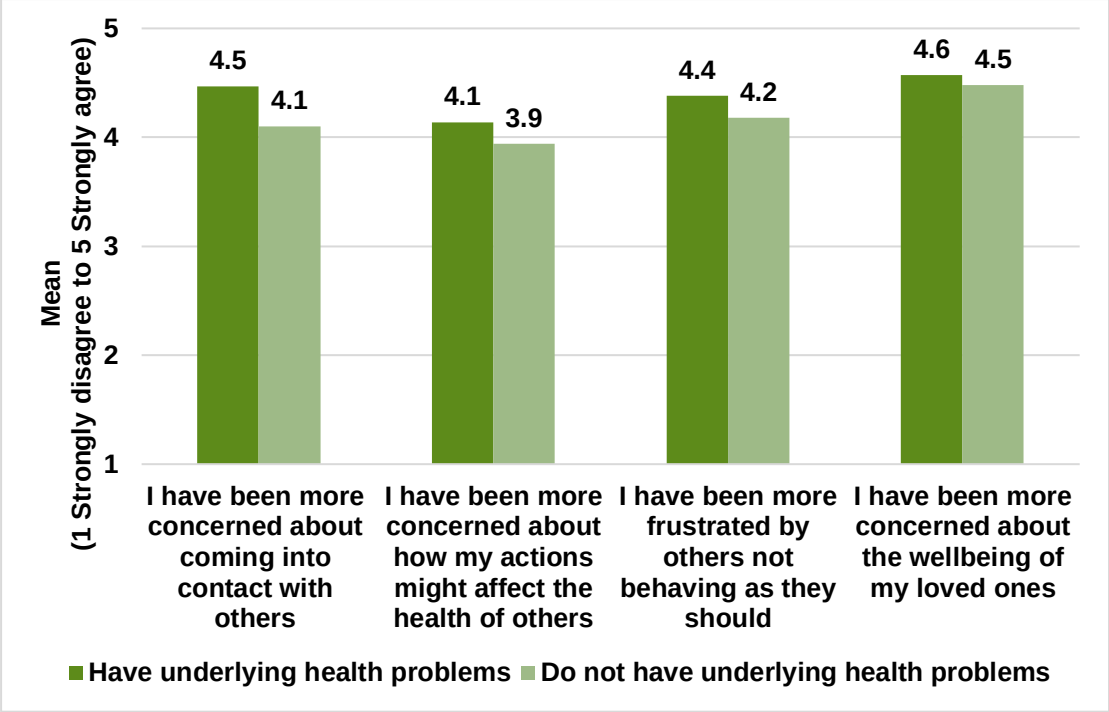

Figure 16. Interpersonal constraints based on underlying health problems

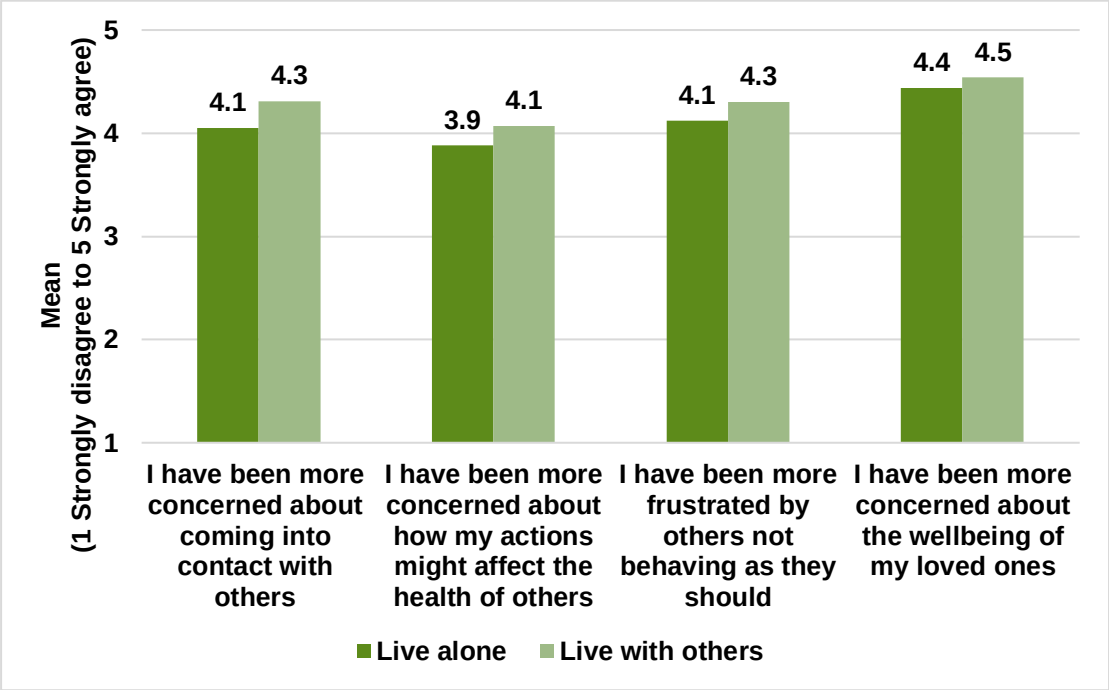

Figure 17. Interpersonal constraints based on household composition

Structural constraints

Structural constraints include factors related to responsibilities (work, care, etc.), time availability, resources (financial, accessibility, etc.), seasonality, and so on. In the

case of Covid-19, the closures of many public places and restrictions related to access to services are clear examples of structural constraints. Negotiation strategies for structural constraints often take the form of adaptations, reduced participation and adoption of technologies.

As expected, the greatest structural constraint was associated with closures (Figure 18), with 95% in agreement with the statement “places I normally like to go to have been closed” (Figure 19). Otherwise, on average, respondents “neither agree nor disagree” that they experienced more structural constraints during the Covid-19 situation compared to before it, with an average score of 3.0 (on a scale from “1 strongly disagree” to “5 strongly agree”) in terms of finances, time and space resources (Figure 18).

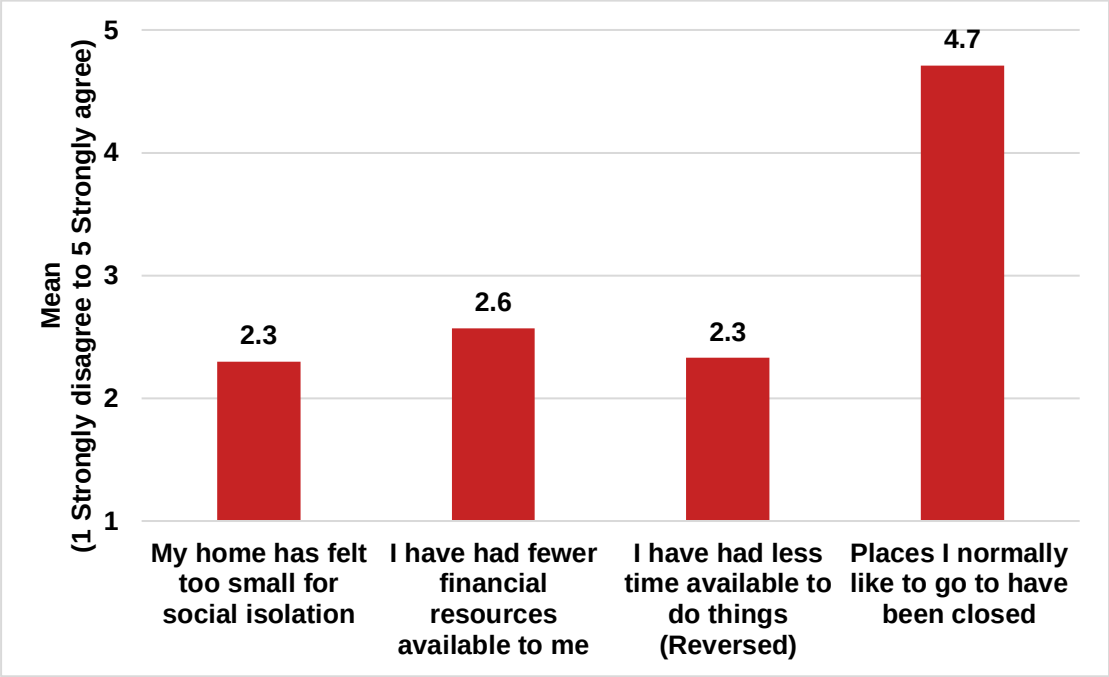

Figure 18. Agreement with structural constraints, based on average response. *The reversed item was worded in the survey as “I have had more time available to do things” but reversed in the analysis to match the direction of the other items*

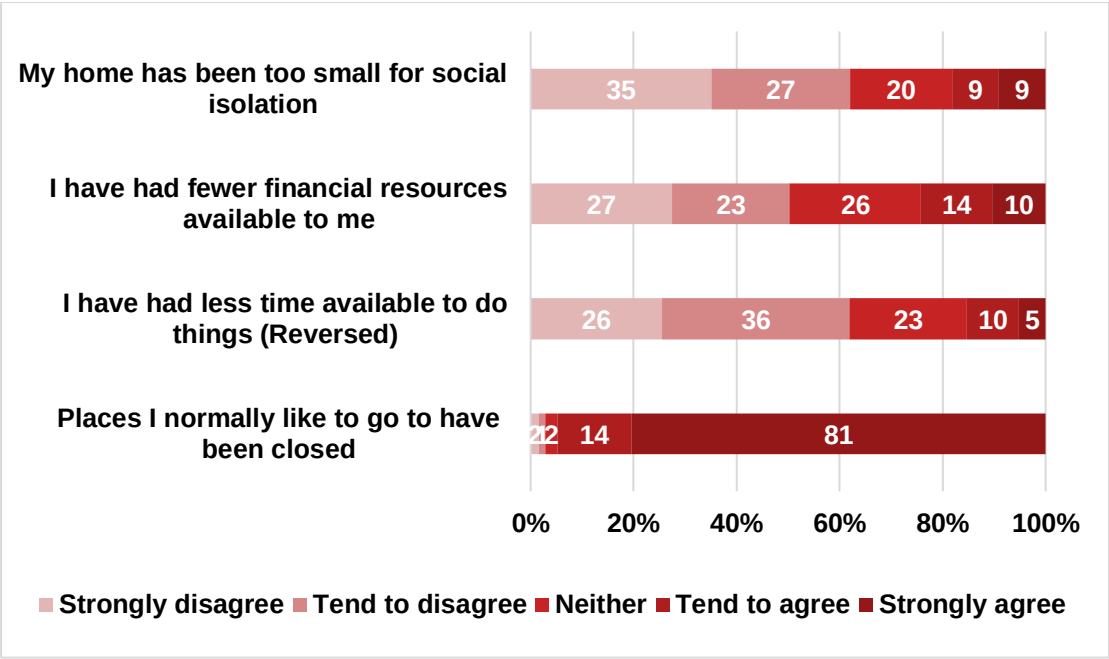

Figure 19. Agreement with structural constraints, based on response type. *The reversed item was worded in the survey as "I have had more time available to do things" but reversed in the analysis to match the direction of the other items*

Table 5. Mean structural constraints by respondent characteristics

Variable	Characteristic	N	Mean	SD	Independent Samples t-test
Gender	Female	573	3.014	0.687	t 0.478, p.633
	Male	354	2.993	0.640	
Age	70+	161	2.791	0.640	t -4.518, **p.000**
	Under 70	768	3.050	0.666	
Underlying health problems	Yes	345	3.000	0.694	t -0.274, p.784
	No	590	3.012	0.653	
Household income	Over 50,000	77	2.785	0.659	t -3.312, **p.001**
	50,000 or less	615	3.053	0.671	
Household composition	Live alone	257	3.036	0.659	t 0.816, p.415
	Live with others	651	2.996	0.676	
Vision impairment	Severe	501	2.990	0.698	t -0.251, p.802
	Other	307	3.001	0.626	
Guide dog owner	Yes	307	2.954	0.677	t -1.551, p.121
	No	580	3.027	0.662	
Had Covid-19 or symptoms	Yes	99	3.067	0.651	t 0.937, p.349
	No	836	3.001	0.670	

Note: t-test results in bold are significant at the 95% confidence level.

Looking more closely at the structural constraints by demographics (Table 5), those aged under 70 (Figure 20) or with a lower household income (Figure 21) experienced

significantly structural constraints more strongly. As a result, someone who has both of these characteristics is more likely to experience structural constraints. In terms of age, it is suggested that those over 70 years are more likely to be on a fixed income in which their income is not affected by unstable working situations that Covid-19 has brought about for some. Similarly, those with lower household incomes might also be experiencing the challenges related to stockpiling of supplies in the early weeks of the pandemic, but also loss of work (redundancy, furloughed) or reduced work, and therefore reduced income, as non-essential workers were restricted from operating during the first weeks of lockdown.

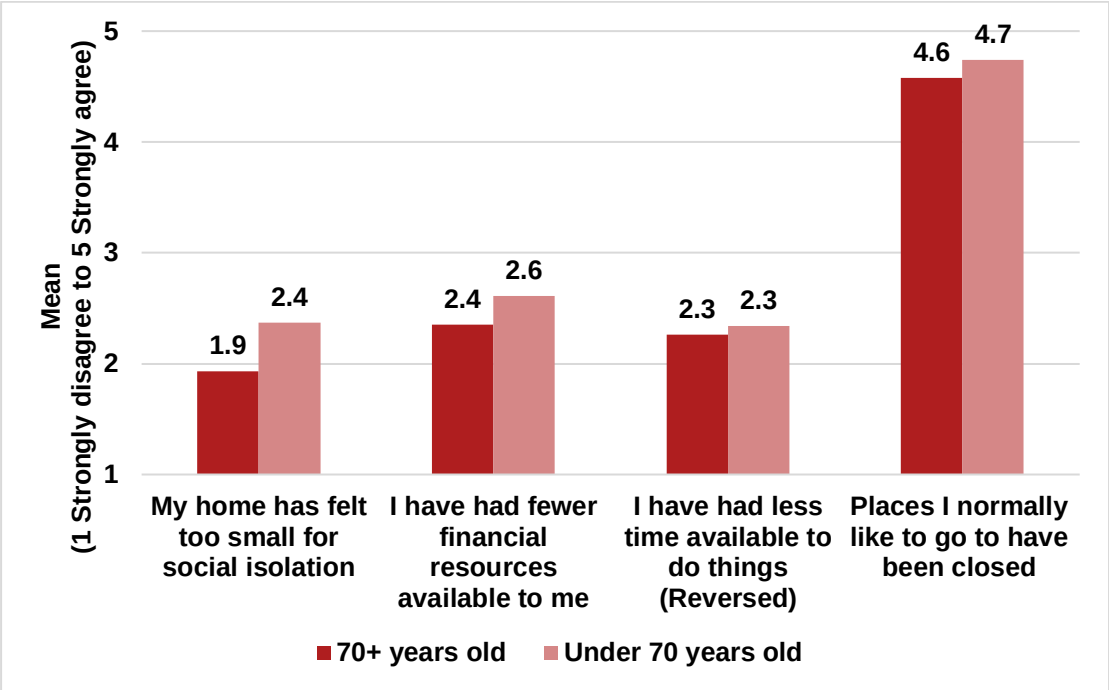

Figure 20. Structural constraints based on age

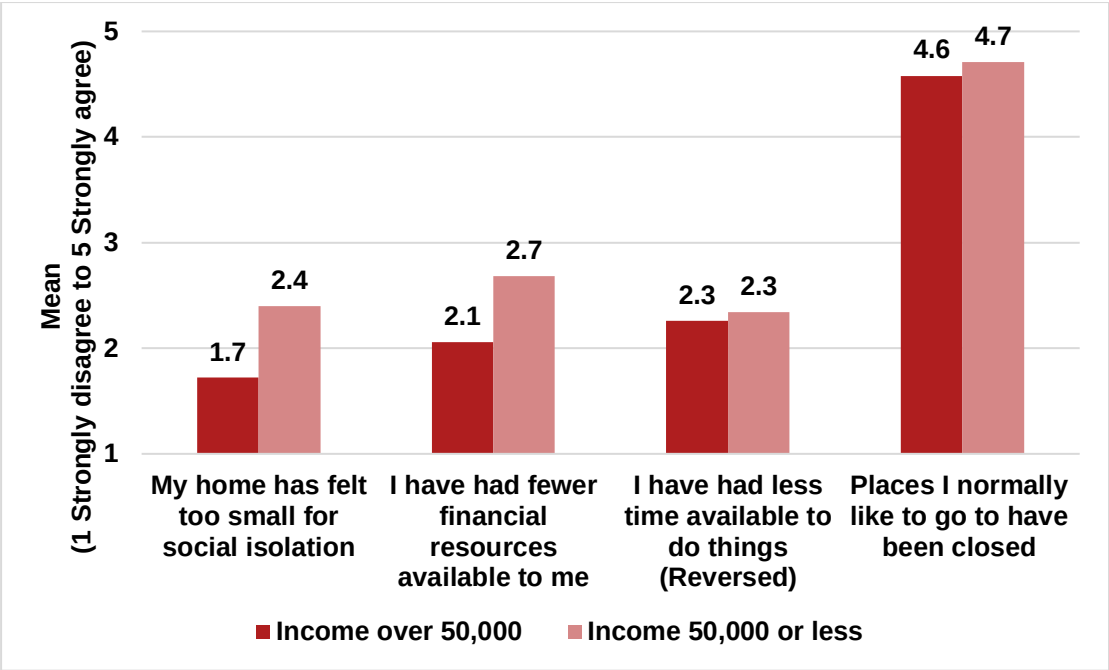

Figure 21. Structural constraints based on income

Negotiation of constraints

Having discussed each type of constraints (intrapersonal, interpersonal and structural) in the above sections, along with how respondents were affected, we now turn to a discussion of the negotiation of constraints as experienced by the sample of respondents. Key dimensions to negotiating constraints rests in individuals' actual and perceived abilities to adapt or overcome hinderances, as well as the actual and perceived resources available to them to do so. This is particularly why CNT includes the "hierarchy of social privilege" proposition (Jackson et al., 1993), which is especially relevant in the Covid-19 situation. Particular segments of the population were identified as "vulnerable" during the pandemic, with the intention that these segments would have priority access to support services. However, those included in the "vulnerable" category changed over time, which resulted in unequal access to support and resources for many.

Further, the idea behind "shelter at home" meant that anyone who was not an essential worker should be working from home, whenever possible. However, working from home for most people may requires substantial adaptation, including the purchase of equipment or other resources. In fact, there is evidence of an increase in numbers of people using online video conferencing software, such as

Zoom, which recorded an increase from 10 million – 300 million daily users from December 2019 to April 2020 (Warren, 2020).

Similarly, individuals were not supposed to be leaving their homes unless accessing essential services (including grocery shopping) or participating in one form of exercise per day. As a result, there was a marked rise in demand for grocery delivery, with Tesco experiencing a 20% increase from the beginning of March to the end of April and the delivery-only grocery retailer, Ocado, experiencing 10x higher than normal demand (Rigby, 2020).

On average, respondents "tend to agree" that they negotiated constraints during the Covid-19 situation, with an average score of 3.7 (on a scale from "1 strongly disagree" to "5 strongly agree)" across all statements (Figure 22). In particular, the majority of respondents say that they made use of technologies (84%) and made the most of a difficult situation (80%) (Figure 23). Specifically, the statement "I have been more reliant on others for assistance" is interesting in that 69% report being more reliant, yet 27% feel they were less reliant on others for assistance. The circumstances brought about by Covid-19 that have seemingly reduced reliance should be investigated.

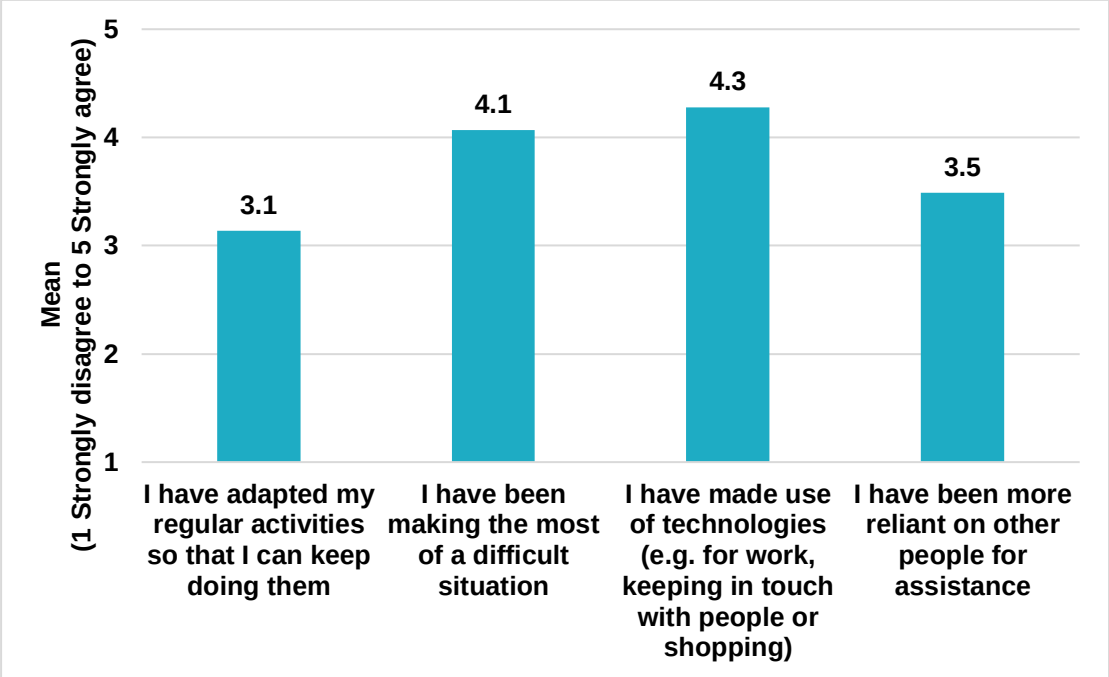

Figure 22. Negotiation of constraints during Covid-19, based on average response

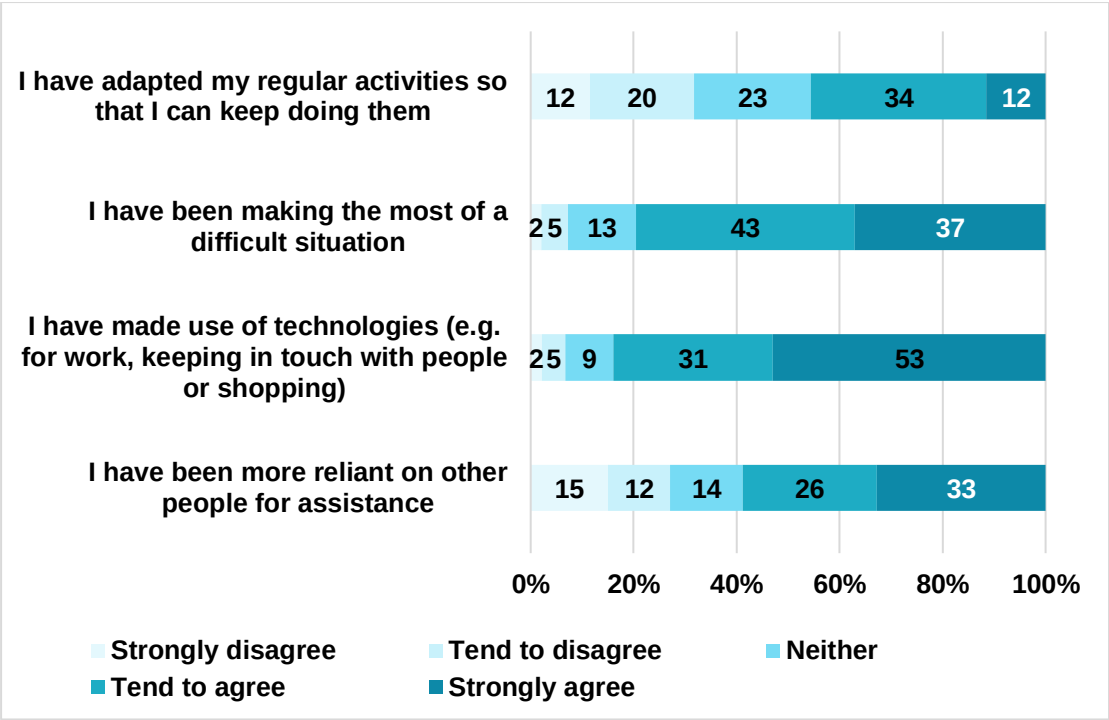

Figure 23. Negotiation of constraints during Covid-19, based on response type

Table 6. Mean negotiation of constraints by respondent characteristics

Variable	Characteristic	N	Mean	SD	Independent Samples t-test
Gender	Female	573	3.748	0.604	t -0.286, p.775
	Male	354	3.761	0.702	
Age	70+	161	2.791	0.640	t 0.743, p.458
	Under 70	768	3.050	0.666	
Underlying health problems	Yes	345	3.812	0.645	t 2.138, p.033
	No	590	3.719	0.640	
Household income	Over 50,000	77	3.933	0.601	t 2.958, **p.003**
	50,000 or less	615	3.702	0.652	
Household composition	Live alone	257	3.727	0.643	t -0.812, p.417
	Live with others	651	3.767	0.644	
Vision impairment	Severe	501	3.837	0.643	t 3.834, **p.000**
	Other	307	3.660	0.633	
Guide dog owner	Yes	307	3.870	0.634	t 3.761, **p.000**
	No	580	3.700	0.638	
Had Covid-19 or symptoms	Yes	99	3.703	0.614	t -0.831, p.406
	No	836	3.760	0.646	

Note: t-test results in bold are significant at the 95% confidence level.

Looking more closely at constraints negotiation by demographics (Table 6), it is observed that those with a higher household income (Figure 24), severe vision

impairment (Figure 25) or a guide dog (Figure 26) were significantly better at negotiating constraints. However, it is worth noting that this could be due to being more “reliant on others” (item 4) for assistance rather than personally negotiating constraints themselves. Nevertheless, access to financial resources is a commonly identified constraint negotiation, as it affords more options for access to other resources. Further, the presence of a guide dog as an emotional support was also highlighted in the free text responses (see Table 12).

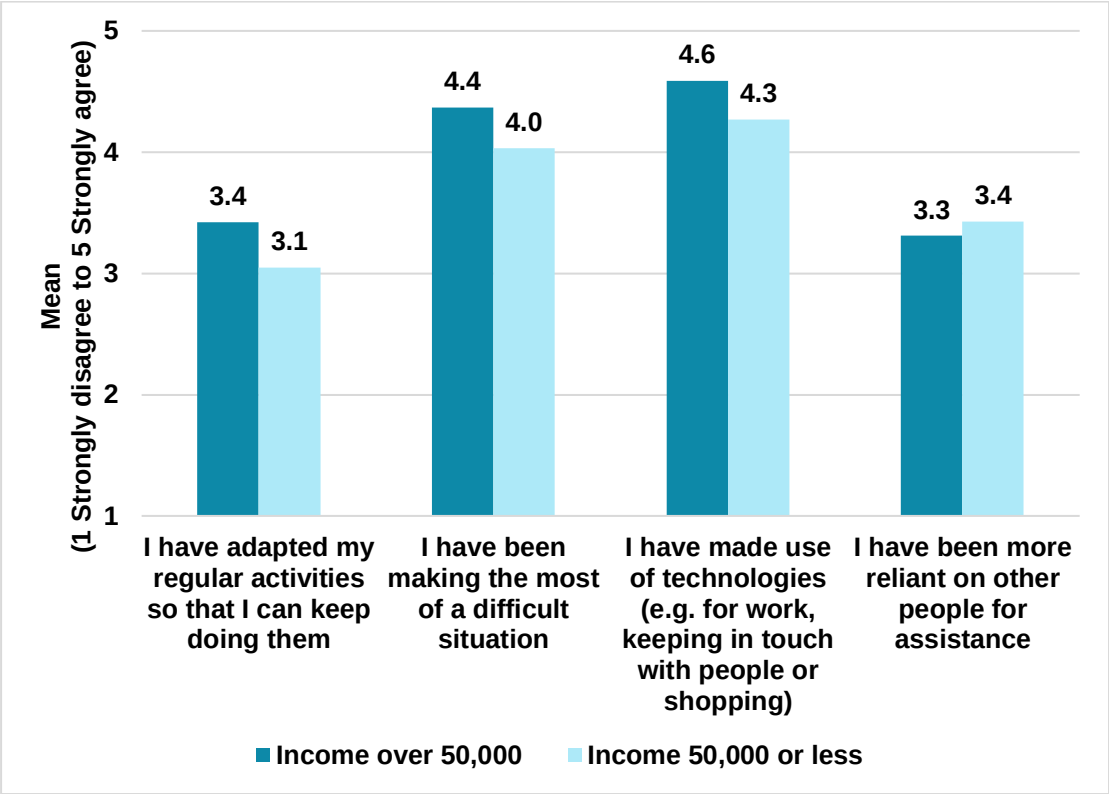

Figure 24. Negotiation of constraints based on income

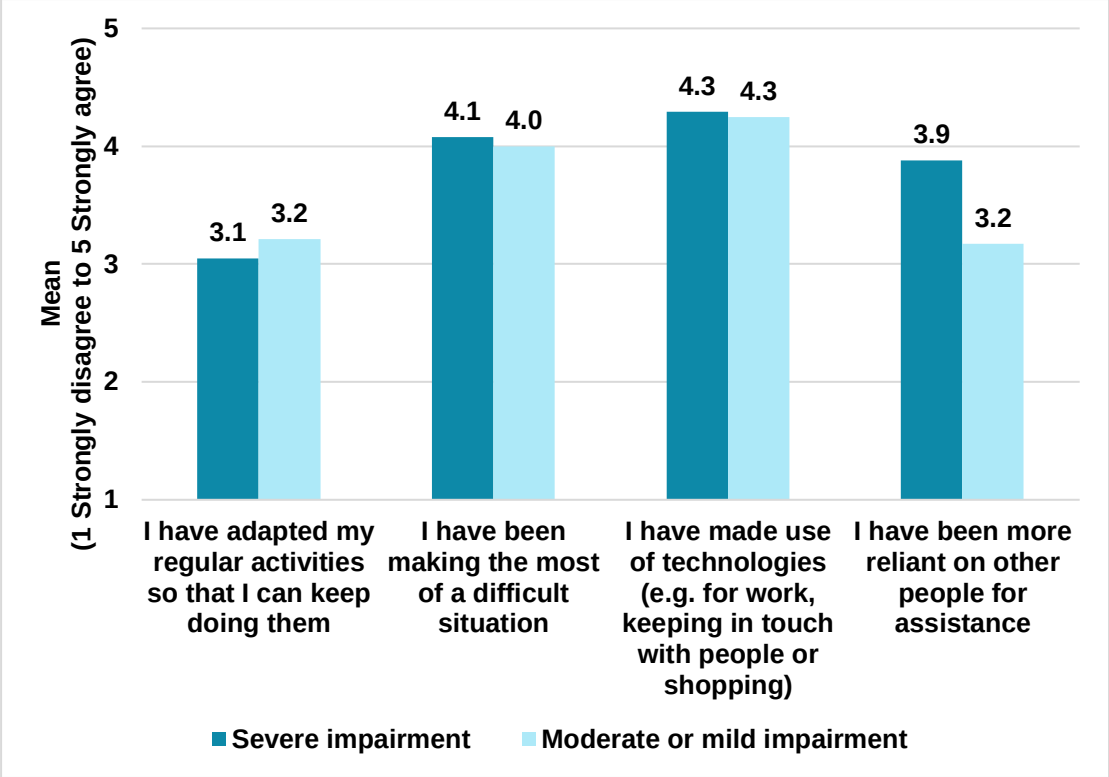

Figure 25. Negotiation of constraints based on vision impairment

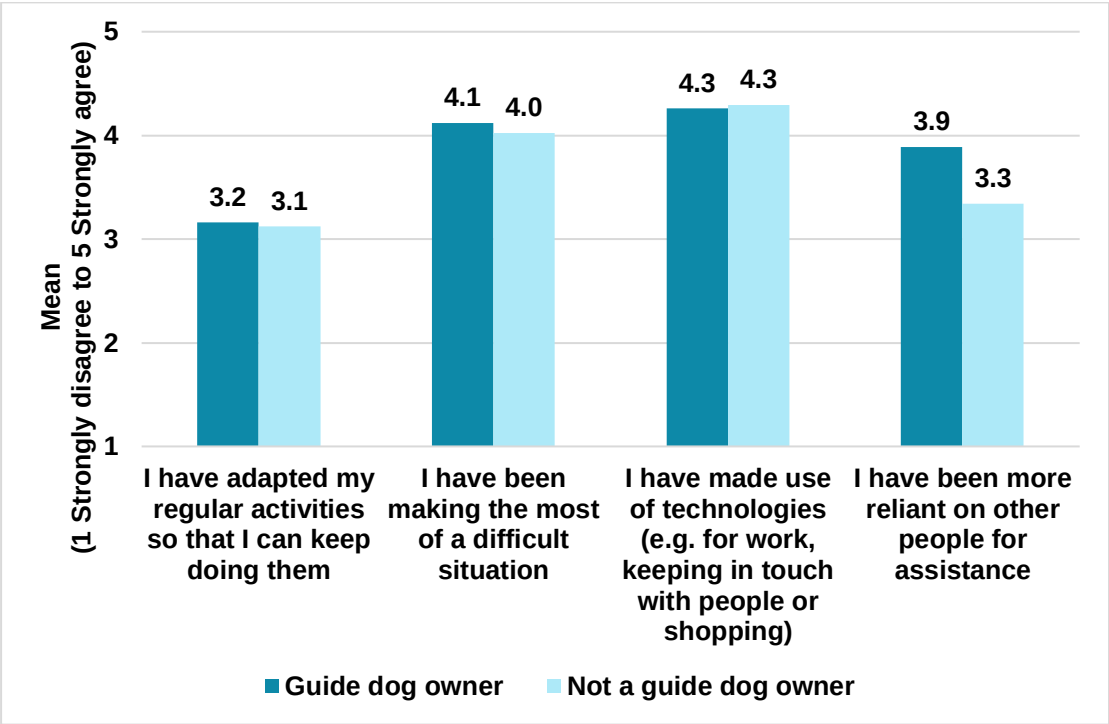

Figure 26. Negotiation of constraints based on guide dog ownership

Wellbeing

Wellbeing is a broad concept that incorporates a range of subjective variables related to one's state of mind, health, resilience, efficacy, relationships, access to resources and many other aspects of life. Huppert et al. (2009) summarised the multiple approaches and indicators to assessing wellbeing in the European Social Survey module. From their extensive list we have specifically adapted the measures of overall state of mind (e.g. happiness, depression, anxiety), satisfaction with life, quality of sleep and confidence about the future into this survey. While each measure is distinct, they also interact to create a broader (although not exhaustive) understanding of wellbeing. For example, sleep quality is often related to mood and energy levels such that depression reduces energy and anxiety contributes to restless sleep (Huppert et al., 2009). Thus, the uncertainty around Covid-19 and its effects throughout daily life are predicted to impact individual's wellbeing.

On average, respondents "neither agree nor disagree" that they had good wellbeing during the Covid-19 situation compared to before it, with an average score of 2.9 (on a scale from "1 strongly disagree" to" 5 strongly agree") based on all statements (Figure 27). This suggests wellbeing was fairly modest during Covid-19. Examining the types of responses to each statement (Figure 28), those which presented the strongest disagreement include optimism about the future (46%) and quality of sleep (51%). State of mind and overall life satisfaction generated nearly equal positive and negative responses.

Looking more closely at wellbeing by demographics (Table 7), those aged under 70 (Figure 29) or with a lower household income (Figure 30) experienced significantly lower levels of wellbeing. These demographics are also most strongly affected by structural constraints (see Figure 21 and Figure 22).

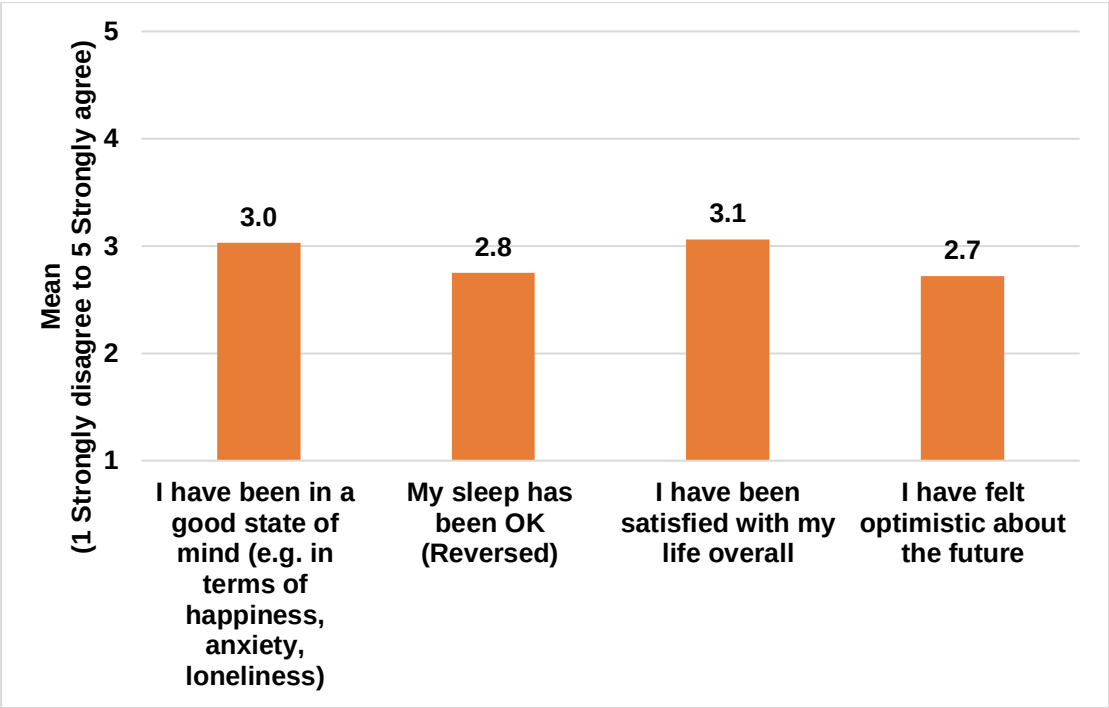

Figure 27. Wellbeing during Covid-19, based on average of responses

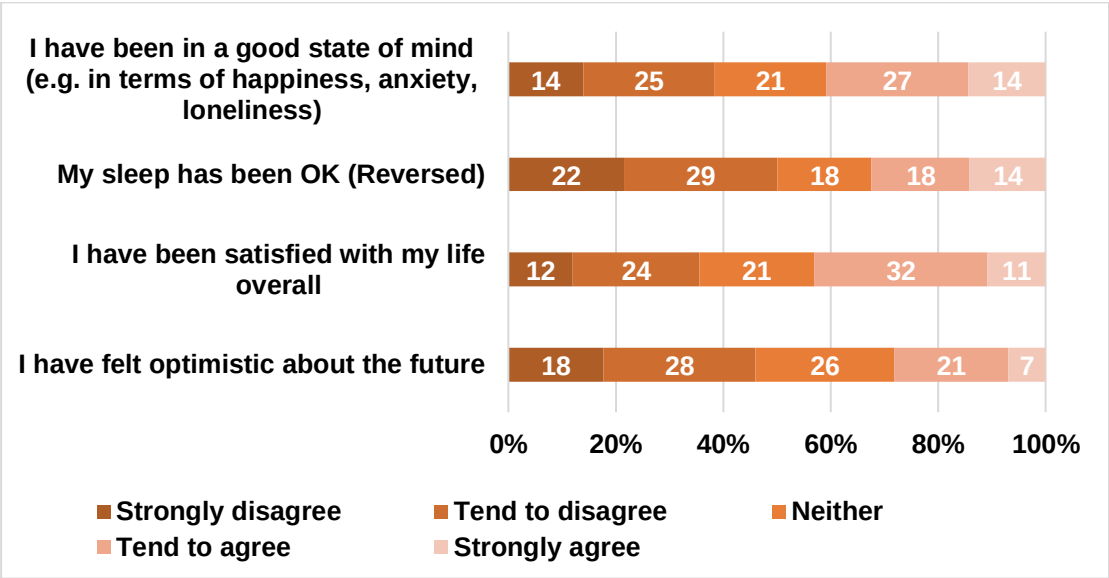

Figure 28. Wellbeing during Covid-19, based on response type. *The reversed item was worded in the survey as "My sleep has been restless" but reversed in the analysis to match the direction of the other items*

Table 7. Mean wellbeing by respondent characteristics

Variable	Characteristic	N	Mean	SD	Independent Samples t-test
Gender	Female	572	2.870	0.928	t -1.061, p.289
	Male	354	2.936	0.918	
Age	70+	161	3.107	0.800	t 3.218, **p.001**
	Under 70	767	2.851	0.941	
Underlying health problems	Yes	345	2.819	0.937	t -1.946, p.052
	No	589	2.941	0.910	
Household income	Over 50,000	77	3.168	0.892	t 3.267, **p.001**
	50,000 or less	614	2.802	0.929	
Household composition	Live alone	257	2.790	0.967	t -2.018, p.044
	Live with others	650	2.927	0.904	
Vision impairment	Severe	501	2.856	0.919	t -0.196, p.845
	Other	307	2.869	0.939	
Guide dog owner	Yes	307	2.901	0.885	t 0.445, p.657
	No	579	2.872	0.944	
Had Covid-19 or symptoms	Yes	99	2.677	0.879	t -2.509, p.012
	No	835	2.922	0.924	

Note: t-test results in bold are significant at the 95% confidence level.

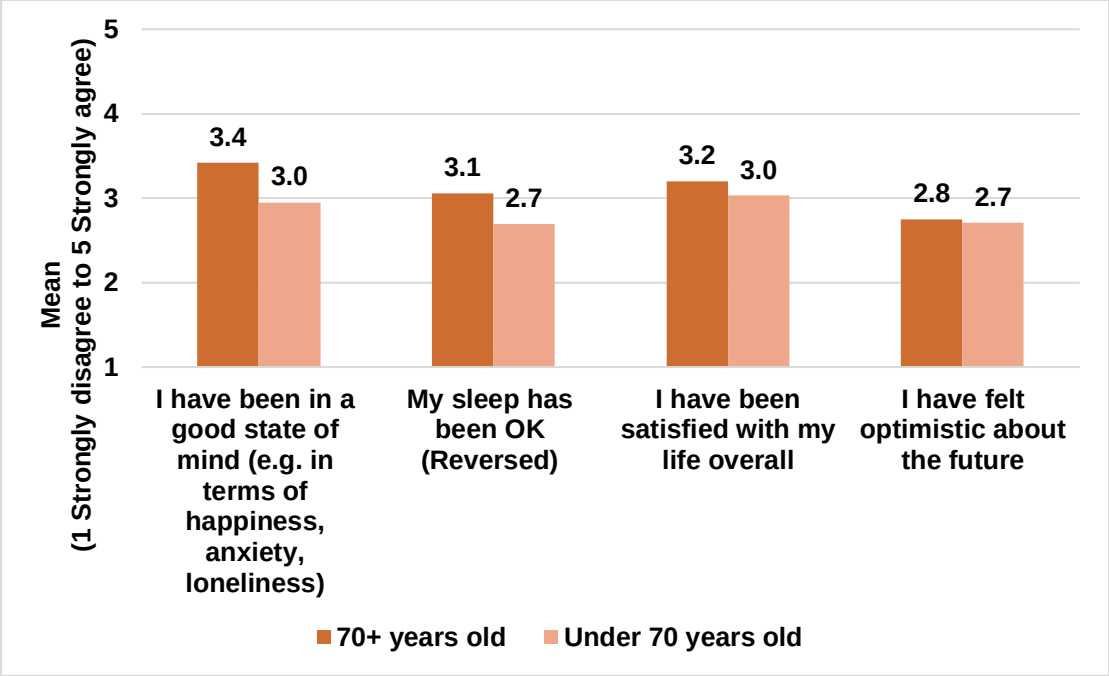

Figure 29. Wellbeing during Covid-19, based on age

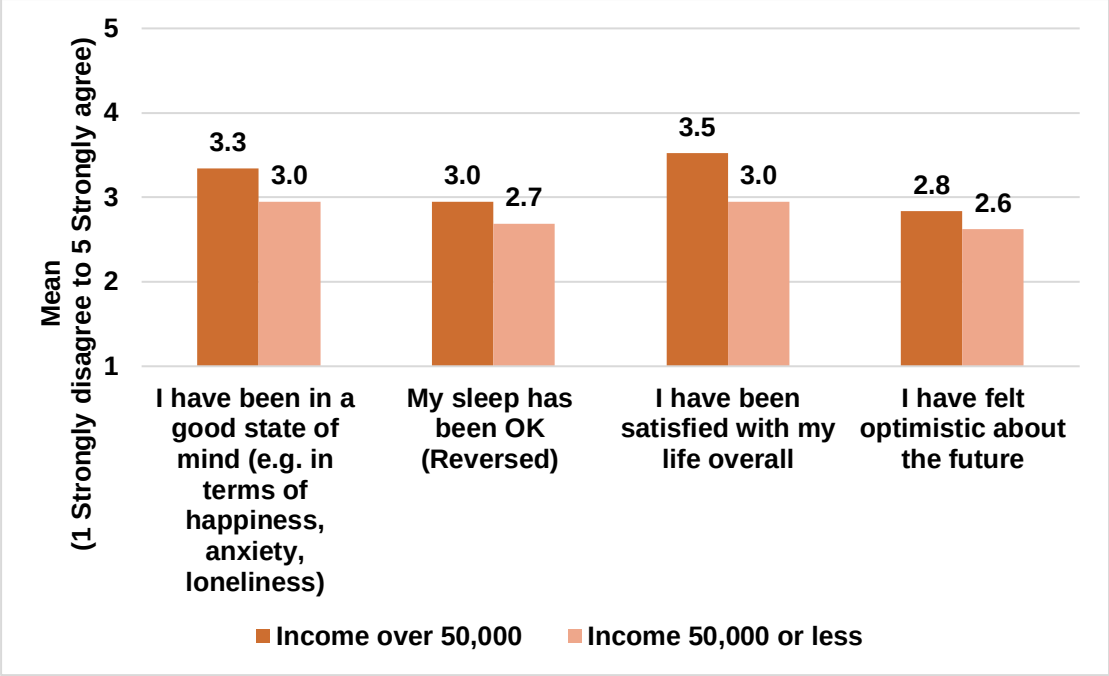

Figure 30. Wellbeing during Covid-19, based on income

Services

Government guidance related to "shelter at home" was especially restrictive for those identified as vulnerable to Covid-19. Whereas isolation and social distancing applied to all individuals, vulnerable individuals required additional support from a number of services to access essential resources. We asked respondents to rate the level of support they received from government, medical, transport and delivery services. These results include only those that actually used the services. As such, it should be noted that only 25% of respondents have used transport services during Covid-19 lockdown period.

On average, respondents rated the support they received from services as being "fairly good" during the Covid-19 situation, with an average score of 3.6 (on a scale from "1 very poor" to "5 very good") across all services (Figure 31). More specifically, 82% rated delivery services as "fairly to very good" and 58% rated medical services as "fairly to very good". However, they were fairly indifferent about the support received from transport services and the government (Figure 32).

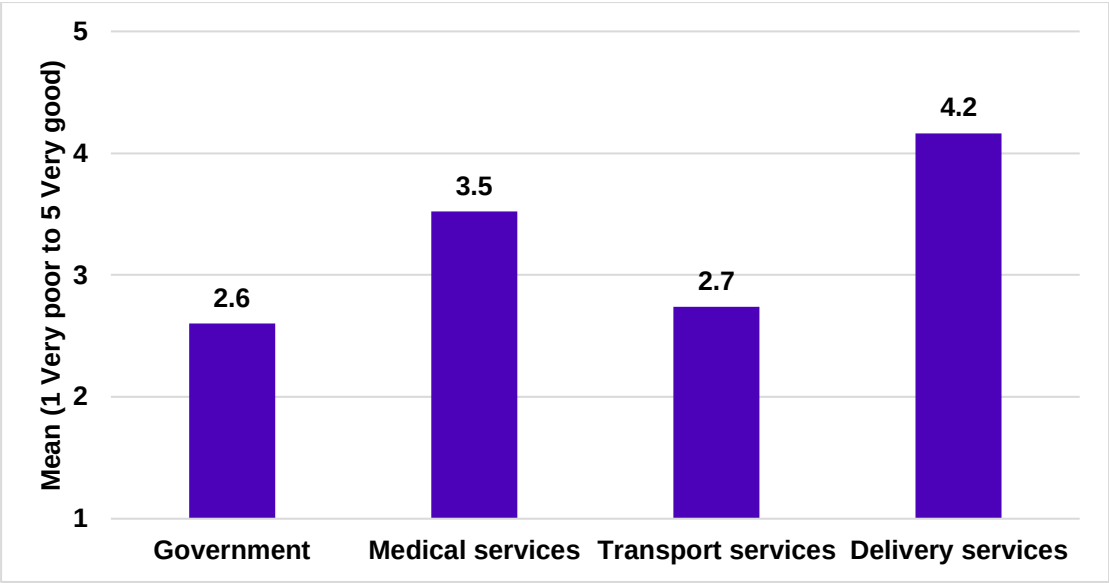

Figure 31. Level of support received, based on average responses

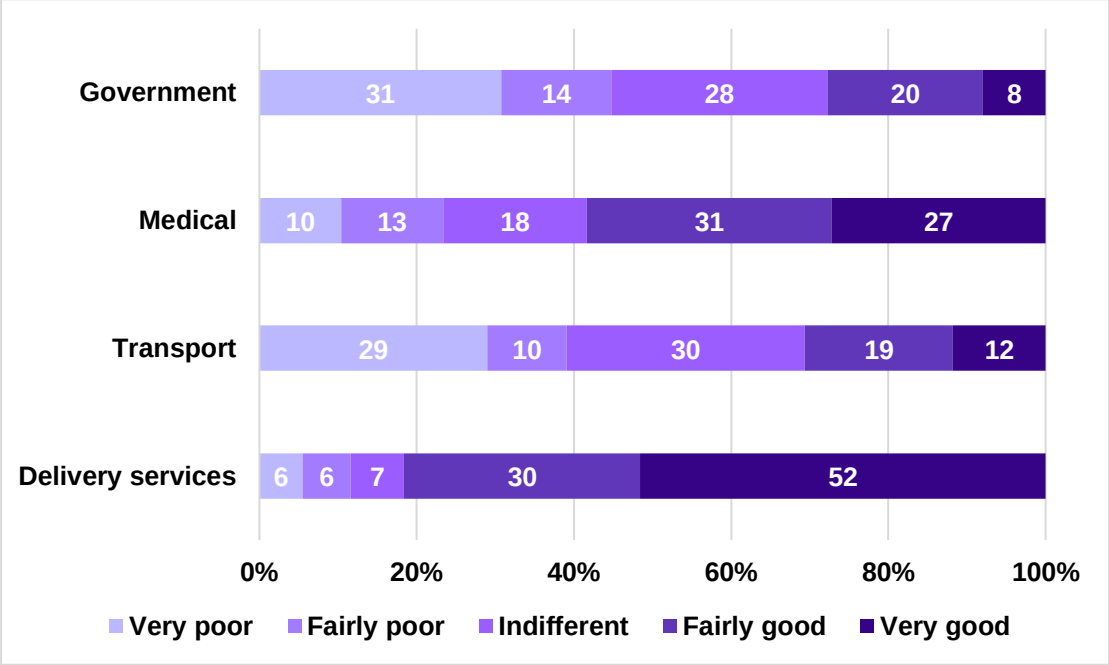

Figure 32. Level of support received, based on response type. *Note: Results only include those that have used the services*

Looking more closely at the level of support received by demographics (Table 8), it is observed that those aged under 70 (Figure 33), living alone (Figure 34) or with severe vision impairment (Figure 35) feel they received significantly poorer levels of support from services. As a result, someone who has all three of these characteristics is likely to have experienced the lowest level of support. Specifically,

the free text responses noted the difficulty some had in finding government resources accessible for vision impairment and for accessing transportation (see Table 12).

Table 8. Mean support from services by respondent characteristics

Variable	Characteristic	N	Mean	SD	Independent Samples t-test
Gender	Female	546	3.568	1.085	t 0.690, p.490
	Male	340	3.516	1.054	
Age	70+	151	3.976	0.955	t 5.475, **p.000**
	Under 70	738	3.460	1.074	
Underlying health problems	Yes	337	3.475	1.089	t -1.596, p.111
	No	557	3.593	1.058	
Household income	Over 50,000	73	3.741	0.985	t 2.006, p.045
	50,000 or less	590	3.477	1.070	
Household composition	Live alone	242	3.384	1.085	t -2.734, **p.006**
	Live with others	625	3.604	1.060	
Vision impairment	Severe	485	3.390	1.104	t -3.785, **p.000**
	Other	292	3.690	1.002	
Guide dog owner	Yes	300	3.424	1.112	t -2.192, p.029
	No	553	3.593	1.095	
Had Covid-19 or symptoms	Yes	98	3.344	1.042	t -2.013, p.044
	No	796	3.574	1.072	

Note: t-test results in bold are significant at the 95% confidence level.

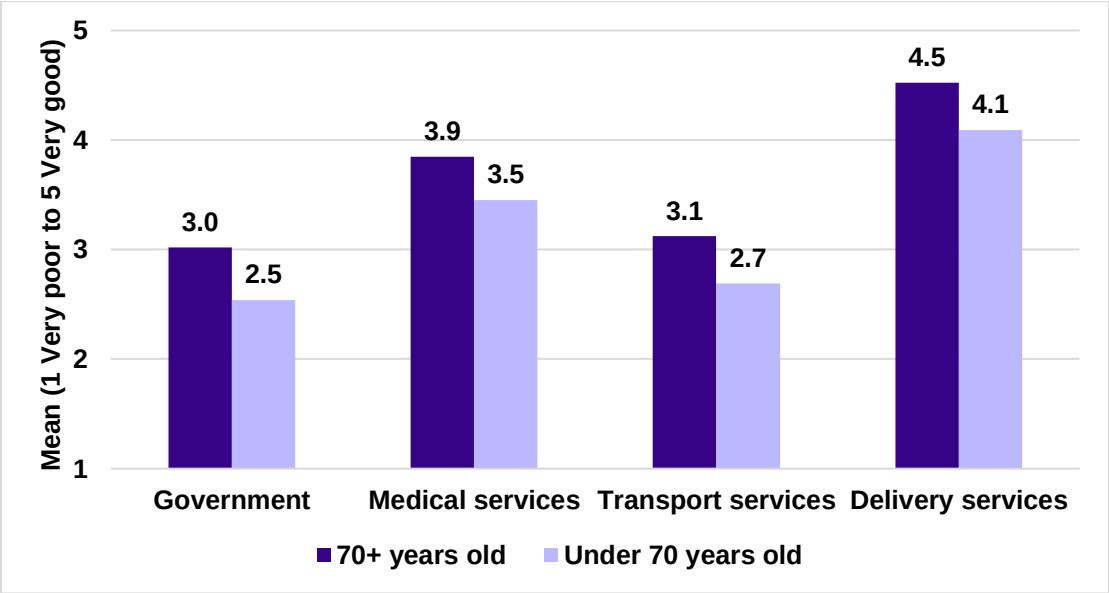

Figure 33. Level of support received, based on age

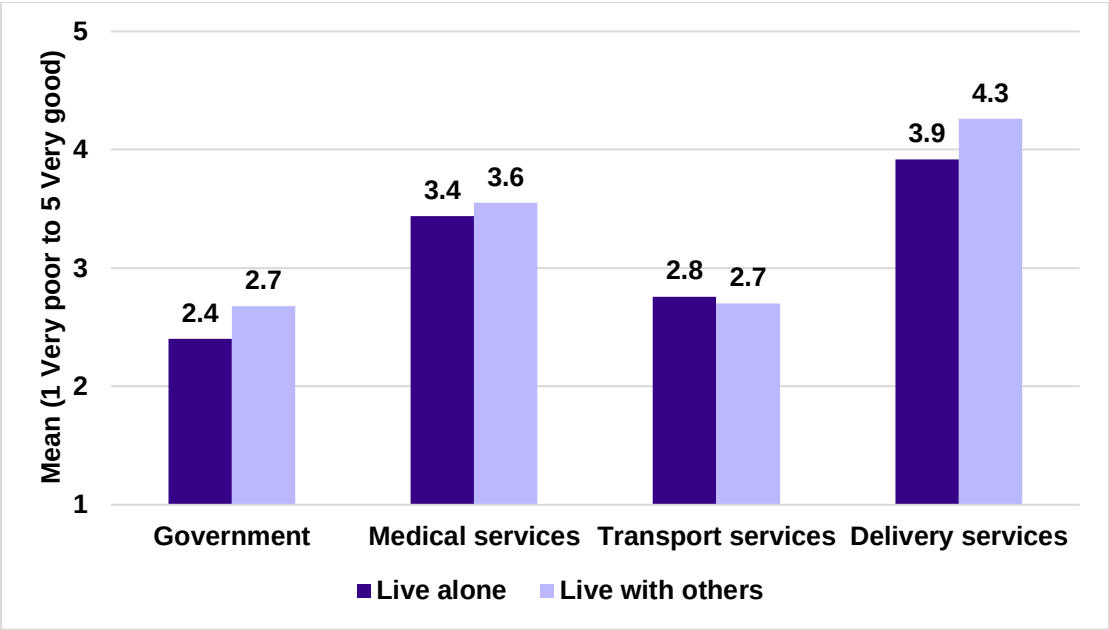

Figure 34. Level of support received, based on household composition

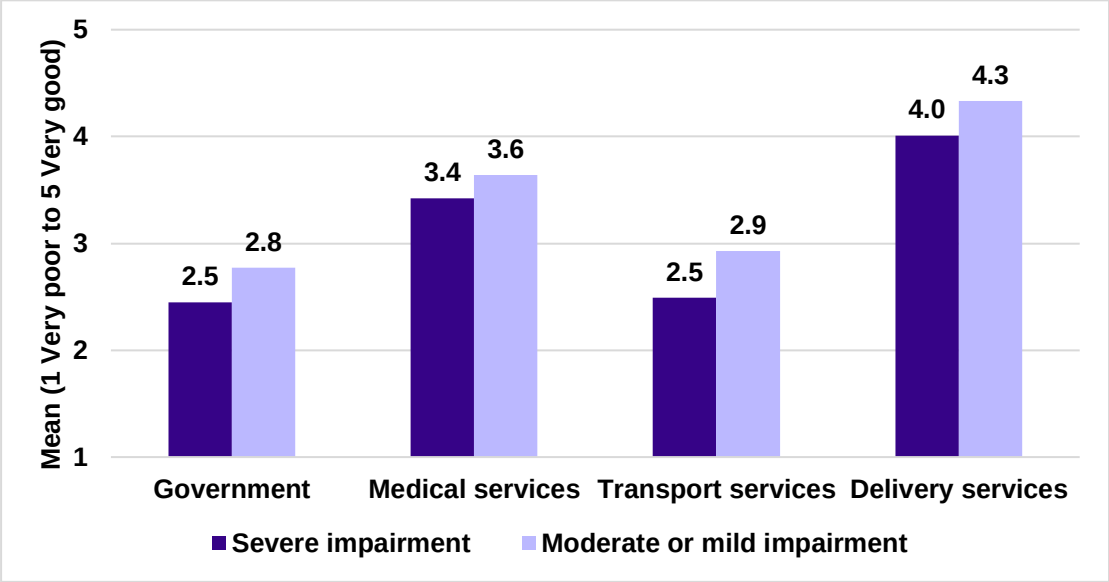

Figure 35. Level of support received, based on vision impairment

2-metre rule

People with vision impairment were not classed among the “clinically extremely vulnerable” segment of the population, meaning they were not entitled to priority delivery services, most notably from supermarkets, or other essential services. Indeed, vision impairment itself does not make one vulnerable to the virus. However, everyone excluded from the vulnerable category are expected to enact social

distancing when in public spaces and/or around other people not in their immediate household. This is a significant challenge for people with vision impairment. They often require more tactile engagement with surfaces and objects. This can include reading braille, holding objects closer to their face, and using a magnifier or a smartphone app to read labels. In shops and on public transit, they are also more likely to ask for assistance. These all increase the potential of catching and spreading the virus, which Crossland (2020) argues does, in fact, make people with vision impairment more vulnerable.

Moreover, as a result of vision impairment, following the 2-metre distancing guidelines can be difficult in all environments. Yet, many shops and services implemented 2-metre signage, markings and barriers based solely on visual cues, leaving people with vision impairment at a disadvantage. This reflects a challenge for society in general, where there is a tendency to focus exclusively on mobility, such as wheelchair access, when designing accessible environments rather than being aware of the diversity of people with disabilities (McKercher & Darcy, 2018). As such, by doing so, a whole host of other conditions and impairments are effectively disregarded, as was seemingly the case during the Covid-19 situation.

On average, respondents “tend to disagree” that they had confidence in the 2-metre rule during the Covid-19 situation, with an average score of 2.4 on a scale from “1 strongly disagree” to “5 strongly agree”, based on all statements (Figure 36). More specifically, 69% found it difficult to observe the 2-metre rules in public spaces and 67% felt that vision impairment was not considered by services when setting up their 2-metre markings and barriers (Figure 37).

Looking more closely at the attitudes towards the 2-metre rule by demographics (Table 9), it is observed that those aged under 70 (Figure 38), with severe vision impairment (Figure 39) or a guide dog (Figure 40) had significantly less confidence in coping with issues associated with the 2-metre rule. As a result, someone who has all three of these characteristics is likely to have the most difficulty with the 2-metre rule.

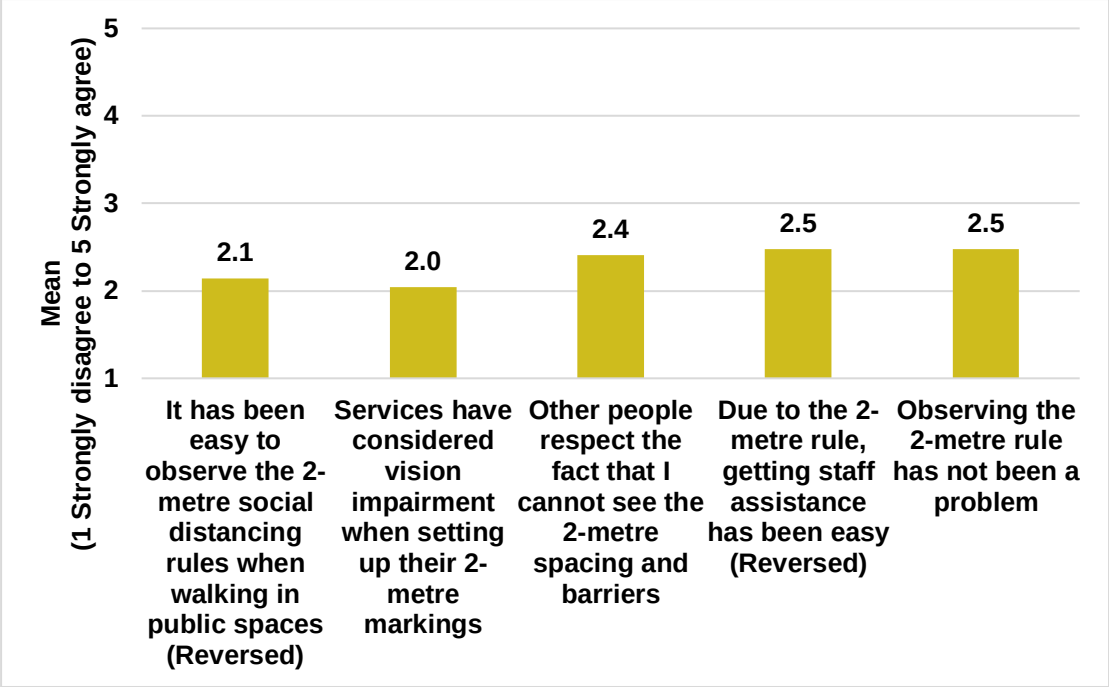

Figure 36. Attitudes towards 2-metre rule of lockdown, based on average response.
Reversed items were worded in the survey as "It has been difficult..." and "…has been difficult" but reversed in the analysis to match the direction of the other items.

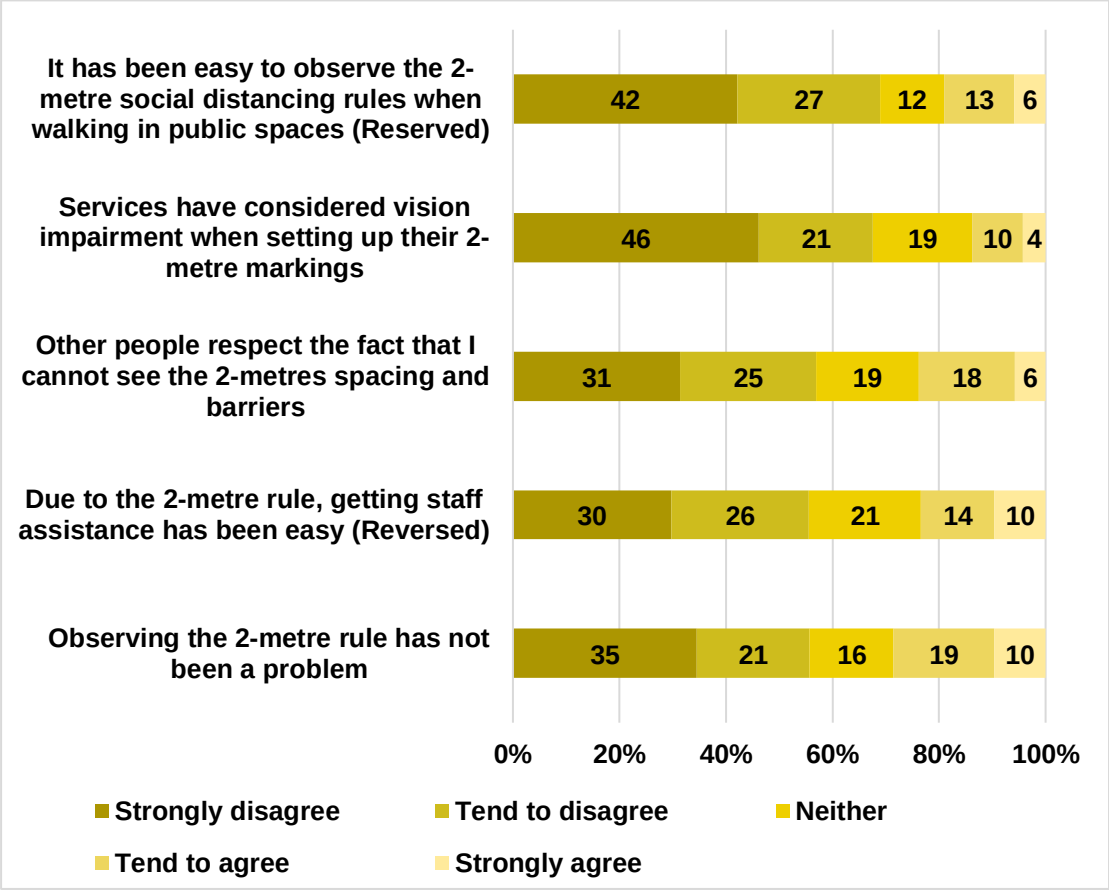

Figure 37. Attitudes towards 2-metre rule of lockdown, based on response type.
Reversed items were worded in the survey as "It has been difficult." and "…has been difficult" but reversed in the analysis to match the direction of the other items.

Table 9. Mean confidence in the 2-metre rule by respondent characteristics

Variable	Characteristic	N	Mean	SD	Independent Samples t-test
Gender	Female	505	2.347	0.957	t -1.562, p.119
	Male	323	2.455	0.996	
Age	70+	134	2.873	0.965	t 6.529, **p.000**
	Under 70	698	2.289	0.946	
Underlying health problems	Yes	300	2.319	1.004	t -1.477, p.140
	No	536	2.422	0.953	
Household income	Over 50,000	69	2.303	1.148	t -0.223, p.824
	50,000 or less	553	2.330	0.934	
Household composition	Live alone	232	2.442	0.941	t 1.158, p.247
	Live with others	586	2.354	0.988	
Vision impairment	Severe	476	2.117	0.901	t -8.734, **p.000**
	Other	282	2.719	0.945	
Guide dog owner	Yes	300	2.120	0.911	t -5.946, **p.000**
	No	523	2.527	0.965	
Had Covid-19 or symptoms	Yes	85	2.138	0.880	t -2.479, p.013
	No	751	2.413	0.979	

Note: t-test results in bold are significant at the 95% confidence level.

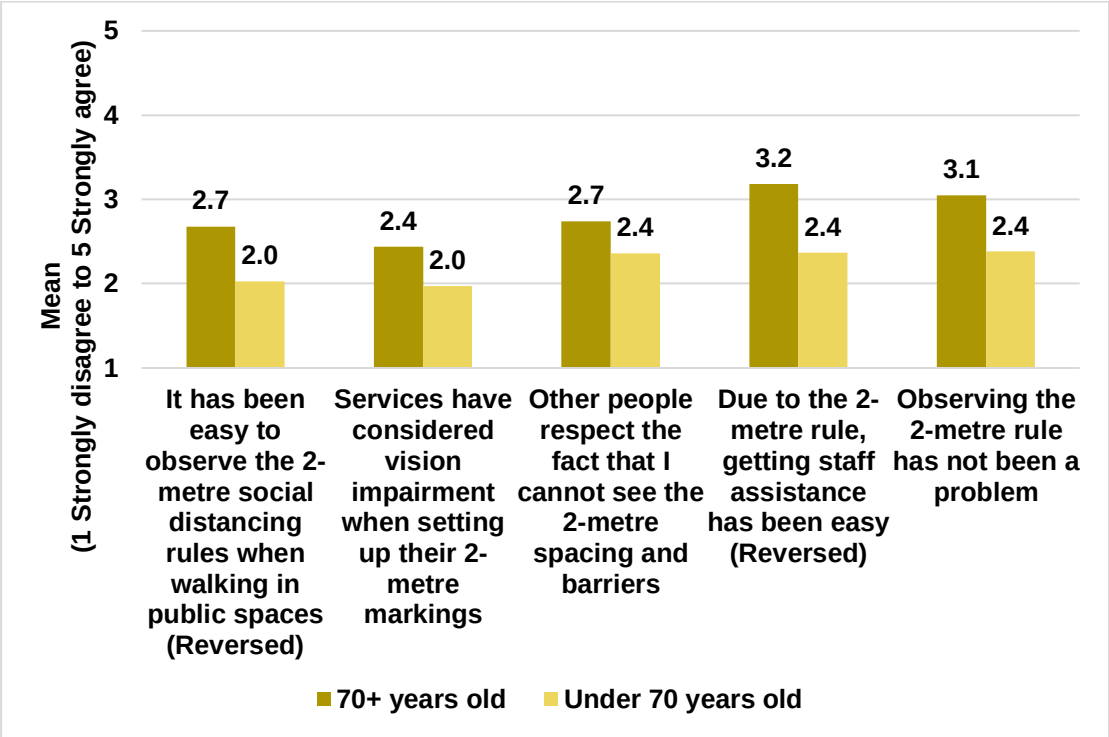

Figure 38. Attitudes towards 2-metre rule, based on age

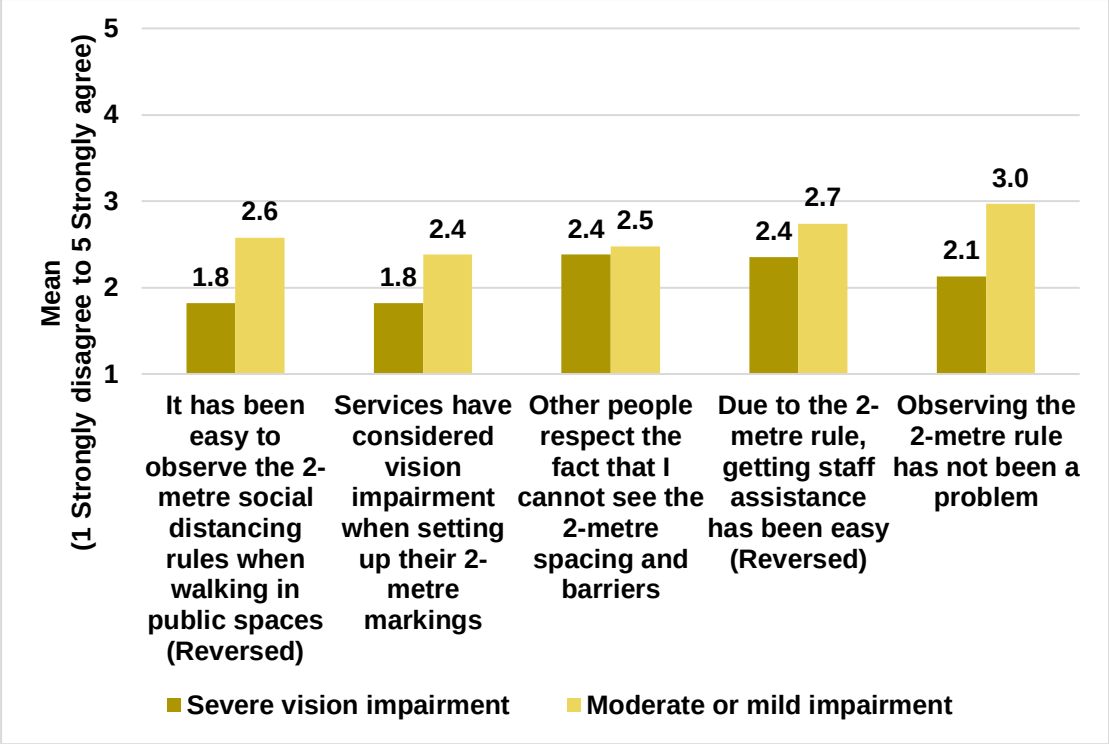

Figure 39. Attitudes towards 2-metre rule, based on vision impairment

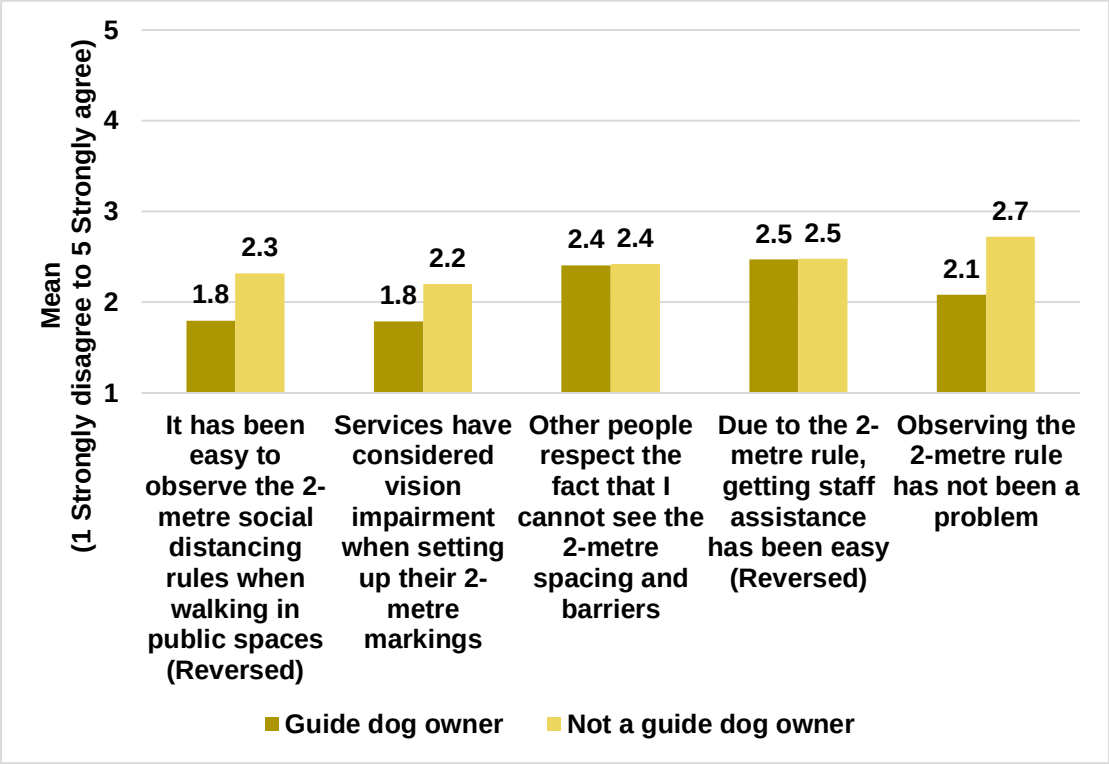

Figure 40. Attitudes towards 2-metre rule, based on guide dog ownership

Survey findings: Free text analysis

The survey included three free text questions, however, not all respondents completed all three questions. Free text question 1 elicited 340 responses of which 263 described actual comorbidities (Table 10). Free text question 2 elicited 450 responses and free text question 3 generated 212 response, which were analysed as one corpus, therefore resulting in a combined number of 662 valid responses.

Table 10. Sample size of free text responses

Free text question	Responses	Valid responses
Tell us about any underlying health issues that potentially make you vulnerable COVID-19.	340	263
How do you believe that the Covid-19 situation will impact you in the future and what support could help?	450	662
Can you provide any further comments?	212	

The responses to free text question 1, indicating whether respondents had a comorbidity, were quantitatively assessed for comorbidity type and frequency. Responses to free text questions 2 and 3 were semantically similar and so were analysed as one corpus using Textometrica (Lindgren & Palm, 2011). This is an online freeware tool for visualising and exploring co-occurrences of words occurring in discrete textual units, through connected concept analysis. Textometrica produces centre-weighted network maps that facilitate the identification and organisation of salient topics according to qualitative conceptual coding of the text.

Comorbidities

As noted by Mclean et al. (2014), comorbidity in vision impaired adults over age 65 is common and exacerbates the challenges posed to such individuals. In terms of provision and support for vision impaired individuals it is therefore important that complex clinical needs are taken into consideration.

Of the 263 individuals who indicated one or more comorbidity, a total of 53 unique comorbidities were identified (Table 11). The most frequent comorbidities were

diabetes I/II (n=88), asthma (n=69), heart disease/COPD (n=65), immunosuppression (n=29), arthritis (n=16), cancer (n=13) and kidney dysfunction (n=13). There were 25 individuals reporting four or more comorbidities, and 89 individuals reporting two or more comorbidities. It was not possible to associate specific comorbidities with age or other demographic data.

Table 11. Comorbidity frequency

Comorbidity	Frequency
Addison's disease	2
Alström syndrome	1
Anaemia (various)	1
Angina (various)	7
Antiphospholipid syndrome	1
Aortic incompetence	1
Arthritis (including ankylosing spondylitis; osteo; psoriatic; rheumatoid)	16
Asbestosis	1
Asthma	69
Autism	2
Behcet's disease	1
Brain trauma (unspecified)	3
Cancer (multiple types e.g. colon; brain)	13
Cerebral atrophy	1
Cerebral palsy	2
Coeliac disease	1
Colitis (non-specified)	1
Cortisol deficiency	1
Crohn's disease	1
Complex regional pain syndrome (CRPS)	1
Deafness (unspecified)	2
Diabetes I/II	88
Epilepsy (grand/petite mal)	2
Episodic ataxia	1
Fibromyalgia	4
Gallstones	1
Gastroparesis	1
Haemophilia	1
Heart disease (including pacemaker; COPD)	65

Hypertension	22
Irritable bowel syndrome (IBS)	1
Ileostomy	1
Immunosuppression (various)	29
Incontinence (urinary)	1
Liver disease (including cirrhosis)	2
Lung disease (including sarcoidosis; unspecified)	8
Monoclonal gammopathy of undetermined significance (MGUS)	1
Mitochondrial depletion syndrome	2
Multiple sclerosis (MS)	2
Myeloma	1
(morbid) Obesity	4
Pancreatitis	1
Parkinson's disease	2
Psoriasis	1
Psychological issue (unspecified)	1
Pulmonary fibrosis	3
Renal failure (various)	13
Reynaud's disease	1
Sleep apnoea	2
Stroke	9
Thyroid dysfunction	8
Transplant (various)	5
Vasculitis	1

Note: ambiguous responses such as, "wheeziness", "medication", "had flu and pneumonia in the past", "been to ICU", and so forth, have not been included. Neither has "pregnancy", other transient issues, and responses indicating a partner with a medical condition.

Experiences during Covid-19

A qualitative content analysis of 662 responses from free text questions 2 and 3 was carried out using Textometrica software and yielded several themes related to Covid-19 experiences, beliefs and anticipated impacts. The analysis revealed that some respondents spoke about multiple issues, which resulted in 1043 separate statements. These individual statements were organised into 9 themes (Table 12).

Table 12. Free text response themes

Theme	Frequency (N=1043)	Valid percent
How restrictions have impeded daily and anticipated function	288	27.6
What would help people with vision impairment navigate the ongoing situation	160	15.3
Perceptions of public and shop staff attitudes and behaviour	101	9.7
Specific issues with regard to public transport	91	8.7
Specific issues with regard to maintaining the 2-metre rule	83	8.0
Perceptions of Guide Dogs services and provision	83	8.0
No change or positive adaptation	32	3.1
A guide dog affords comfort and support and relying on others	26	2.5
Rhetorical, neutral, and generic references	179	17.2

How restrictions have impeded daily and anticipated function

This concept captured 15 coding categories, including most prolifically:

- Imagined future effects, such as difficulty finding a job or having to work differently;
- Anticipated financial issues;
- Being excluded from activities when restrictions eventually ease;
- Altered behaviour relating to fear of the virus;
- Loss of independence;
- Decreased availability or facility for online shopping; and
- Concerns that guide dog would require re-training.

The analysis revealed how impediments to daily and anticipated function are often interlinked:

> "I am unlikely to find employment now and my guide dog is not able to work to her full capacity so will be less able I believe when I am eventually allowed out. This will reduce my mobility, sense of self-worth, social skills and confidence. I fear these losses the most"

> “Socially limiting for both my guide dog and myself. Limited working opportunities with no purpose”

What was clear is that while the 2-metre rule and other restrictions made people with vision impairment less active, they also anticipated a radically different future where working and social patterns have changed. This includes how they imagine being able to access/obtain support, in a broad sense. This particularly corresponds to the wellbeing indicator that received the lowest average scores, “I have felt optimistic about the future” (Figure 27).

What would help people with vision impairment navigate the ongoing situation

This conceptual area reflects 11 categories, the most frequent of which were:

- More consideration from the government for disabled people and improved clarity in communication;
- A vaccine;
- Having vision impairment placed on the “vulnerable” list;
- More online delivery slots;
- Improved signage in, for example, shops; and
- Dedicated shopping hours.

To a lesser extent, the following categories were also mentioned:

- Getting back lost independence; and
- More information from transport companies.

Respondents clearly felt that if vision impairment was a “vulnerable” category, and if the government paid more attention to the needs of disabled people, then their experience would be easier.

> “If this will ever happen again it would make a huge difference if being visually impaired is among the list of vulnerable people. This will allow the shopping to be delivered and find an online slot to order otherwise, it has been a struggle”

However, alongside instrumental changes, such as more online shopping slots and hospital access, respondents also expressed more abstract concerns:

> “No freedom. No consideration given by government to people with sight loss”

> "No support before hence now government and local councils will be making even more financial cut backs to people/services for the blind"

Beyond the wish for a vaccine, the potential interaction between comorbidity and Covid-19 was also expressed. For example:

> "1/3 of the people who have died are diabetics and this concerns me if a vaccine is either not available or the one being developed does not guarantee protection"

Interestingly, a low number of respondents suggested that they would benefit from being able to wear a visible sign that signalled vision impairment to, for example, shop assistants, who would then be able to proactively offer help.

Perceptions of public and shop staff attitudes and behaviour

A number of responses reflected perceptions or concerns about the public and/or shop staff adopting a negative orientation to people with vision impairment:

- Most commonly that public/staff need educating regarding vision impairment;
- Concerns that the public will be less helpful; and
- Fear of a guide dog being touched.

It should be stressed that actual instances of these were reported less than concerns about them happening.

> "Making the public aware of how to help or when to help and not being aggressive or because they are doing the wrong thing"
>
> "I am also worried there will generally be negative impacts on attitudes to disabled people"

Overall, there appears to be a low level of general concern and questions about the public's future attitude to vision impaired people and their guide dogs.

> "This situation is frightening enough without us having to endure the kind of personal threats that I regularly receive from members of the public because I am free running my guide dog in areas under PSPOs [sic]"

In contrast to negative perceptions around the public, a very small number of responses were more positive. This serves as a reminder of the variability in experiences, and hence the need to ensure the bigger picture is considered:

> “Overall I have found that people are usually very considerate with the guide dog and me”

Indeed, as Figure 37 also indicates, despite the general lack of confidence in the 2-metre rule and its enforcement, there is some variability in the attitudes reported.

Specific issues with regard to public transport and the 2-metre rule

Given the degree of overlap between some aspects of these conceptual areas, they are considered in conjunction. Negotiating the 2-metre rule on transport, such as buses, was a concern that interacted with a generally decreased availability of actual services and decreased capacity on vehicles due to regulations. There is also a relationship here with the area of “how restrictions have impeded daily life”, discussed above, in that some respondents stated that their ability to return to work or find work was, or would be, impeded by inability to access transport safely.

> “[…] I’ll miss more train connections, be more stressed in the street, and be less able to go to work and potentially put my ability to maintain my job at risk”
> “If public transport spaces remain problematic, I'll never be able to go out and live my life”

Fear of actually catching the virus while on public transport was only reported directly in a limited number of instances.

Clearly, being able to safely negotiate 2-metre markings outside of shops, and maintaining the distance from other people, causes concerns to people with vision impairment, particularly people with severe vision impairment (see Figure 37). The converse is that some respondents expressed concern that the public would get too close to them.

> “I have heard of sighted people coming too close and expecting the visually-impaired person to avoid them”
> “I have noticed when I have been out that others think it is okay to walk too close to me because they think I can’t see them which is rather rude”

The perceived inability to negotiate the 2-metre distance rule safely may have a direct effect on health, e.g.

> "Sticking to the 2-metre rule will be a big problem, which means I'll be less active more likely to put on weight"

Overall, the 2-metre rule is resulting, and is anticipated to result in, a range of perceived and actual deleterious outcomes. In fact, we can also observe a correlation across the survey sample in which those with severe vision impairment have experienced greater reductions in activity levels (Figure 7).

Perceptions of Guide Dogs' services and provision

Several statements reflected Guide Dogs in a negative light (N=7). The most frequently reported issue was waiting time for a guide dog. However, while respondents were aware that waiting times had been affected by Covid-19 and that the ongoing effects of this would ripple out for some time, perceived unreasonably long waiting times were reported as a separate issue:

> "I have been waiting two years for a guide dog because my guidedog had to retire at age four […] They may keep putting it off. Folk have been waiting three years. They have been given a mandate to get their waiting times down. […] I am heartbroken. Please make me a priority"
>
> "I NEED A DOG REALLY SOON. My age is against me. Two years down the line I would say to guide dogs if you are not going to help me, take my name off the list. […] The newsletter needs to say how they anticipate the training program getting back to normal. Why did Guide Dogs get into this muddle?"

Beyond waiting times, other categories included:

- Generic negative issues;
- Lack of concerted planning with other vision impairment organisations;
- Failure to adequately communicate contingency plans and in general;
- Failure to communicate to individuals during Covid-19;
- And generic claims that more could be done, such as:

> "Guide Dogs withdraw all of its volunteering services and stopped the guide dog service with no flexibility or impact assessment of the effect this would have on a very at-risk community they take public money to help"

While Covid-19 exacerbated the issue, it appears that a generally negative attitude towards Guide Dogs, albeit from a very limited number of respondents, exists.

Somewhat counterbalancing the negative statements discussed previously, 24% responses indicated favourable interactions with and perception of Guide Dogs:

> "The telephone support from Guide Dogs has been very good but it's difficult sometimes to know who to contact as the staff furloughed changes every few weeks"
>
> "Guide Dogs have been absolutely fantastic during this time. My manager has phoned me up several times which has been really good to just get reassurance on how to care for my guide dog during this time"

Despite favourable responses such as these, some evidence suggests that, for example, direct phone contact from Guide Dogs has been somewhat limited. This may reflect organisational differences at the regional level.

No change or positive adaptation

A small number of responses contained references indicating that positive adaptations had been made or that the person's situation was more or less the same as before Covid-19.

> "Lockdown has introduced me to online exercise classes, which I will be continuing in the future"
>
> "I have not faced redundancy as I work in a remote team so my role is currently safe and I haven't lost out financially. If anything, I believe I have gained at present"
>
> "Just looking forward to the all-clear but pleased I have made good use of my time supported [sic] the NHS"

Such experiences can be found throughout the sample to varying degrees, specifically in terms of negotiation of constraints to work and social interactions (Figure 22). While some respondents were able to adapt, e.g. in terms of working from home, this experience was not universal. However, remote working is likely to become more salient post-Covid-19, across many domains. Moreover, some individuals may able to make positive adaptions for psychosocial and/or other pragmatic reasons. This interaction suggests further investigation.

A guide dog affords comfort and support

Existing research clearly evidences the various benefits of owning a guide dog (Lane et al., 1998; Lloyd et al., 2008; Wigget-Barnard & Steele, 2008; Higgin, 2012; Audrestch et al., 2015; Rickly et al., 2020). The benefits of owning a guide was a finding in the present study. It is clear from the results and overwhelmingly positive references that guide dogs have provided a major source of support and comfort for their owners during the Covid-19 situation as well:

> "My guide dog has had a huge impact on my ability to carry on and has allowed me to exercise and work with her in different ways which have been challenging at times"
>
> "I cannot see this ever improving so grateful I have my beautiful guide dog she's keeping me going"

Beyond comfort and support, the guide dog acts as an indicator of the vision-impaired person's status, and this is viewed positively:

> "I am severely visually-impaired. A guide dog is a very clear symbol of this so helps in terms of my movement and others adapting their own when they see me"

Rhetorical, neutral and generic references

A significant number of statements comprised rhetorical, neutral and generic references that did not always pertain to the experience of being vision impaired per se.

> "[…] whether we like it or not, but, as always, when it comes to visual-impairment and access, we are second-class citizens in this country"
>
> "The [virus] has been a fortunate plague for the Conservatives, as it mops up the most vulnerable in society that that have been hit by a decade of welfare cuts"

The largest proportion of rhetorical statements in this area reflect that the future with respect to Covid-19 is uncertain or could not be known.

> "Don't know the future"

A small number of responses were framed in a humorous manner.

Overall, the nature of responses in this area serve as a reminder that Covid-19 affects everyone in society and, as such, people's responses are as diverse as the individuals themselves. Nonetheless, people often call upon similar discursive resources and articulate their experiences in comparable ways. Hence, it is important that this context is held in mind so as to avoid establishing the vision impaired population as entirely different from the non-vision impaired population.

Free text concept clusters

The corpus of 662 free-text responses from free text response questions 2 and 3 were uploaded into Textometrica. This identified a total of 2729 unique terms. Using Textometrica, those within the frequency range of 10-150 were selected for further analysis. The resulting 172 terms were then assessed in the context of each response. Initial codes were then generated by labelling semantically or thematically related terms. For example, restricted access to buses and inability to access buses was coded as "publictransporttwo". The iterative coding process yielded 91 terms and 36 conceptual codes, which were analysed for co-occurrence. The 10 strongest co-occurrences of terms/concepts can be found in Table 13. The normalised co-occurrence value ranges from 0-1 where 1 represents the strongest co-occurrence such that two terms always appear together. For example, "mental" appears in the corpus 12 times and "health" appears 30 times. The two terms appear together 11 times, giving it a co-occurrence strength of 0.580.

Table 13. Strongest co-occurrences

Normalised co-occurrence value	Co-occurrence Frequency	Individual (frequency) of term or concept*	Individual (frequency) of term or concept*
0.580	11	(12) mental	(30) health
0.558	18	(26) gove* (government needs to consider VI/disabled)	(40) government
0.527	13	(29) delivery	(21) onlinne* (issues with online shopping, e.g. unavailability)

0.526	10	(19) waiting	(19) gdseven* (issue associated with length of waiting time for a guide dog)
0.433	14	(29) delivery	(36) online
0.418	7	(14) eye	(20) hospital
0.411	15	(38) gped* (public, staff or employers require education regarding VI)	(35) public
0.390	8	(28) vulnerable	(15) govone* (VI needs to be a recognised “vulnerability”)
0.377	5	(16) gdfour* (Guide Dogs in a positive light)	(11) rnib (Royal National Institute of Blind People)
0.374	7	(10) abusse* (abuse or negative perception of VI from the public)	(35) public

*Concepts denoted with an asterisk

An example of a concept is “gove”, which denotes statements that suggest the government should pay more consideration to the needs of vision impaired people; e.g. “I feel that the government have not taken into any account the needs of people with visual-impairment”. This sentiment was reflected in 2.5% (26/1043) of all statements.

The top normalised co-occurrences (N=69) were mapped using Textometrica, which produced 20 semantic network clusters (Figure 41). The size of the nodes in network reflects the degree (number of connections) of each concept

Figure 41. Normalised co-occurrence cluster map

As noted in Table 13, the strongest co-occurrence exists between “mental” and “health”, exemplifying an idiom that constitutes its own cluster (located in the central-left area of the cluster map). However, the prevalence of this phrase is useful in highlighting the value of Textometrica, as the presence of the co-occurrence and isolated cluster pattern draws the researcher’s attention to interrogate the data for synonyms and related concepts. In this case “anxiety”, “panic”, “depression”, “despair” and “sadness” are terms that might connote negative affect. Such an interrogation of the free text responses revealed that the total document frequency of

these terms and their derivates was 30. This value is lower than the document frequency for the terms “government”, “online” and “public”. This observation provides no concrete basis for assuming that respondents are experiencing a low level of negative affect in light of Covid-19 and are more concerned with articulating something about the government or the public. However, it is useful in helping inform thinking about the saliency of affect, particularly in light of the analysis of survey responses to the closed questions.

Figure 42 illustrates a discrete cluster built around the term “work”. This cluster is interesting in that it draws attention to the associations between three concepts: “workfin” (concerned with impediments to work in relation to a financial concern), “futurethree” (one of the identified potential adaptive future outcomes) and “publictransportthree” (one of the patterns of impeded use of public transport). There are two broad dimensions underlying this cluster:

1. Work and hence financial resources are negatively affected by an impeded ability or motivation to use public transport.
2. Some people are able to work from home or the mode of working has been adapted to the home.

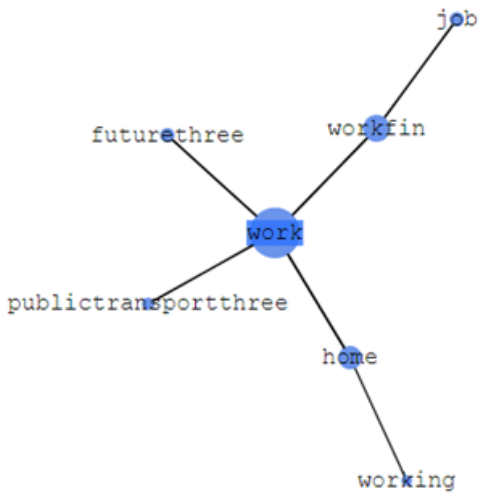

Figure 42. Discrete cluster illustrating co-occurrences around “work”

A total of 46 statements (4.4%) highlighted how issues around public transport, such as lack of availability or safety concerns, had impaired their ability to travel to work. However, some of these indicated positive adaption; “I'm lucky enough to be able to work from home and my company has no plans to reopen the office for the foreseeable”. Nonetheless, 34 statements (3.3%) indicated concerns about work *and*

finance in association with impeded travel. This suggests the need to dig deeper into specific issues around public transport and to look at what other factors might be associated.

Summary

- 1182 responses to the survey, with 937 viable, complete surveys for analysis.
- 62% of respondents are female.
- 17% are in the “at risk” category of 70+ years of age.
- 57% have a household income of less than £25,000.
- 28% live alone.
- 62% have severe vision impairment.
- 35% are guide dog owners.
- Nearly 37% have underlying health problems that make them vulnerable to Covid-19.
- 10% feel they had symptoms.
- 0.3% tested positive and received treatment.
- Overall, participants were “slightly less active” during the Covid-19 situation than before, with mobility most significantly affected.
- Those with underlying health problems, a lower household income, severe vision impairment or a guide dog were significantly less active.
- Respondents “neither agree nor disagree” that they experienced **intrapersonal** constraints during Covid-19, compared to before it.
- “I have been more concerned for my own health” was the strongest intrapersonal constraint.
- Those aged under 70, with underlying health problems or a lower household income experienced significantly stronger intrapersonal constraints.
- Respondents “tend to agree” that they experienced **interpersonal** constraints during Covid-19, compared to before it.
- “I have been more concerned about the wellbeing of loved ones” was the strongest interpersonal constraint.
- Those with underlying health problems or living alone experienced significantly stronger interpersonal constraints.
- Respondents “neither agree nor disagree” that they experienced **structural** constraints during Covid-19, compared to before it.
- “Places I normally like to go to have been closed” was the strongest structural constraint.
- Those aged under 70 or with a lower household income experienced significantly stronger structural constraints.

- Respondents “tend to agree” that they negotiated constraints during the Covid-19 situation.
- “I have made use of technologies (e.g. for work, keeping in touch with people or shopping)” was the most agreed upon negotiation strategy.
- Those with a higher household income, severe impairment or a guide dog were significantly better at negotiating constraints.
- Respondents “neither agree nor disagree” that they maintained good wellbeing during the Covid-19 situation.
- “Good state of mind”, “sleep OK”, “satisfied with life overall” and “optimistic about the future” all received similarly, moderated responses.
- Those aged under 70 or with a lower household income experienced significantly lower levels of wellbeing.
- Respondents rate the support they received from services as “fairly good” during Covid-19, compared to before it.
- Delivery and medical services were rated most positively, while transport and government services were less positively rated on average.
- Those aged under 70, living alone or with severe vision impairment feel they received significantly poorer levels of support from services.
- Respondents “tend to disagree” that they had confidence in observing the 2-metre rule during Covid-19 in all situations.
- Those aged under 70, with severe vision impairment or who have a guide dog had significantly less confidence in abiding by the 2-metre rule and issues associated with it.
- 263 respondents indicated one or more comorbidity, with a total of 53 unique comorbidities. 89 respondents reported two or more comorbidities, and 25 reported four or more.
- The most frequent comorbidities: diabetes I/II (n=88), asthma (n=69), heart disease/COPD (n=65), immunosuppression (n=29), arthritis (n=16), cancer (n=13), kidney dysfunction (n=13).
- 343 responses, resulting in 1043 statements, from 937 respondents were organised into 9 overarching conceptual areas:
  - How restrictions have impeded daily and anticipated function (27.6%)
  - What would help people with vision impairment navigate the ongoing situation (15.3%)
  - Perceptions of public and shop staff attitudes and behaviour (9.7%)
  - Specific issues with regard to public transport (8.7%)

- Specific issues with regard to maintaining the 2-metre rule (8.0%)
- Perceptions of Guide Dogs services and provision (8.0%)
- No change or positive adaptation (3.07%)
- A guide dog affords comfort and support and relying on others (2.5%)
- Rhetorical, neutral and generic references (17.2%)

Conclusions

This impetus for this research rests in a particularly unique situation. Global pandemics on the scale of Covid-19 are often once-in-a-lifetime events. Despite this, Covid-19 reveals important weaknesses in our social, economic and political systems in terms of our preparedness to care for our most vulnerable. By focussing specifically on people with vision impairment during Covid-19, this research is able to offer insight to the impacts the pandemic and the government lockdown measures have had on their ability to maintain active, independent lives. As such, the research has been specifically guided by Constraints Negotiation Theory as a framework for understanding the factors that contribute to activity levels, including constraints and the ways constraints are negotiated.

Most broadly, the research supports the effectiveness of lockdown measures, specifically isolation and social distancing, at reducing overall activity levels during Covid-19, with the closure of non-essential services being the strongest constraint overall. However, the lockdown also presented a number of other constraints and reduced access to essential services. Overall, health concerns have been the strongest constraints at both the intrapersonal and interpersonal levels. Those under the age of 70, with underlying health problems or with a lower household income were the most common demographic characteristics to have strongly experienced the intrapersonal, interpersonal and structural constraints assessed in this research.

Looking more closely at level of support and the 2-metre rule, we can observe slightly different experiences of these particular barriers to maintaining active, independent lives for those with vision impairment. Specifically, those under 70 years of age and with severe vision impairment were the most common demographic characteristics of respondents who experienced specific challenges in terms of both poor levels of support from services (government, medical, delivery and transport) as well as reduced confidence in the 2-metre rule.

However, respondents overall “tend to agree” that they negotiated constraints during the Covid-19 situation, with the use of technologies (e.g. for work, keeping in touch with people or shopping) as the most agreed upon negotiation strategy. Further, wellbeing was viewed quite moderately across all dimensions assessed (state of mind, sleep, life satisfaction, optimism about the future). Negotiation and wellbeing

were both strongest for those with a higher household income. Additionally, those with severe impairment or a guide dog were significantly better at negotiating constraints, while those over the age of 70 experienced significantly higher levels of wellbeing.

Considering these findings collectively highlights a number of potential support and intervention strategies that should be further explored for people with vision impairment, for the present as well as future preparedness. Most importantly, the research suggests that excluding people with vision impairment from the vulnerable category resulted in undue hardship during Covid-19. While vision impairment is not a health condition that adds vulnerability to the effects of the virus, the adaptations necessary to lead active, independent lives for people with vision impairment brings greater exposure to the virus while also making abiding by the lockdown measures more challenging. Thus, there should be greater consideration of the factors included in the government's "vulnerability" dimensions. More specifically, there is scope for Guide Dogs to assess the needs of users in light of their comorbidities, such as clarifying when hospital visits will re-commence and determining which users will/will not be on the government database of vulnerable people and contacting them proactively.

Interestingly, those under the age of 70 were among the demographic characteristics to experience the strongest constraints and barriers to maintaining active, independent lives and also experienced significantly lower levels of wellbeing. This is likely related to the disruptions that lockdown measures presented to individuals' abilities to work, whether that was loss of work opportunities (furlough, redundancy, etc.), reduced access to work through a reduction in transport options or challenges to transitioning to working from home is not specifically known. As a result, more attention needs to be given to supporting independence during such scenarios.

Future work

Findings from the analysis of the free text responses highlight potential areas of future research not fully captured by the scope of the current study. In particular, there are interactions between public transport use and several other factors, including reliance on transport, general lack of availability of transport, reduced access due to age-related shielding and fear of exposure to the virus. As access to transportation is a critical dimension of independence, this should be further addressed within the target population. This is most pertinent in relation to peoples' capacity for maintaining or engaging in employment.

Relatedly, loss of independence appears to be a generic concern that is connected with different domains including transport availability, but also the frustration that results from, for example, waiting for a guide dog. Nonetheless, there is scope for Guide Dogs to think about this generic loss of independence, given that regaining independence is an imperative for vision impaired people. One approach to working toward mitigating concerns arising from loss of independence would be for Guide Dogs to help users identify where and why this might be an issue and to identify strategies with which the user can address the affective and instrumental aspects. It was apparent that expressed issues are entangled, such that by addressing one concern, other interacting issues may or may not also be alleviated.

More broadly, it should be kept in mind that solutions that improve the experiences of *both* people with vision impairment *and* the non-vision impaired would be most desirable in that they would represent an "inclusive" rather than a "discriminatory" approach.

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Appendix 1: Survey instrument

This survey asks people with vision impairment about their experiences during the Covid-19 pandemic. It is a collaborative project between Guide Dogs and the University of Nottingham.

Participation is voluntary. No personal data is gathered and responses are not linked to individuals. The data gathered here will be used to inform Guide Dogs' support and policy teams.

The survey contains 44 questions and will close on 7th June.

If you prefer to participate via telephone, email john.fellenor@guidedogs.org.uk to arrange a convenient time. Other queries or comments can be directed to the project leader at Jillian.Rickly@nottingham.ac.uk.

Accessibility instructions

To navigate through the survey, select "Next" at the bottom of each page. Note: if you're using a mobile phone to complete the survey, please navigate to the top of the page after selecting "NEXT" at the end of each question. Screen reader users will be sent to the bottom of the next page when selecting Next page and should use keystroke Ctrl + home to put focus to the top of the page. You will not be able to move on until you have answered questions which require an answer. There is no Back button and you will not be able to move backwards to pages that have already been completed. It is advised that magnification users should snap the browser to the right/left as this will make navigating the survey easier.

Participation Agreement

Please read the four statements below:

1. I agree to take part in this research about my experiences with Covid-19 through the completion of this survey.
2. I know who to contact with any queries or comments.
3. I know what the research is about and how I will be involved.
4. I understand that I can withdraw my participation any time before or during the data collection. However, once that data is submitted, I understand that withdrawal

will not be possible as the data is not connected to my personal details. By selecting "NEXT", I agree to the above statements.

Page Break

Q1. Select any of the following statements that apply to you.

- [ ] I have had symptoms that might be Covid-19 (1)
- [ ] I have tested positive for Covid-19 (2)
- [ ] I have received treatment in hospital for Covid-19 (3)
- [ ] I expect to be self-isolating for longer than the general population (4)
- [ ] I have underlying health concerns that make me vulnerable to Covid-19 (5)
- [ ] None of the above (6)

Page Break

Q2. How active have you been during Covid-19 compared to before it, in terms of physical independence (eg. housework, cooking, self-care)? Select one.

- ○ Much less active (1)
- ○ Slightly less active (2)
- ○ About the same (3)
- ○ Slightly more active (4)

○ Much more active (5)

○ Not relevant (6)

Page Break

Q3. How active have you been during Covid-19 compared to before it, in terms of keeping in touch with others (eg. with friends and family)? Select one.

○ Much less active (1)

○ Slightly less active (2)

○ About the same (3)

○ Slightly more active (4)

○ Much more active (5)

○ Not relevant (6)

Page Break

Q4. How active have you been during Covid-19 compared to before it, in terms of work, study or regular volunteering? Select one.

○ Much less active (1)

○ Slightly less active (2)

○ About the same (3)

○ Slightly more active (4)

○ Much more active (5)

○ Not relevant (6)

Page Break

Q5. How active have you been during Covid-19 compared to before it, in terms of exercise, hobbies or other leisure activities? Select one.

○ Much less active (1)

○ Slightly less active (2)

○ About the same (3)

○ Slightly more active (4)

○ Much more active (5)

○ Not relevant (6)

Page Break

Q6. How active have you been during Covid-19 compared to before it, in terms of mobility (eg. using public transport to get around)? Select one.

○ Much less active (1)

○ Slightly less active (2)

○ About the same (3)

○ Slightly more active (4)

○ Much more active (5)

○ Not relevant (6)

Page Break

Q7. Compared to usual, the Covid-19 situation means that I have been less motivated to do things in daily life. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q8. Compared to usual, the Covid-19 situation means that I have been more concerned for my own health. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q9. Compared to usual, the Covid-19 situation means that I have been more worried about everything. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q10. Compared to usual, the Covid-19 situation means that I have felt confused about what I should be doing. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q11. Compared to usual, the Covid-19 situation means that I have been more concerned about coming into contact with others. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q12. Compared to usual, the Covid-19 situation means that I have been more concerned about how my actions might affect the health of others. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q13. Compared to usual, the Covid-19 situation means that I have been more frustrated by others not behaving as they should. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q14. Compared to usual, the Covid-19 situation means that I have been more concerned about the wellbeing of my loved ones. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q15. Compared to usual, the Covid-19 situation means that my home has felt too small for social isolation. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q16. Compared to usual, the Covid-19 situation means that I have had fewer financial resources available to me. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q17. Compared to usual, the Covid-19 situation means that I have had more time available to do things. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q18. Compared to usual, the Covid-19 situation means that places I normally like to go to have been closed. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q19. During Covid-19 I have been adapting my regular activities so that I can keep doing them. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q20. During Covid-19 I have been making the most of a difficult situation. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q21. During Covid-19 I have made use of technologies (e.g. for work, keeping in touch with people or shopping). Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q22. During Covid-19 I have been more reliant on other people for assistance. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q23. Compared to usual, during Covid-19 I have been in a good state of mind (e.g. in terms of happiness, anxiety, loneliness). Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q24. Compared to usual, during Covid-19 my sleep has been restless. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q25. Compared to usual, during Covid-19 I have been satisfied with my life overall. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q26. Compared to usual, during Covid-19 I have felt optimistic about the future. Select one.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q27. Please rate the support you have received from government during Covid-19. Select one.

○ Very poor (1)

○ Fairly poor (2)

○ Indifferent (3)

○ Fairly good (4)

○ Very good (5)

○ Not used at all (6)

Page Break

Q28. Please rate the support you have received from medical services during Covid-19. Select one.

○ Very poor (1)

○ Fairly poor (2)

○ Indifferent (3)

○ Fairly good (4)

○ Very good (5)

○ Not used at all (6)

Page Break

Q29. Please rate the support you have received from transport services during Covid-19. Select one.

○ Very poor (1)

○ Fairly poor (2)

○ Indifferent (3)

○ Fairly good (4)

○ Very good (5)

○ Not used at all (6)

Page Break

Q30. Please rate the support you have received from delivery services during Covid-19. Select one.

○ Very poor (1)

○ Fairly poor (2)

○ Indifferent (3)

○ Fairly good (4)

○ Very good (5)

○ Not used at all (6)

Page Break

Q31. Gender? Select one

○ Male (1)

○ Female (2)

○ Prefer not say (3)

Page Break

Q32. Age (in years)? Select one

○ 18 - 29 (1)

○ 30 - 39 (2)

○ 40 - 49 (3)

○ 50 - 59 (4)

○ 60 - 69 (5)

○ 70+ (6)

○ Prefer not to say (7)

Page Break

Q33. Household income (average annual income before tax)? Select one

- ○ Less than £25,000 (1)
- ○ £25,001 - £50,000 (2)
- ○ More than £50,000 (3)
- ○ Prefer not to say (4)

Page Break

Q34. Current members of your household? Select any that apply

- ☐ Just me (1)
- ☐ One or more adults (aged 18 years or more) in addition to me (2)
- ☐ One or more children (aged less than 18 years) (3)
- ☐ Prefer not to say (4)

Page Break

Q35. What is the severity of your vision impairment? Select one

- ○ Mild (1)
- ○ Moderate (2)

○ Severe (3)

○ Prefer not to say (4)

Page Break

Q36. Do you currently have a guide dog? Select one

○ Yes (1)

○ No (2)

○ Prefer not to say (3)

Page Break

Q37. During Covid-19, it has been difficult to observe the two metre social distancing rules when walking in public spaces. Select one response.

○ Strongly disagree (1)

○ Tend to disagree (2)

○ Neither disagree nor agree (3)

○ Tend to agree (4)

○ Strongly agree (5)

○ Not relevant (6)

Page Break

Q38. During Covid-19, services have considered vision impairment when setting up their 2 metre markings. Select one response.

- ○ Strongly disagree (1)
- ○ Tend to disagree (2)
- ○ Neither disagree nor agree (3)
- ○ Tend to agree (4)
- ○ Strongly agree (5)
- ○ Not relevant (6)

Page Break

Q39. During Covid-19, other people respect the fact that I cannot see the 2 metre spacing and barriers. Select one response.

- ○ Strongly disagree (1)
- ○ Tend to disagree (2)
- ○ Neither disagree nor agree (3)
- ○ Tend to agree (4)
- ○ Strongly agree (5)
- ○ Not relevant (6)

Page Break

Q40. Due to the two meter rule during Covid-19, getting staff assistance has been a problem. Select one response.

- ○ Strongly disagree (1)
- ○ Tend to disagree (2)
- ○ Neither disagree nor agree (3)
- ○ Tend to agree (4)
- ○ Strongly agree (5)
- ○ Not relevant (6)

Page Break

Q41. During the Covid-19 situation, observing the two metre rule has not been a problem. Select one response.

- ○ Strongly disagree (1)
- ○ Tend to disagree (2)
- ○ Neither disagree nor agree (3)
- ○ Tend to agree (4)
- ○ Strongly agree (5)
- ○ Not relevant (6)

Page Break

Q42. List any underlying health concerns you have that make you vulnerable to Covid-19 in the space below, or select "Next" if this is not relevant or you prefer not to say:

_____

Page Break

Q43. How do you believe that the Covid-19 situation will impact you in the future and what support could help? Write in the space below or select "Next" to continue without answering:

_____
_____
_____
_____
_____

Page Break

Q44. Feel free to provide further comments you might have below or select "Next" to complete the survey:

_____
_____
_____
_____
_____

End.