University for the Common Good

COVID-19 PSYCHOLOGICAL WELLBEING STUDY

INITIAL RESULTS – SCOTLAND

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EXECUTIVE SUMMARY

Overview

The COVID-19 Psychological Wellbeing Study (PWS) was designed and implemented as a general population survey of the psychosocial impacts of the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), known as COVID-19. Our aim was to assess and monitor the psychosocial impact of the COVID-19 pandemic and associated public health measures on residents across the UK during the early phases of the pandemic. The current report presents only the data collected from in Scotland and, therefore, it can be used as a locally focused resource by the general public, policy makers, and funders of key services. This research also generates data for academic and theoretical debate.

Methods

The COVID-19 PWS is a longitudinal, online survey of the adult (18 years +) population across the UK. Participants were recruited via (1) a large-scale advertising campaign primarily driven through social media, and (2) using an online participant recruitment site. The data was collected between March 23rd to April 24th 2020. This report focuses on the respondents who completed the survey and who were resident in Scotland at the time of completion.

Sample

This report focuses on data from 726 people resident in Scotland. The average age of respondents was 38.9 years. The majority of the sample were female (74.5%) white (93.5%) and married or living with a partner (58.3%). They were employed, either full time or part time (64.5%), and were educated to at least university undergraduate level (63.1%).

Key Findings[1]

Isolation, Exposures and Attitudes

At the time of completing the survey:

- 3% of respondents reported that they were self-isolating because of Government advice.
- 10% knew someone who was or had been quarantined due to COVID-19 exposure.
- 4% knew someone diagnosed with COVID-19.
- <1% (4 individuals) reported having been diagnosed with COVID-19.

Anxiety

At the time of completing the survey:

- 31% of people met the criteria for clinical anxiety in the preceding 2 weeks.
- Individuals that met the criteria for anxiety were more likely to be females (compared to males), young people (compared to older people), people with family members employed as keyworkers (compared to those whose family members were non-keyworkers), people living in 'other residences' (compared to houses), people who perceived their income to be average or lower than average (compared with those with above average income), people with a pre-existing mental health condition (compared to those without), and those with higher levels of social media consumption of COVID-19 information (compared to those with lower levels of social media consumption).
- When taking into account the influence of all of the variables in the analysis, six significantly increased the likelihood of a respondent meeting the criteria for anxiety. These were being younger, having a pre-existing mental health condition, having a pre-existing physical health condition, high levels of concerns about being infected, high levels of concerns about the ability of the

[1] Note that all percentages presented in the executive summary and key findings list are rounded up/down as appropriate.

UK government to manage the COVID-19 situation, and high levels of concerns about the financial impact of COVID-19.

Depression

At the time of completing the survey:

- 34% of people met the criteria for clinical depression in the preceding 2 weeks.
- Individuals that met the criteria for depression were more likely to be females (compared to males), young people (compared to older people), living in 'other residences' (compared to houses), people on less than average income (compared to those with average and more than average incomes), people with pre-existing physical and mental health conditions (compared to those without), and people with high levels of social media consumption of COVID-19 information (compared to those with low levels of social media consumption).
- When taking into account the influence of all of the variables in the analysis, eight significantly increased the likelihood of a respondent meeting the criteria for depression. These were being younger, having a pre-existing mental health condition, having a pre-existing physical health condition, high levels of concerns about being infected, high levels of concerns about the ability of the UK Government to manage COVID-19, high levels of concern about the ability of health systems to care for COVID19 patients, and knowing someone who was or had been quarantined due to COVID-19.

PTSD

At the time of completing the survey:

- 20% of people met the criteria for PTSD over the preceding month.
- Individuals who met the criteria for PTSD were more likely to be females (compared to males), younger people (compared to older people), living in 'other residences' (compared to houses), people with less than average income (compared to those with average and more than average incomes), people with

pre-existing physical and mental health conditions (compared to those without), and people with high levels of social and traditional media consumption of COVID-19 information (compared to those with low levels of social and traditional media consumption).

- When taking into account the influence of all of the variables in the analysis, four significantly increased the likelihood of a respondent meeting the criteria for COVID-19 related PTSD. These were being younger, having a pre-existing mental health condition, high level of concerns about being infected, and high level of concerns about the ability of the UK Government to manage COVID-19.

Infection Concerns

At the time of completing the survey:

- 44% of respondents stated they had not experienced any symptoms that may relate to COVID-19.
- 30% of respondents were ‘quite a bit’ or ‘extremely’ worried about becoming infected.
- Individuals with higher concerns about becoming infected with coronavirus were females (compared with males), people with lower perceived income (compared with those with above average income), people with children resident in the household (compared to those with no children in the house), adults living with other adults in household (compared to those living alone), people with pre-existing physical and mental health conditions (compared to those without), and people with higher levels of traditional media consumption of COVID-19 information (compared to those with lower levels of traditional media consumption).
- When taking into account the influence of all of the variables in the analysis, seven were significantly associated with higher concerns about being infected with coronavirus. These were being female, having an average or below average income, having children living in the household, having other adults living in the household, pre-existing mental health condition, pre-existing physical health conditions, and higher levels of traditional media consumption.

Concerns about Infecting Others

At the time of completing the survey:

- 50% of individuals reported being either' extremely' or 'quite a bit' concerned about the infecting others with COVID-19.
- Individuals that had higher concerns about infecting others were younger individuals, people who had a friend or family member employed as a keyworker, people living with other adults in their household, people with a pre-existing mental health conditions, and people with higher levels of social media consumption of COVID-19 information.
- When taking into account the influence of all of the variables in the analysis, two were significantly associated with higher levels of concern about infecting others. These were having a pre-existing mental health condition and higher social media consumption of COVID-19 information.

Job Security Concerns

At the time of completing the survey:

- 26% of individuals reported being either' extremely' or 'quite a bit' concerned about their job security if the situation was to worsen.
- Individuals that had higher concerns about job security were younger individuals, people not employed as a keyworker, those with below average income, people living in non-house residential accommodation, and people with higher levels of social media consumption of COVID-19 information.
- When taking into account the influence of all of the variables in the analysis, two were significantly associated with higher levels of concern about job security. These were being younger (18 – 24 compared with 55 years or older age groups) and an employment role other than keyworker.

Financial Impact Concerns

At the time of completing the survey:

- 51% of individuals reported being either' extremely' or 'quite a bit' concerned about the financial impact of COVID-19.
- Individuals that had higher concerns about financial impacts included: younger individuals, people not employed as a keyworker, people with below average income, people living in non-house residential accommodation, and people with higher levels of traditional media consumption of COVID-19 information.
- When taking into account the influence of all of the variables in the analysis, three were significantly associated with higher levels of concern about the financial impact. These were being younger (18 – 24 compared with 45 years or older age groups), an employment role other than keyworker, and a below average income.

Government Concerns

At the time of completing the survey:

- 52% were 'quite a bit' or 'extremely' concerned about the Government's ability to manage the COVID-19 situation.
- Individuals who had higher concerns about the Government's ability to manage the coronavirus situation were females, people with below average income, people living in households with children, people living in 'other residences' (compared to houses), people with a pre-existing mental health condition, and people with higher levels of social media consumption of COVID-19 information.
- When taking into account the influence of all of the variables in the analysis, three were significantly associated with higher concerns about the Government's ability to manage the situation. These were being female, having a pre-existing mental health condition, and higher levels of social media consumption.

Health Service Concerns

At the time of completing the survey:

- 68% of individuals reported either' extremely' or 'quite a bit' concerned about the ability of the health service to care for COVID-19 patients if the situation was to worsen.
- Individuals that had the highest concerns about the ability of the health service to care for COVID-19 patients were females (compared with males) and people with pre-existing physical and mental health conditions.
- When taking into account the influence of all of the variables in the analysis, the two pre-existing health condition variables (mental health and physical health) were significantly associated with higher concerns about the ability of the health service.

Conclusion & Summary of Recommendations

We present headline recommendations below. More detail about each recommendation can be found in the discussion and recommendation section of the full report.

<u>From a Public and Policy Perspective</u>

- Younger people, those with existing physical health conditions and those with existing mental health conditions have been identified as key vulnerable groups. Decision-makers should be mindful and pay particular attention to more vulnerable groups when creating, amending, implementing and communicating future COVID-19 related policy and information.
- Clear media guidelines for the dissemination of COVID-19 information, informed by empirical research, clinicians, and key stakeholders, should be developed and implemented.
- A public health campaign to educate the public about reputable media information in relation to COVID-19, based on these guidelines, should also be developed.
- Attention should be paid to the concerns that the public have about the employment and finance-related consequences of COVID-19 and to perceptions about the Government's management of the pandemic. Given their

role in increasing risk of mental health problems, addressing and managing these concerns should be a priority.

- A priority at policy level should be to plan efficiently and effectively for how a potential increase in the need for mental health support will be managed.

From a Service Provision Perspective

The findings point to increased vulnerability to mental ill health during this time, therefore we suggest:

- It is essential that both statutory and third sectors ensure that mental health services are optimised for access and engagement by the public.
- Mental health organisations will need to be adequately funded to ensure that easily accessible mental health support is available.
- In particular, mental health organisations need to be supported with the resources needed to deliver services virtually.
- Funding should also be considered for an uplift in the mental health workforce to support the potential increase of individuals needing mental health support.

From a Research Perspective

- Future research, including both quantitative (e.g., surveys) and qualitative (e.g., interviews and focus groups) methods, is required to better understand the impact of COVID-19 on psychological wellbeing, and particular emphasis should be placed on research with those groups identified about with greater potential vulnerability to mental ill health.
- It is essential that prospective and longitudinal studies are undertaken to monitor the mental health impact of COVID-19 across time and as the pandemic progresses, with particular focus on known vulnerable groups.
- Research should also focus on embracing the complexity of the issues examined in this study. Specifically, on the mechanisms that influence or underlie the relationship between certain risk factors and mental ill health would be beneficial.

Section1: Project Overview & Methodology

1.0 INTRODUCTION

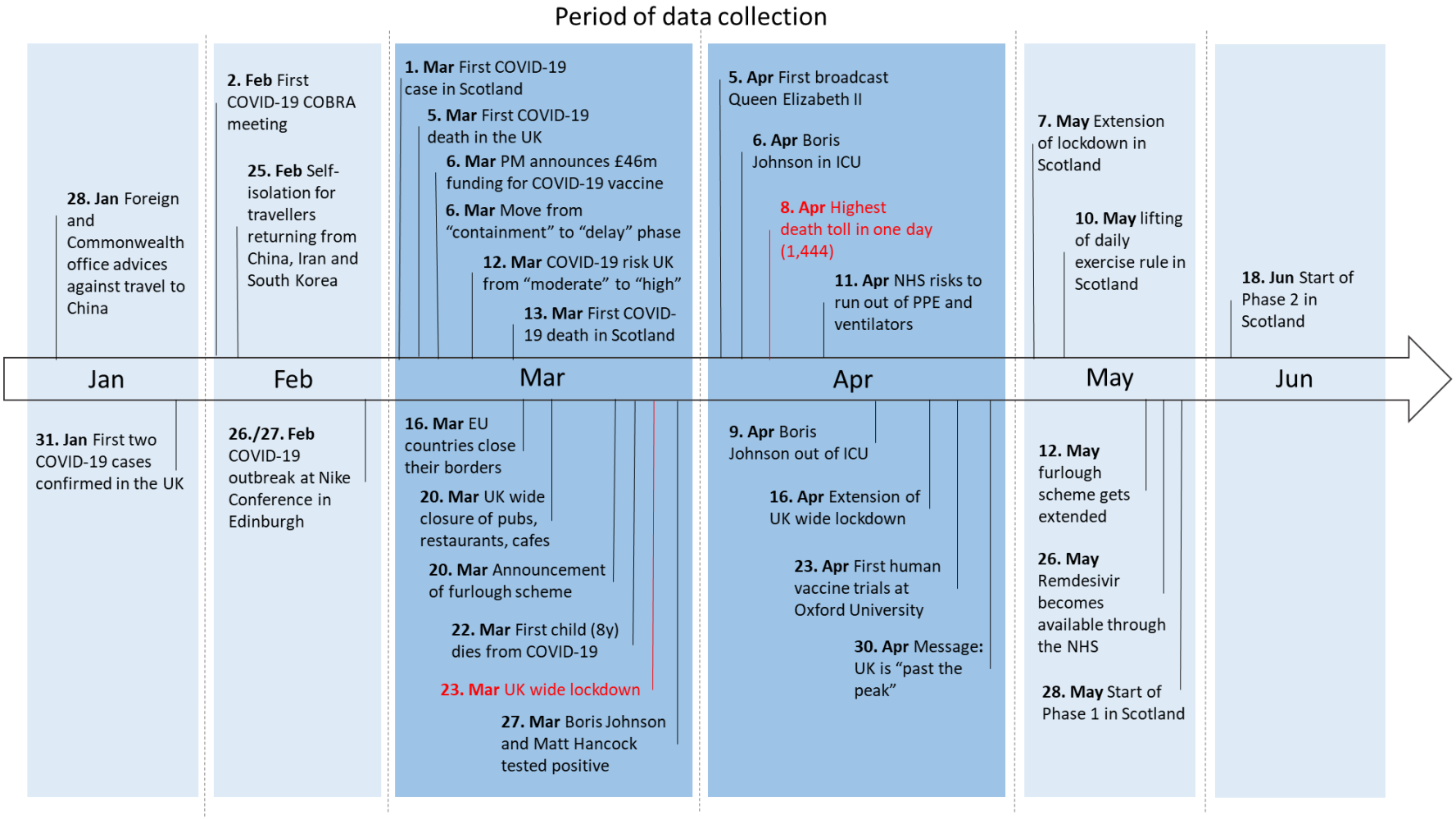
The COVID-19 Psychological Wellbeing Study (PWS) was designed and implemented as a rapid response survey of the psychosocial impacts of the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), known as COVID-19. Our aim was to assess and monitor the impact of the COVID-19 pandemic on the psychological wellbeing of UK residents during the pandemic.

The COVID-19 PWS was conceived due to growing concern about the spread of COVID-19 across the globe. COVID-19 first presented in Wuhan, China, in December 2019 (31/12/19). Exactly one month later, the World Health Organization (WHO) declared COVID-19 to be a 'Public Health Emergency of International Concern', this coincided with the first reported UK case. Subsequent weeks saw several UK Government actions such as the launch of a public health campaign aimed at slowing the spread of the virus; the publication of the coronavirus action plan; and the UK Prime Minister announcing that all people were required to stay at home except for specific and essential reasons to leave (23/03/20). Almost two weeks prior to the UK being placed into 'lockdown', the World Health Organisation had announced that COVID-19's status had been elevated to that of pandemic (11/03/20).

At the time of launching the survey on the 23rd March 2020, 5,683 cases of COVID-19 were recorded in the UK and there had been 281 COVID-19 deaths. One month later, when the survey was closed on the 24th April 2020, UK cases had increased to 143,464 and 19,506 people were confirmed to have died. As of the 17th August 2020, at the time of writing, UK cases had increased to 319,917 and 41,369 people were confirmed to have died.

The Scottish Government (2020) reported that, as of the 17th August 2020, 19,358 individuals had tested positive for COVID-19 and the total number of COVID-19 deaths after a positive test was 2,491.

Figure 1: Scotland timeline of COVID-19



1.1 Sampling and measures: rationale

The COVID-19 pandemic represents an unprecedented situation within the UK, both in terms of the scale of morbidity and mortality and in the nature and impact of associated population measures. Despite this novelty, previous research on SARS, MERS and H1N1 flu (Swine flu) offers insights into the psychological impact of the outbreak of infectious respiratory disease and the measures taken to curb the spread. A high degree of psychological distress was reported during the SARS pandemic, particularly among healthcare workers, quarantined individuals, SARS survivors and their family members (Brooks et al., 2020; Gardner & Moallef, 2015; Maunder, 2004; Tsang, Scudds & Chan, 2004; Wu, Chan & Ma, 2005). Recent research from the initial phases of the COVID-19 outbreak in China has similarly shown a significant psychological impact on the general population (Qiu et al., 2020; Wang et al., 2020).

Specific concerns about COVID-19, and the measures taken to address it, may be more common among the population than clinically-relevant mental health problems. Such concerns, while distressing themselves, may, in time, also lead to greater deterioration in general mental health and wellbeing. For instance, individuals who are concerned about becoming infected or about the availability of healthcare may be at risk of developing health-related anxiety or obsessive health behaviours (Abba-Aji et al., 2020; Asmundson & Taylor, 2020; Blakely & Abramowitz, 2017; Jungmann & Witthoft, 2020). Individuals suffering from a job loss or financial instability as a result of the pandemic may be at greater risk of developing a range of mental health issues (Mental Health Foundation, 2020). Moreover, the substantial changes to daily life as the result of lockdown restrictions has added stress to many individuals' work and family lives (e.g. school closures forcing parents to home-school their children while working from home themselves). It has been suggested that disruption to normal routine, activities and livelihoods due to COVID-19 will lead to increases in depression, loneliness, self-harming and suicidal behaviour, and harmful alcohol and drug use (WHO, 2020). Furthermore, lack of confidence in the Government's ability to navigate the current situation may be a daily stressor contributing to levels of anxiety among the public.

Thus, the current study aimed to assess wellbeing in the wake of the COVID-19 pandemic in the UK, but particularly within Scotland.

2.0 METHODOLOGY

2.1 Design and Procedure

The COVID-19 PWS is a longitudinal online survey of the adult (18 years +) general population of the UK. The study incorporates two longitudinal samples. The first is weekly data, for 4 weeks, from participants who completed the baseline survey in response to social media advertising. The second is monthly data, for a period of 3 months, using the online participant recruitment service *Prolific*. All participants answering the original (baseline) survey via social media or *Prolific* responded to the same questions. The data presented in the current report focuses on the findings from baseline data only. Further, the current report focuses solely on a sub-sample of the respondents who were resident in Scotland during the pandemic and at the time of data collection**.**

Data collection for the baseline survey commenced on 23rd March 2020 and ended on 24th April 2020, corresponding with the first month of the UK's period of lockdown. The survey was administered entirely online through the survey data collection platform *Qualtrics*. Participants were required to be 18 years or older, resident in the UK at the time of completion and able to read and write in English. No other exclusion criteria were applied. Participation was voluntary and open to all. Participants recruited via social media advertising were incentivised by being included into a prize draw for one of three £150 vouchers. Participants who joined the study via *Prolific* were given a small participation fee.

Ethical approval for this study was granted by the Faculty of Engineering and Physical Sciences at Queen's University Belfast (Reference: EPS 20_96), and the School of Health and Life Sciences' Psychology, Social Work and Allied Health Sciences Ethics Committee at Glasgow Caledonian University (Reference: HLS/PSWAHS/19/157). All study procedures were in accordance with GDPR.

Data was collected via a series of questions pertaining to socio-demographic characteristics, standardised self-report measures, selected key questions from additional standardised measures, and newly created questions pertaining to COVID-19 exposures, concerns, symptoms, and social and traditional media engagements.

2.2 Measures

A variety of sociodemographic related data was collected, including keyworker status and role, see tables 1 and 2. Participants were asked several questions based on their residential status, the number of adults over 18 years and children under 18 years present in their place of residence, and whether they currently owned any pets (and were asked to specify what type or types of pets they had).

Questions were also asked about the following areas:

- Previous physical or mental health conditions
- COVID-19 living status
- COVID-19 related experiences
- Media consumption
- COVID-19 related concerns
- Trauma exposure
- Generalised anxiety disorder[2]
- Major depressive disorder
- Post-traumatic stress disorder (PTSD)

2.3 Quality Control

A number of quality control measures were applied to the survey to help ensure the authenticity of responses and screen out those did not meet the inclusion criteria. The survey was firstly piloted by the research team as a measure of quality control (n = 10) before being advertised on social media and *Prolific*. The total response rate was 2501. Individuals were removed from the data if:

i. The respondent clicked into the survey link but did not complete any measures (n = 205).
ii. The respondent did not provide full consent, in which case they would not have been able to complete any further questions (n = 27).

[2] Reported levels of Anxiety, Depression and PTSD are probable as they are based on self-report measures of symptoms and not on clinical diagnostic interviews. Assessed by the GAD-7, PHQ-7 and PCL-5

iii. The respondent did not provide information relating to the inclusion criteria (i.e. age and/or current residency; *n* = 113).
iv. The respondent did not meet the inclusion criteria (i.e. <18 years or non-UK resident, *n* = 107).
v. The respondent completed the survey in less than the minimum completion time (*n* = 60). Minimum completion time was set at 483 seconds (8 minutes, 3 seconds), half of the median completion time for the sample.

This resulted in a total of 1989 eligible responses. For the purposes of this report we removed all cases not currently resident in Scotland (*n* = 1263).

The focus of this report is therefore based on the responses of 726 people who were resident in Scotland at the time of data collection. Further details of the methodological design of the COVID-19 PWS can be found in the pre-print of our article titled, "*Understanding the longitudinal psychosocial impact of the COVID-19 pandemic in the United Kingdom; a methodological overview of The COVID-19 Psychological Wellbeing Study* (see Armour, McGlinchey, Butter, McAloney-Kocaman & McPherson, 2020; https://psyarxiv.com/9p4tv).

3.0 ANALYTICAL STRATEGY

3.1 Overall sample

The prevalence of clinically significant anxiety and depression in the two weeks prior to survey completion, and PTSD within the previous month, were assessed. Additionally, COVID-19 related findings (symptoms, exposure and concerns) were examined for the entire sample.

3.2 Group comparisons

Mental health variables of anxiety, depression, PTSD) and specific concerns about being infected with COVID-19 (being infected, infecting others, job security, the financial implications of the situation, the health service's ability to care for COVID-19 patients, and the Government's ability to manage the situation were compared across a range of subgroups. These groups were:

- Gender (male, female)[3]
- Age (18-24, 25-34, 35-44, 45-54, 55- 64 and 65 + years)
- Keyworker status (keyworker, not keyworker; full description of keyworker roles provided in Table 2 above)
- Family member/partner/close friend keyworker (they are a keyworker, not a keyworker)
- Urbanity (rural, town, city)
- Residence type (house, other type of residence)
- Perceived personal income (below average, average, above average)
- Child under 18 in the home (child in the home, no child in the home)
- Adults in the home (lone adult, not only adult in home)
- Prior physical health condition (has a condition, does not have a condition)
- Prior mental health condition (has a condition, does not have a condition)
- Social and traditional media consumption (low, moderate and high)

While all of these comparisons were conducted, only those that were statistically significant are reported below. However, details of the non-significant relationships are available upon request from the research team.

These comparisons were conducted to identify specific groups (e.g. males and females) who may be more likely to experience a mental health problem or be worried about the COVID-19 outbreak. It is important to note that these comparisons examined relationships in isolation meaning that we compared groups at face value and in the *absence* of other important information, such as age, prior mental or physical health condition, that may be relevant. As a next step, we further examined what specific factors are most associated with these mental health problems when taking all factors into account.

3.3 Regression Analysis

Regression is a type of statistical analysis that is used to examine the relationship between variables. We report two types of regression in this analysis. Logistic regressions to examine the factors associated with depression, anxiety and PTSD,

[3] The category ‘other’ is not included in analysis due to small numbers.

and linear regressions to examine the factors associated with specific COVID-19 concerns. Logistic regressions calculate the probability, or odds, of an event occurring depending on a number of factors. Linear regressions calculate the strength of the relationship between the event (having high concerns in relation to COVID-19) and the other factors included. We will report these results as characteristics that increase the likelihood of the outcome.

Only the sociodemographic variables that revealed a significant group difference within the group comparison analyses (discussed above) were included in the regression analyses. Along with this refined set of sociodemographic variables, COVID-19 related concerns were included as identified above, as well as whether or not the respondent had been quarantined, knew someone who had been quarantined, and knew someone who had been diagnosed with COVID-19.

Finally, we ran a series of linear regression analyses investigating factors associated with increased concerns about infection, the ability of the healthcare system to care for people, finances, school closure impact on children, and the Government's ability to manage the situation[4]. The sociodemographic variables that revealed a significant group difference within the group comparison analyses (discussed above) were included within the regression analysis alongside COVID-19 exposure variables as identified above.

[4] Note that responses to COVID-19 related concerns were based on answers to the questions whereby those who were 'highly concerned' where those who selected the 'Quite a bit' and 'Extremely worried' responses.

Section 2: Summary of Findings

4.0 Findings

4.1 Participant Demographics

Table 1 displays the sociodemographic characteristics across the entire sample (*n* = 726). The sample participants had a mean age of 38.85 years (*SD* = 13.4, range 18 - 87). Age was categorised into six age categories, which are reported in table 1. As can be seen, the majority of the sample were female, white and married or living with a partner. The majority of the sample were employed, either full time or part time and were educated to at least undergraduate degree level. We compared the data collected to the census data and found that older adults and males were particularly underrepresented (see Armour, McGlinchey, Butter, McAloney-Kocaman & McPherson (2020; https://psyarxiv.com/9p4tv). Table 2 displays a detailed breakdown of the sample by keyworker role. In total, 271 participants were working in one of the UK Government's assigned keyworker roles, the majority worked in health/social care or education. Of the 721 participants who responded to the question about family members, partners or close friends in keyworker roles, over half participants had at least one family member/partner/close friends working in a keyworker role (see table 2).

***Table 1*: Sociodemographic characteristics (N = 726)**

		n	%
Gender	Female	541	74.5
	Male	180	24.8
	Other	5	0.9
Age group (years)	18 – 24	95	13.1
	25 – 34	231	31.8
	35 - 44	186	25.6
	45 – 54	106	14.6
	55 – 64	70	9.6
	65 and older	38	5.2
Perceived income[a]	Less than average	264	36.4
	Average	315	43.4
	More than average	144	19.8
Ethnicity	White	679	93.5
	Black/African/Caribbean	7	1.0
	Asian	14	1.9
	Mixed	20	2.8
	Other	5	0.7
	Prefer not to say	1	0.1
Religion	No religion	496	68.3
	Christian	197	27.1
	Buddhist	5	0.7
	Hindu	2	0.3
	Muslim	6	0.8
	Other	9	1.2
	Prefer not to say	11	1.5
Relationship status	Single or never married	220	30.3
	Married or living with partner	423	58.3
	Separated or divorced	37	5.1
	Widowed	16	2.2
	Other	26	3.6
	Prefer not to say	4	0.6
Highest level of education	No Qualifications	7	1.0
	Standard Grade/O-level/GCSE or equivalent	52	7.2
	Higher Grade/A-level or equivalent	72	9.9
	Certificate of Higher Education or equivalent (NVQ 4)	69	9.5
	Diploma of Higher education or equivalent (NVQ 5)	61	8.4
	Undergraduate degree	235	32.4
	Postgraduate degree	152	20.9
	Doctoral degree	71	9.8
	Other	7	1.0
Employment[b]	Full-time	315	43.4
	Part-time	153	21.1
	Unemployed	51	7.0
	Self-employed (FT or PT)	67	9.2
	Not able to work	20	2.8
	Retired	54	7.4
	Student	103	14.2

[a] 3 individuals declined to answer; [b] Individuals were able to endorse multiple responses for the employment question

Table 2: *Keyworker status (n = 725[a])*

Keyworker classification	n	%
Health and social care worker	85	11.7
Education and childcare	55	7.6
Transport	12	1.7
Key public services (CJS, Charities delivering front line services)	22	3.0
Local or National Government	28	3.9
Foods and other necessary goods (eg production, processing, distribution, sale and delivery)	28	3.9
Public safety	7	1.0
Utilities, communication and financial services	34	4.7
Not a keyworker	454	62.5
Family member, partner or close friend a keyworker[b]	428	59.4

[a] One participant did not respond to this question; [b] family, partner or friend keyworker based on 721 responses

Table 3 (below) displays the demographic characteristics in relation to residence. The largest proportion of the sample lived in a city, and the majority lived in a house with 'ownership with a mortgage' reported by the highest proportion of the sample. The majority of the sample had no children under the age of 18 in their place of residence, and around half the sample had a pet in the household.

Table 3: Housing conditions and composition of respondents (n = 723[a])

		n	%
Housing Area	Isolated dwelling	12	1.7
	Hamlet	12	1.7
	Village	133	18.4
	Small town	175	24.2
	Large town	111	15.4
	City	280	38.7
Type of dwelling	House	433	59.9
	Room in shared house	11	1.5
	An apartment or flat	269	37.2
	Student halls	5	0.7
	Residential home	1	0.1
	Other	4	0.6
Housing Tenure	Owned outright	119	16.5
	Owned with mortgage	302	41.8
	Shared ownership (part rent/owned/mortgage)	9	1.3
	Rented	247	34.2
	Living rent free (e.g. in a property you not own with family)	38	5.4
	Other	7	1.0
No. of adults (18+) living in household (including participant)	1	167	23.1
	2	409	56.6
	3	97	13.4
	4	40	5.5
	5+	10	1.4
No. of children (<18 years) in household	0	470	65.0
	1	120	16.6
	2	104	14.4
	3	23	3.2
	4+	6	0.8
No. of bedrooms	1	84	11.6
	2	242	33.5
	3	260	36.0
	4	113	15.6
	5+	24	3.3
Pets living in house[b]	Dog	196	27.0
	Cat	164	22.6
	Bird	6	0.8
	Fish	31	4.3
	Other	56	7.7
	None	358	49.3

[a] 3 people did not respond to the questions on housing; [b] multiple responses available for pet in household therefore % are calculated for total N = 726.

4.2 Mental health: Overall sample

Table 4 displays the prevalence rates of anxiety, depression and PTSD across the entire sample (symptoms of depression and anxiety were measured in relation to symptoms experienced over the preceding two weeks and for PTSD in relation to symptoms experienced over the previous month). Using standardised measures (GAD-7, PHQ-7 and PCL-5) and a cut off score derived from previous research, 30.5% of the participants met the criteria for anxiety and 33.9% met the criteria for depression. Further, 19.7% of the sample met the criteria for probable PTSD.

Table 4: Prevalence of anxiety, depression and COVID-19 related PTSD (N = 726)

	Yes (%)	No (%)	Missing (%)
Anxiety[a]	222 (30.6)	494 (68.0)	10 (1.4)
Depression[b]	246 (33.9)	466 (64.2)	14 (1.9)
PTSD[c]	143(19.7)	573 (78.9)	10 (1.4)

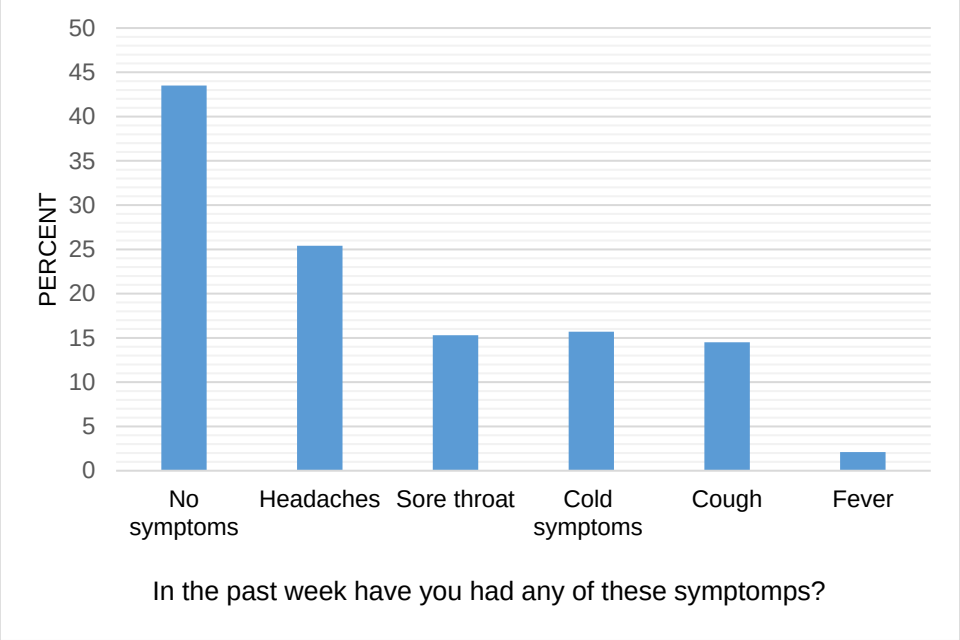
[a] Score of ≥10 on GAD-7 = probable generalised anxiety disorder, [b] Score of ≥10 PHQ-9 = probable major depressive disorder, [c] Score of ≥34 on PCL-5 = probable PTSD

4.3 COVID-19 related findings

4.3.1 Symptoms

As can be seen in figure 2, just over half of the sample stated they had not experienced any COVID-19 symptoms. The most commonly endorsed symptom was headaches, followed by cold symptoms, a sore throat, a cough and the least commonly endorsed symptom was fever. Considering previous illnesses, 13.9% of the sample had the flu in the past year and 25.8% of the sample had a flu vaccination in the past year.It is important to mention here that due to lack of testing of individuals in the general population and frequent updates on those who met the criteria / were eligible for testing we cannot say whether these symptoms were COVID-19.

Figure 2: COVID-19 symptoms (N = 726)



4.3.2 Exposure experiences

Very few participants (0.6%) had been diagnosed with COVID-19, whereas around one quarter (24.4%) knew someone who had currently or previously been diagnosed with COVID-19. In 4.1% of these cases that person was a close family member. The majority of the sample had not been tested for COVID-19 (99.3%). Participants were also asked about whether or not they or someone they knew has been quarantined due to exposure to COVID-19. Only 3.4% of the sample reported that they were either currently or had previously quarantined due to COVID-19. Just under a third (32.3%) of the sample knew someone who either was currently or had previously quarantined due to COVID-19 exposure,9.5% of whom stated that these individuals were close family members

Respondents were asked several questions about whether or not they had self-isolated as a precaution against COVID-19. Over half of the sample (52.3%) had self-isolated to avoid infection from other people, 57.6% self-isolated due to government advice, 11.3% reported self-isolating due to high risk status, and 8.8% self-isolated because they were showing symptoms (please note these were all individual questions and therefore are not mutually exclusive).

When individuals who were keyworkers were excluded (n = 272), 57.9% self-isolated to avoid infection from other people, 60.4% self-isolated due to government advice and 8.9% self-isolated because they were showing symptoms (again please note these were all individual questions and therefore are not mutually exclusive).

A small portion (1.1%) of the sample had experienced the death of a loved one in relation to COVID-19 and 2.5% were exposed to COVID-19 related deaths due to their occupation.

4.3.3 Concerns

Respondents were asked to rate their level of concern about a range of COVID-19 related situations. The majority of individuals were either extremely or quite a bit concerned about: the ability of the healthcare system to care for patients with COVID-19 if the situation was to worsen; the financial implications of COVID-19 and the UK government's ability to deal with the situation. Participants were more concerned about infecting others with COVID-19 than being infected themselves. Information on specific concerns is reported in section 4.7.

4.4 Group comparisons for anxiety

4.4.2 Gender

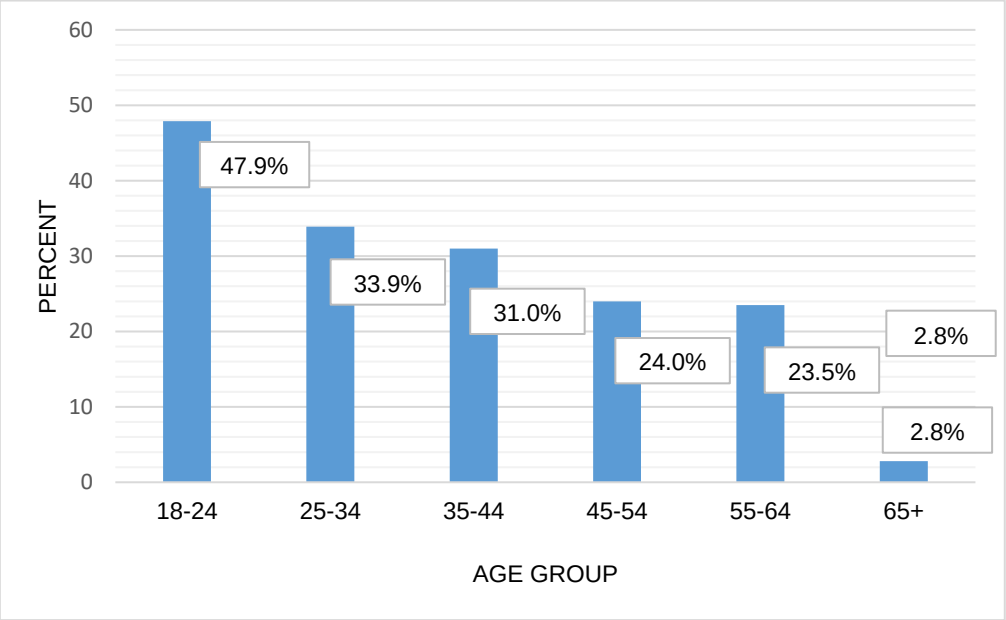
Nearly one third (30.5%) of the sample meet the criteria for anxiety. The prevalence of anxiety was higher among female participants (35.0%) compared to males (18.3%). A chi-square test revealed a significant association between gender and those meeting criteria for anxiety ($\chi^2 = 17.58$, $df = 1$, $p<0.001$); females were more likely to meet the criteria for anxiety compared to males.

4.4.3 Age

Figure 3 shows the proportion of people within each age group that met the criteria for anxiety, which was highest among those in the 18 – 24 age group, and lowest in the 65 years and older group. A chi square test indicated that the differences in prevalence of meeting the criteria for anxiety were significant by age ($\chi^2 = 30.96$, $df = 5$, $p<0.001$).

Individuals aged 18 – 24, and 25 – 34 were more likely to meet the criteria for anxiety than those aged 45 – 54, 55 – 64 and 65 and older.

Figure 3: *Percentage of participants who met criteria for anxiety by age group*



4.4.4 Keyworker status

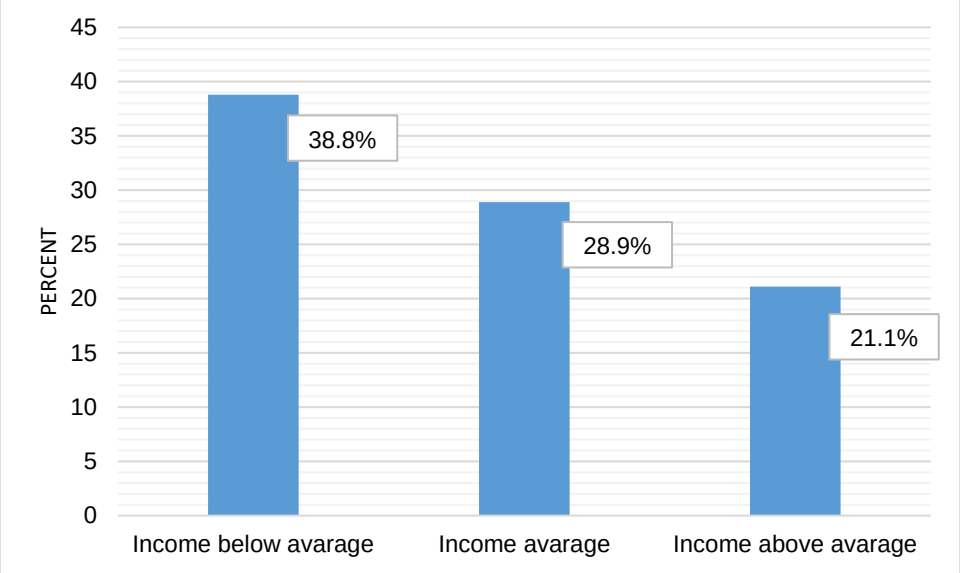
There were no statistically significant differences in rates of anxiety among those who were employed as a keyworker and those who were not. However, there were significant differences in anxiety among those who had a family member who was employed as a keyworker and those who did not (χ^2 = 4.45, df = 1, p<0.05). The percentage of individuals who met the criteria for anxiety was higher among those who had a family member employed as a keyworker (34.2%) compared to those who did not (26.7%). Therefore, those who had a family member employed in a keyworker role were more likely to experience anxiety.

4.4.5 Personal income

The percentage of individuals who met the criteria for anxiety was highest among those who perceived their personal income to be below average, followed by those who perceived their personal income to be average and lowest among those who perceived their personal income to be above average (figure 4). A chi-square test revealed that there was a significant association perceived personal income and

anxiety (χ^2 = 14.54, *df* = 2, *p*<0.001). Individuals reporting lower than average income were more likely to meet the criteria for anxiety, and those reporting above average income less likely to meet the criteria for anxiety.

Figure 4: Percentage of participants who met the criteria for anxiety by income



4.4.6 Housing type

The percentage of individuals who met the criteria for anxiety was higher among those living in other residence types (i.e. flat, student halls, residential home or other; 35.9%) compared to those living in a house (27.7%). A chi-square test revealed that there was a significant association between residence type and anxiety (χ^2= 5.37, *df* = 1, *p*<0.05); those living in other residence types were significantly more likely to meet the criteria for anxiety compared to those living in houses.

4.4.7 Existing Physical health condition

The percentage of individuals who met the criteria for anxiety was higher among those who had a physical health condition (42.9%) compared to those with no physical health condition (27.6%). A chi-square test revealed that there was a significant association between having a health condition and meeting the criteria for anxiety (χ^2= 13.64, *df* = 1, *p*<0.001).

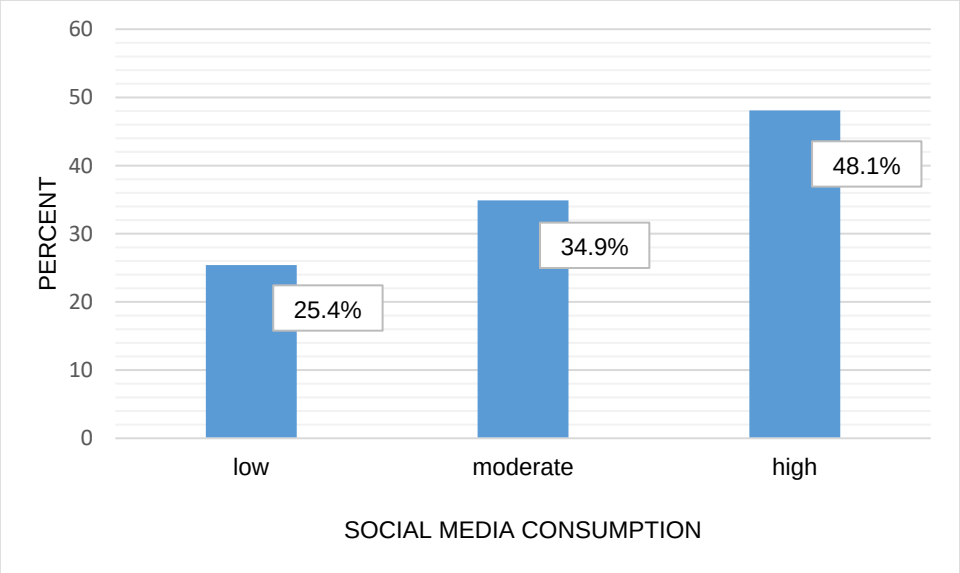
4.4.8 Existing mental health condition

The percentage of individuals who met the criteria for anxiety was higher among those who had an existing mental health condition (52.3%), compared with those reporting no such condition (21.6%). Further, a chi-square test revealed that there was a significant association between having an existing mental health condition and meeting the criteria for anxiety (χ^2 = 67.15, *df* = 1, *p*<0.001).

4.4.9 Social media consumption

The percentage of individuals who met the criteria for anxiety was highest among those who most frequently used social media (20 or more times a day) to engage with COVID-19 related information, and lowest among those with the lowest levels of social media consumption (figure 5). A chi-square test revealed that there was a significant association between exposure to COVID-19 related information on social media and anxiety (χ^2 = 17.94, *df* = 1, *p*<0.001).

Figure 5: Participants who met criteria for anxiety by social media consumption



4.4.10 Summary of group comparisons for anxiety

- Significantly more females met the criteria for anxiety than males.
- Younger respondents were more likely to meet the criteria for anxiety compared to older respondents.

- Significantly more people who had family members employed as keyworkers met the criteria for anxiety than those who had no family members employed as keyworkers.
- Significantly more people who perceived their income to be lower than average met the criteria for anxiety than those who perceived their income to be above average.
- Significantly more people living in ‘other residences’ met the criteria for anxiety than those living in houses.
- Significantly more people reporting a physical health condition met the criteria for anxiety than those with no physical health condition.
- Significantly more people reporting a prior mental health condition met the criteria for anxiety than those with no prior mental health condition.
- Significantly more people reporting higher levels of COVID-19 related social media consumption met the criteria for anxiety than those with lower levels of COVID-19 related social media consumption

4.4.11 Logistic regression of factors associated with anxiety

We examined the likelihood of a respondent meeting the criteria for anxiety based on a range of sociodemographic factors, COVID-19 related concerns and COVID-19 exposure variables were examined. The sociodemographic variables included in the regression analysis were those that were examined above, i.e., those for which significant group differences were reported.

Table 5: Logistic regression of factors associated with meeting the criteria for anxiety

	O.R	95% CI
Gender: Female	**1.863**	**1.11 – 3.14**
Age: 24 – 35	.648	.337 – 1.246
35 – 44	.880	.439 – 1.763
45 – 54	**.422**	**.189 - .944**
55 – 64	.572	.232 – 1.409
65 and over	**.037**	**.004 - .343**
Family member/friend a keyworker	1.248	.816- 1.910
Income: Below average	.974	.527 – 1.800
Average	.863	.484 – 1.540
Residence: Not a house	1.163	.760 – 1.781
Physical health condition	**2.018**	**1.262 – 3.225**
Prior mental health condition	**2.791**	**1.808 – 4.308**
Social media: low consumption	1.125	.724 – 1.748
Moderate consumption	1.780	.938 – 3.415
Concern about being infection	**1.284**	**1.034 – 1.594**
Concern about infecting others	1.195	.959 – 1.489
Concern about job security	1.055	.894 – 1.246
Concern about financial implications	**1.475**	**1.197 – 1.818**
Concern about Government ability to manage	**1.436**	**1.135 – 1.817**
Concern about health services ability to care for patients	1.251	.951 – 1.645
Been quarantined	.484	.129 – 1.817
Know someone who has been quarantined	1.105	.654 – 1.868
Know someone who has been diagnosed	1.010	.587 – 1.741

Note: Significant relationships in bold

Seven variables significantly increased the likelihood of a respondent meeting the criteria for anxiety. Reporting a prior mental health condition was the strongest predictor of anxiety, these individuals had almost 3 times greater odds of meeting the criteria for anxiety than those without a mental health condition, and those with a physical health condition had double the odds. Individuals who reported being highly worried about being infected with coronavirus (i.e., ‘quite a bit’ or ‘extremely’ worried) and those who were highly worried about the financial implications had 1.5 times higher odds of meeting the criteria for anxiety than individuals with less concern. Participants who reported high levels of concern about the ability of the Government to manage the COVID-19 situation had over double the odds of meeting the criteria for anxiety compared to those with low levels of concerns. Finally, as age increased the risk of anxiety decreased, indicating that younger, rather than older individuals

were more likely to meet the criteria for anxiety, with those in the 45 – 54 and 65 years and older age groups significantly less likely to meet the criteria for anxiety.

RISK FACTORS FOR ANXIETY

- **Existing mental health condition**
- **Existing physical health condition**
- **High concerns about being infected**
- **High concerns about the UK governments ability to manage COVID-19**
- **High concerns about the financial impact of COVID-19**
- **Younger individuals**

4.5 Group comparisons for depression

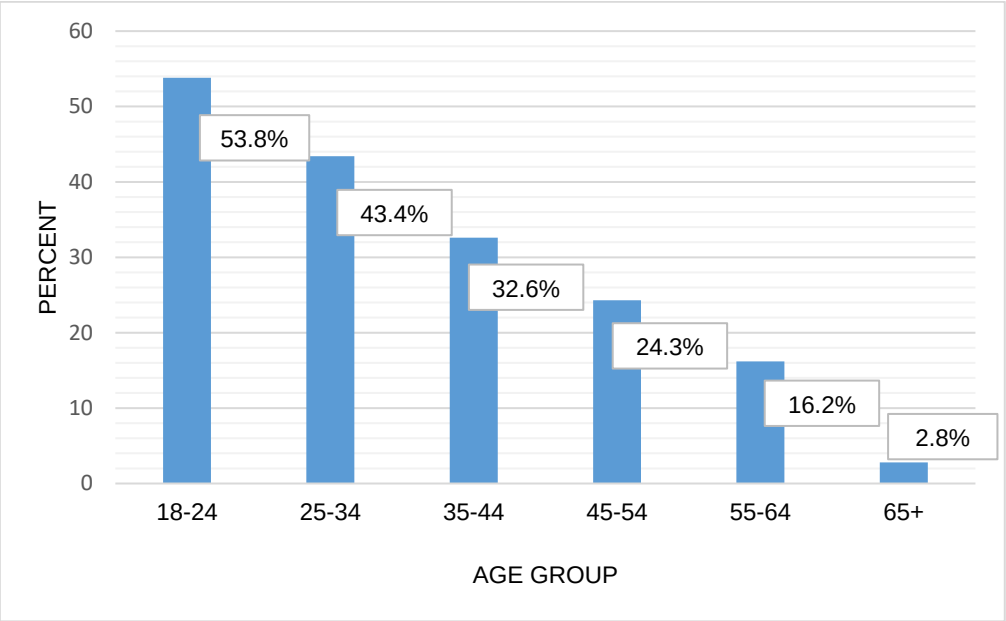
4.5.1 Gender

Over one third (33.9%) of the sample meet the criteria for depression. The prevalence of depression was higher among female participants (37.1%) compared to males (25.8%). A chi-square test revealed a significant association ($\chi^2 = 7.43$, $df = 1$, $p<0.01$) with females more likely to meet the criteria for depression compared to males.

4.5.2 Age

Figure 6 demonstrates the percentage of individuals who met the criteria for depression across each age group. This was highest among those who were 18-24 years old and lowest among those ages 65 years and over. A chi square test indicated that the differences in prevalence of meeting the criteria for depression were significant by age ($\chi^2 = 54.45$, $df = 5$, $p<0.001$). Individuals aged 18 – 24, and 25 – 34 were more likely to meet the criteria for depression than those aged 45 – 54, 55 – 64 and 65 and older.

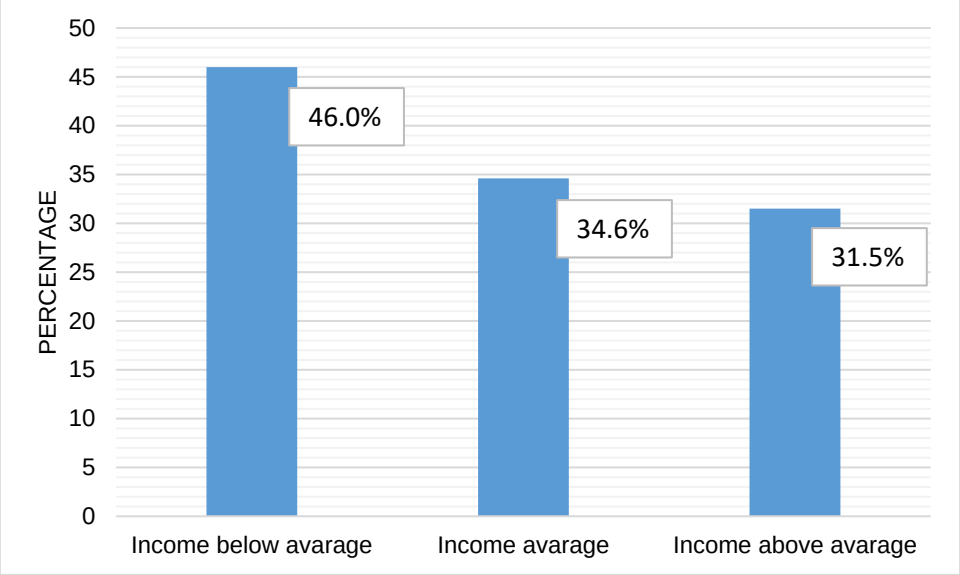
Figure 6: *Participants who met criteria for depression by age group*



4.5.3 Personal Income

The percentage of individuals who met the criteria for depression was highest among those who perceived their personal income to be below average, followed by those who perceived their personal income to be above average and lowest among those who perceived their personal income to be average (figure 7). A chi-square test revealed that there was a significant association perceived personal income and anxiety (χ^2 = 29.45, *df* = 2, p<0.001). Those individuals in the lower than average income group were more likely to meet the criteria for depression, while those in the above average income group less likely to meet the criteria.

Figure 7: Participants who met criteria for depression by income



4.5.4 Housing type

Specifically living a house vs another type of accommodation (flat, student halls, residential home or other). The percentage of individuals who met the criteria for depression was higher among those living in other residence types (i.e. flat, student halls, residential home or other; 42.2%) compared to those living in a house (29.4%). Further, a chi-square test revealed that there was a significant association between residence type and meeting the criteria for depression (χ^2 = 12.31, *df* = 1, p<0.001); those living in other residence types were therefore significantly more likely to meet the criteria for depression compared to those living in houses.

4.5.5 Existing physical health condition

The percentage of individuals who met the criteria for depression was higher among those who had an existing physical condition (42.2%) than for those who did not (32.3%). A chi-square test revealed that there was significant association between having an existing physical health condition and meeting the criteria for depression (χ^2 = 5.43, *df* = 1, p<0.05).

4.5.6 Existing mental health condition

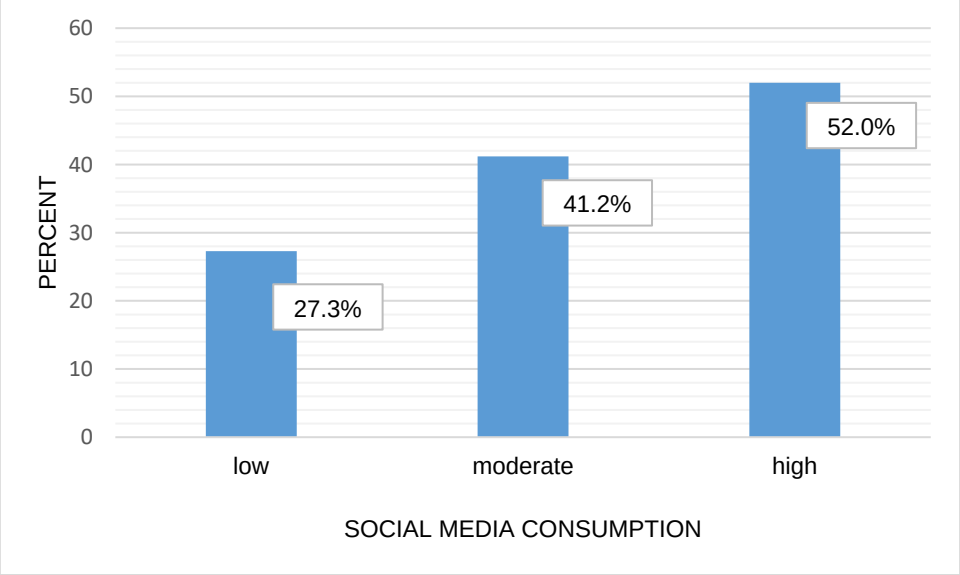
The percentage of individuals who met the criteria for depression was higher among those who had an existing mental health condition (59.2%) than those with no such

prior condition (23.7%). A chi-square test revealed that there was a significant association between having an existing mental health condition and meeting the criteria for depression ($\chi^2 = 84.25$, $df = 1$, $p<0.001$).

4.5.7 Social medial consumption

As can be seen in figure 8, the percentage of individuals who met the criteria for depression was highest among those who most frequently used social media (20 or more times a day) to consume COVID-19 related information and lowest among those with the lowest social media consumption. A chi-square test revealed that there was a significant association between exposure to COVID-19 related information on social media and meeting the criteria for depression ($\chi^2 = 23.95$, $df = 1$, $p<0.001$). Individuals with low exposure to COVID-19 information on social media were significantly less likely to meet the criteria for depression than those with high social media consumption.

Figure 8: Participants who met criteria for depression by social media consumption



4.5.8 Summary of group comparisons for depression

- Females were more likely to meet the criteria for depression than males.
- Younger respondents were more likely to meet the criteria for depression compared to older respondents.
- Significantly more people living in ‘other residences’ met the criteria for depression than those living in houses.

- Significantly more people reporting an existing physical health condition met the criteria for depression than those with no physical health condition.
- Significantly more people reporting an existing mental health condition met the criteria for depression than those with no existing mental health condition.
- Significantly more people reporting higher levels of COVID-19 related social media consumption met the criteria for depression than those reporting lower levels of COVID-19 related social.

4.5.9 Logistic regression model of factors associated with depression

We examined the likelihood of a respondent meeting the criteria for depression based on a range of sociodemographic factors, COVID-19 related concerns and COVID-19 exposure variables were examined. The sociodemographic variables included in the regression analysis were those that were examined above i.e., those for which significant group differences were reported.

Table 6: Logistic regression of factors associated with meeting the criteria for depression

	O.R	95% CI
Gender: Female	1.191	.741 – 1.913
Age: 24 – 35	.668	.357 – 1.249
35 – 44	.642	.331 – 1.246
45 – 54	**.327**	**.151 - .708**
55 – 64	**.239**	**.095 - .601**
65 and over	**.025**	**.003 - .227**
Income: Below average	1.500	.825 – 2.728
Average	1.100	.622 – 1.943
Residence: Not a house	1.093	.726 – 1.645
Existing physical health condition	**1.616**	**1.013 – 2.576**
Existing mental health condition	**3.626**	**2.373 – 5.538**
Social media: low consumption	1.169	.763 – 1.792
Moderate consumption	1.630	.868 – 3.062
Concern about being infection	1.119	.904 – 1.384
Concern about infecting others	1.069	.865 – 1.321
Concern about job security	1.041	.896 – 1.224
Concern about financial implications	**1.472**	**1.203 - 1.801**
Concern about Government ability to manage	1.176	.940 – 1.471
Concern about health services ability to care for patients	**1.496**	**1.148 – 1.948**
Been quarantined	.363	.097 – 1.356
Know someone who has been quarantined	**1.789**	**1.079 – 2.966**
Know someone who has been diagnosed with COVID-19	.783	.458 – 1.340

Note: Significant relationships in bold

Eight of the variables significantly increased the likelihood of a respondent meeting the criteria for depression. Reporting an existing mental health condition was the strongest predictor of depression, these individuals had almost 4 times greater odds of meeting the criteria for depression than those without a mental health condition, and those with an existing physical health condition had over 1.5 times greater odds. Individuals who reported being highly worried about the financial implications of coronavirus (i.e. 'quite a bit' or 'extremely' worried) had 1.5 times higher odds of meeting the criteria for depression, as did those who were concerned about the ability of health systems to cope. Those who knew someone who had been quarantined had almost double the odds of meeting the criteria for depression. Finally, as age increased the risk of depression decreased, indicating that younger rather than older individuals were more likely to meet the criteria for depression, with those in the 45 – 54 and 65 years and older age groups significantly less likely to meet the criteria for depression.

RISK FACTORS FOR DEPRESSION

- **Existing mental health condition**
- **Existing physical health condition**
- **High concerns worried about being infected**
- **High concerns about the financial impact of COVID-19**
- **High concerns about the ability of health systems to care for COVID-19 patients**
- **Know someone who has been quarantined due to COVID-19**
- **Younger individuals**

4.6 Group comparisons for PTSD

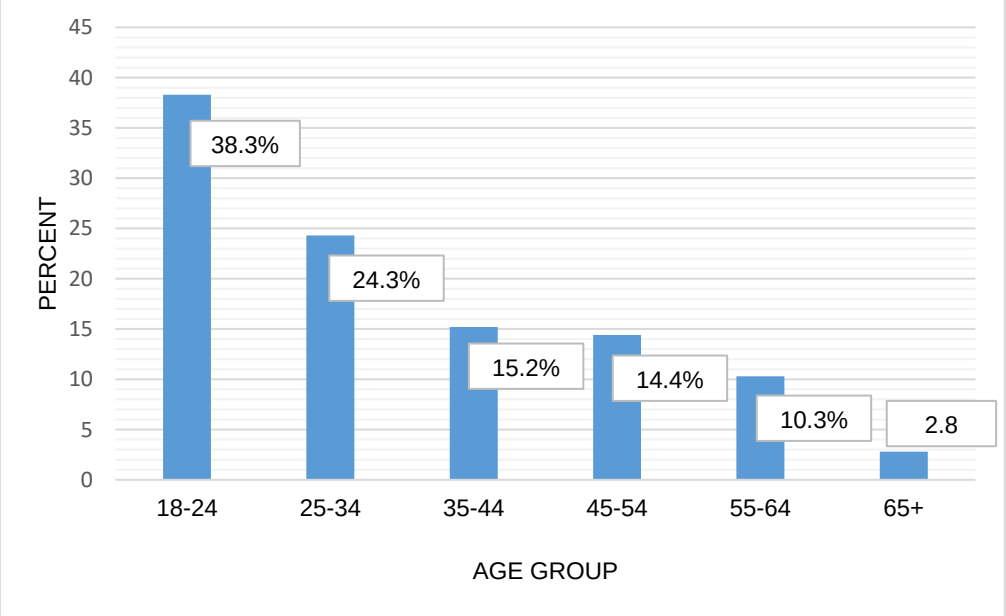
4.6.1 Gender

Nearly one fifth (19.7%) of the sample meet the criteria for PTSD. The prevalence of PTSD was higher among female participants (22.4%) compared to males (12.2%). A chi-square test revealed a significant association ($\chi^2 = 8.78$, $df = 1$, $p<0.01$) with females more likely to meet the criteria for PTSD compared to males.

4.6.2 Age

As can be seen in figure 9 the percentage of individuals who met the criteria for PTSD was highest among those who were 18 – 24 years old and lowest among those aged 65 years and older. A chi square test indicated that the differences in prevalence of meeting the criteria for PTSD were significant by age ($\chi^2 = 37.77$, $df = 5$, $p<0.001$). Individuals aged 18 – 24, 25 – 34, 35 – 44 and 54 – 55 were more likely to meet the criteria for anxiety than those aged 55 – 64 and 65 and older.

Figure 9: Participants who met criteria for PTSD by age group

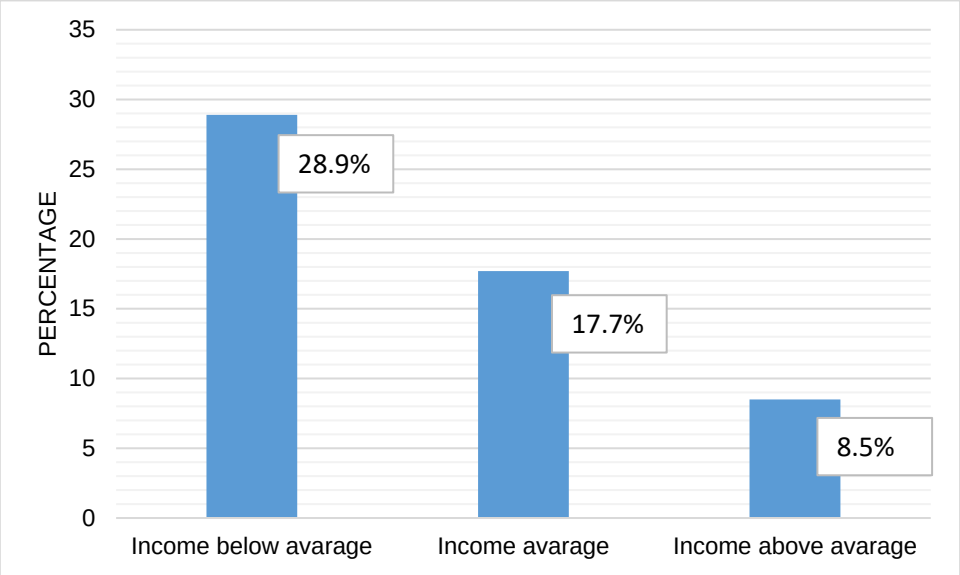


4.6.3 Personal income

The percentage of individuals who met the criteria for PTSD was highest among those who perceived their personal income to be below average, followed by those who perceived their personal income to be average and lowest among those who perceived

their personal income to be above average (figure 10). A chi-square test revealed that there was a significant association perceived personal income and PTSD (χ^2 = 25.92, *df* = 2, *p*<0.001). Individuals reporting a less than average income were more likely to meet the criteria for PTSD, while those with above average income less likely to meet the criteria.

Figure 10: Participants who met criteria for PTSD by income



4.6.4 Residence type

The percentage of individuals who met the criteria for PTSD was higher among those living in other residence types (i.e. flat, student halls, residential home or other; 25.2%) compared to those living in a house (16.4%). Further, a chi-square test revealed that there was a significant association (χ^2 = 8.25, *df* = 1, *p*<0.001) with those living in other residence types were significantly more likely to meet the criteria for PTSD compared to those living in houses.

4.6.5 Existing physical health condition

The percentage of individuals who met the criteria for PTSD higher among those who had a physical condition (26.1%) than those without such a condition (18.2%). A chi-square test revealed that there was significant association (χ^2 = 4.86, *df* = 1, *p*<0.05).

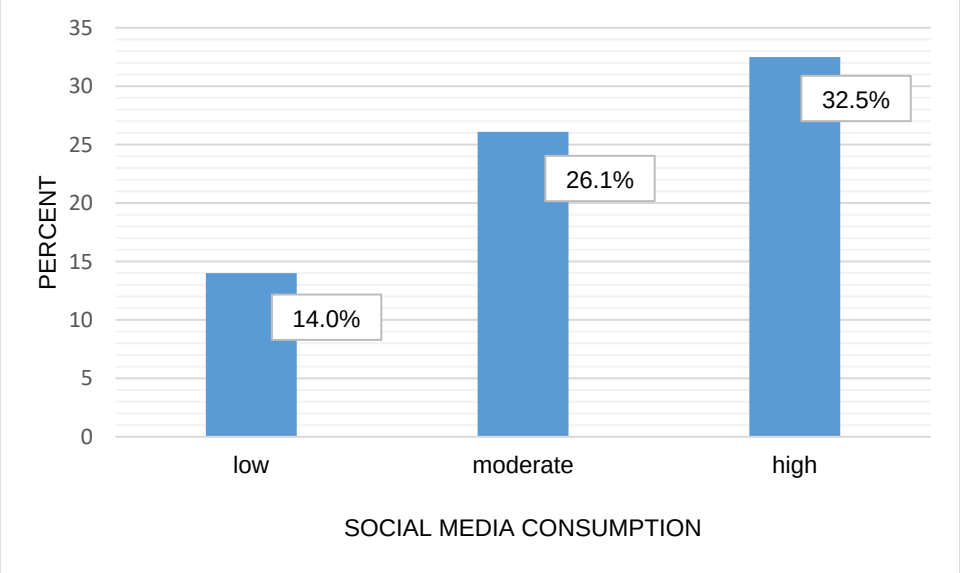
4.6.6 Existing mental health condition

The percentage of individuals who met the criteria for PTSD was higher among those who had an existing mental health condition (38.6%) compared to those with no existing mental health condition (11.7%). Further, a chi-square test revealed that there was a significant association (χ^2 = 69.22, *df* = 1, *p*<0.001).

4.6.7 Social media consumption

The percentage of individuals who met the criteria for PTSD was highest among those who most frequently used social media (20 or more times a day) to consume COVID-19 related information, and was lowest among those with the lowest social media consumption (figure 11). A chi- square test revealed that there was a significant association between consumption of COVID-19 related information on social media and PTSD (χ^2= 22.08, *df* = 2, *p*<0.001), with individuals with lower social media consumption of COVID-19 information were less likely to meet the criteria for PTSD than individuals with high social media consumption.

Figure 11: Participants who meet criteria for PTSD by social media consumption



4.6.8 Traditional media consumption

The percentage of individuals who met the criteria for PTSD was again highest among those who most frequently used traditional media to consume COVID-19 related information (40.0%), and decreased with lower consumption. A chi-square test revealed that there was a significant association (χ^2 = 8.47, *df* = 2, *p*<0.05), individuals

with low traditional media consumption of COVID-19 information were less likely to meet the criteria for PTSD than individuals with high social media consumption.

4.6.9 Summary of group findings

- Females were more likely to meet the criteria for COVID-19 related PTSD compared to males.
- Younger respondents were more likely to meet the criteria for COVID-19 related PTSD compared to older respondent.
- Those who perceived their income was less than average were statistically more likely to meet the criteria for COVID-19 related PTSD than those who perceived their income to be average or more than average.
- Significantly more people living in ‘other residences’ met the criteria for COVID-19 related PTSD than those living in houses.
- Significantly more people reporting an existing physical health condition met the criteria for COVID-19 related PTSD than those with no physical health condition.
- Significantly more people reporting an existing mental health condition met the criteria for COVID-19 related PTSD than those with no existing mental health condition.
- Significantly more people reporting higher levels of COVID-19 related social and traditional media consumption met the criteria for COVID-19 related PTSD than those reporting lower levels of COVID-19 related social and traditional media consumption.

4.6.10 Logistic regression of factors associated with PTSD

We examined the likelihood of a respondent meeting the criteria for PTSD based on a range of sociodemographic factors, COVID-19 related concerns and COVID-19 exposure variables were examined. As with the previous regression models, the sociodemographic variables included in the regression analysis were those that were examined above i.e., those for which significant group differences were reported. However, when examining probable PTSD, it was also important to take into account the influence of previous traumatic events individuals may have experienced. In order to do this, the number of past traumas an individual experienced was calculated using

individual's responses to the Life Events Checklist. An individual was determined to have prior trauma if they endorsed any of the trauma variables detailed in Table 5, with the exception of 'coronavirus'. Categories were created which signified if a respondent had no prior traumas or had a previous trauma.

Table 7: Logistic regression of factors associated with meeting the criteria for PTSD

	O.R	95% CI
Gender: Female	1.478	.786 – 2,779
Age (years) : 24 – 35	.580	.289 – 1.162
35 – 44	.422	.194 - .918
45 – 54	**.369**	**.149 - .917**
55 – 64	**.291**	**.097 - .868**
65 and over	**.059**	**.006 - .595**
Income: Below average	1.664	.761 – 3.637
Income: Average	1.360	.635 – 2.913
Residence: Not a house	.855	.544 - 1.441
Existing physical health condition	1.304	.756 – 2.249
Existing mental health condition	**3.071**	**1.873 – 5.035**
Social media: low consumption	1.533	.917 – 2.561
Social media: Moderate consumption	1.229	.539 – 2.802
Traditional media: low consumption	.994	.540 – 1.828
Traditional media: Moderate consumption	1.364	.380 – 4.902
Concern about being infection	**1.298**	**1.016 – 1.657**
Concern about infecting others	**1.313**	**1.006 – 1.712**
Concern about job security	.990	.820 – 1.195
Concern about financial implications	**1.647**	**1.275 – 2.128**
Concern about government ability to manage	**1.483**	**1.115 – 1.973**
Concern about Health Services ability to care for patients	1.032	.743 - 1.433
Been quarantined	.726	.153 – 3.445
Know someone who has been quarantined	1.317	.715 – 2.424
Know someone who has been diagnosed with COVID-19	.774	.405 – 1.481
Previous trauma exposure	1.431	.731 – 2.801

Note: Significant relationships in bold

Five variables significantly increased the likelihood of a respondent meeting the criteria for PTSD. The strongest predictor of PTSD was existing mental health condition. Respondents who had an existing mental health condition had 3 times higher odds of meeting the criteria for PTSD than those with no such condition. Respondents with high levels of concern about being infecting with coronavirus had 1.3 times higher odds of meeting the criteria for PTSD than those with lower levels of concern about infection, as did those with high levels of concern about infecting others. Those with high levels of concern about the financial implications more than 1.5 times higher odds compared and those with higher concerns about the ability of the UK Government to manage the

COVID-19 situation had 1.5 times higher odds of meeting the criteria for PTSD than those with lower concerns about the Government. Finally, as age increased the odds of meeting the criteria for PTSD significantly reduced, with those individuals 35 years and older significantly less likely than those aged 18 – 24 yearsto meet the PTSD criteria. The experience of previous trauma did not significantly change the likelihood of meeting the criteria of PTSD, highlighting that the PTSD experienced was not due to previous trauma.

RISK FACTORS FOR PTSD

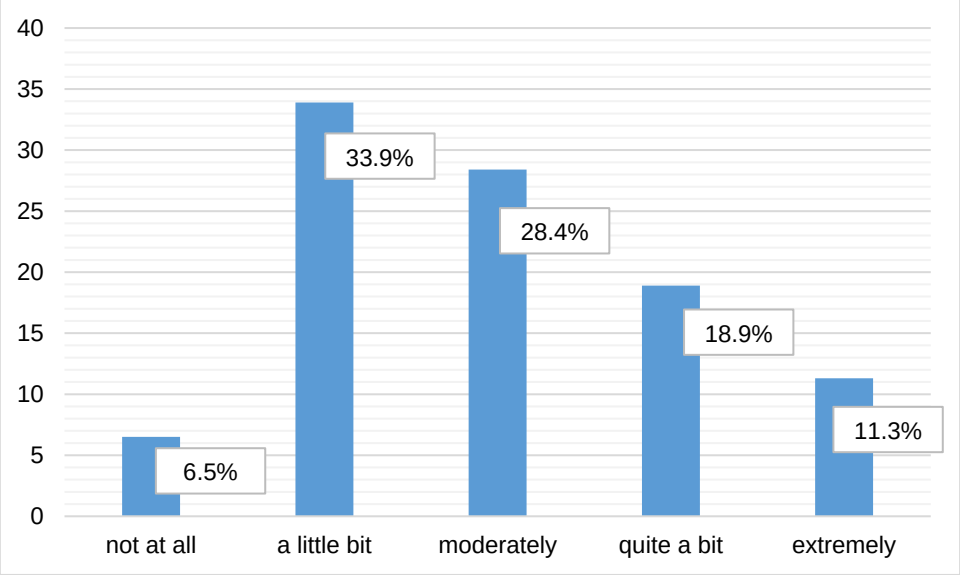
- **Existing mental health condition**
- **High concerns about being infected**
- **High concerns about infecting others**
- **High concerns about the UK governments ability to manage COVID-19**
- **Younger individuals**

4.7 COVID-19 related concerns

4.7.1 Concerns about being infected

Infection concern was measured using the item “How worried are you about being infected with coronavirus (COVID-19)?”. Responses were scored on a Likert-type scale from ‘Not at all’ (1) to ‘Extremely’ (5). The percentage of individuals within each of these categories are reported in figure 12. This variable was treated continuously for group comparisons. Only significant group comparisons are reported here, details of all other analyses can be provided on request.

Figure 12: Level of concern about being infected by CV19 in the full sample



4.7.1.1 Gender

Females were more likely to be highly concerned (*M* = 3.04, *SD* = 1.13) about being infected than males (*M* = 2.67, *SD* = 1.06). An independent samples t-test indicated thats difference was statistically significant (*t* = -3.90, *df* = 711, *p*<.001).

4.7.1.2 Income

As can be seen in table 8, concerns about being infected with COVID-19 were highest among those who perceived their income was average, followed by those who perceived their income to be below average, and lowest among those who perceived their income to be above average. A one-way analysis of variance indicated that these variations by income were significant (*F* = 3.26, *df* = 2, 717, *p*<.05). Post hoc Tukeys tests indicated significant differences between those in the average and above average groups.

Table 8: Concerns about being infected by income

Income	Mean	SD
Above Average	2.74	1.08
Average	3.03	1.11
Below Average	2.96	1.14

4.7.1.3 Children in Household

Concerns about infection with COVID-19 were higher among those with children in the household (*M* = 3.06, *SD* = 1.15) than in households without children (*M* = 2.88, *SD* = 1.10). An independent samples t-test indicated these differences were statistically significant (*t* = -2.08, *df* = 716, *p*<.05).

4.7.1.4 Adults living alone

Concerns about infection with COVID-19 were higher among those who lived in a household with others (*M* = 3.00, *SD* = 1.11) than for those who lived alone (*M* = 2.77, *SD* = 1.13). An independent samples t-test indicated these differences were statistically significant (*t* = 2.24, *df* = 716, *p*<.05).

4.7.1.5 Existing physical health condition

Concerns about being infected with COVID-19 were higher among those with an existing physical health condition (*M* = 3.27, *SD* = 1.18) compared to those with no such condition (*M* = 2.85, *SD* = 1.08). An independent samples t-test indicated these differences were statistically significant (*t* =-4.00, *df* = 243.990, *p*<.001).

4.7.1.6 Existing mental health condition

Concerns about being infected were higher among those with an existing mental health condition (*M* = 3.18, *SD* = 1.16) compared to those with no such condition (*M* =2.84 *SD* = 1.09). An independent samples t-test indicated these differences were statistically significant (*t* =-3.71, *df* = 716, *p*<.001).

4.7.1.7 Traditional media consumption

As can be seen in table 9 concerns about being infected were highest among those with moderate traditional media consumption, followed by those with high consumption, and lowest among those with low traditional media consumption. A one-way analysis of variance indicated that these variations by income were significant (*F* = 4.18, *df* = 2, 71 7, p<.05). Post hoc Tukeys tests indicated significant differences between those in the low traditional media consumption group and those in the moderate consumption group.

Table 9: Concerns about being infected by traditional media consumption

Traditional Media	Mean	SD
High	2.96	1.31
Moderate	3.20	1.09
Low	2.89	1.09

4.7.1.8 Linear regression of factors associated with concerns about being infected

As can be seen in Table 10 when accounting for the influence of all of the characteristics identified above as significantly related to concerns about being infected, all remained significant. The regression model was significant and explained 8% of the variance in concerns about being infected ($F = 8.282$, df = 8,692, p<.001) Females had higher levels of concerns about being infected, as did those living with children in their households, those with existing physical health conditions, those with existing mental health conditions and those with higher traditional media consumption about COVID-19. Individuals who perceived their income to be average had significantly higher concerns about being infected compared to those with above average income. Those individuals who were adults living alone were significantly less concerned about being infected than those who lived with other people.

Table 10: Linear regression for concerns about being infected

	r	p
Gender: Female	**.123**	**.001**
Income : Below average	.064	.205
Average	**.100**	**.043**
Children under 18 in house	**.090**	**.017**
Adult living alone	**-.079**	**.035**
Prior physical health condition	**.141**	**<.001**
Prior mental health condition	**.124**	**.001**
High traditional media consumption	**.120**	**.001**

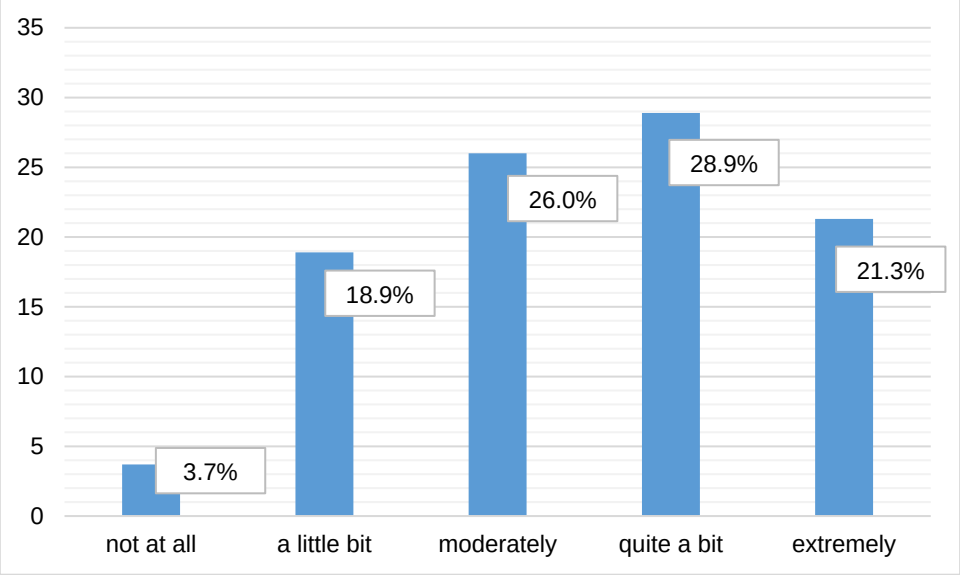
Note: significant findings in bold

4.7.2 Concerns about infecting others

Concerns about infecting others was measured using the item “How worried are you about infecting others with coronavirus (COVID-19)?”. Responses were scored on a Likert-type scale from ‘Not at all’ (1) to ‘Extremely’ (5). The percentage of individuals within each of these categories are reported are reported in figure 13. This variable

was treated continuously for group comparisons. Only significant group comparisons are reported here, details of all other analyses can be provided on request

Figure 3: Concerns about infecting others



4.7.2.1 Age

As can be seen in table 11, concerns about infecting others were highest among the younger age groups, and lowest among the older groups. A one-way analysis of variance indicated that these variations by age were significant (F = 3.55, df = 5, 717, p<.01). Post hoc Tukeys tests indicated significant differences between those aged 18 - 34 years with those aged 65 years and older. Younger adults (18 – 34 years) were significantly more concerned about infecting other people than those aged 65 years and older.

Table 11: Concerns about infecting others by age

Age	Mean	SD
18 – 24	3.69	1.10
25 – 34	3.60	1.11
35 – 44	3.35	1.14
45 – 54	3.38	1.06
55 – 64	3.35	1.19
65 and older	2.94	1.15

4.7.2.2 Family member a keyworker

Individuals who had a family member employed as a keyworker had higher concerns about infecting others (*M* = 3.54, *SD* = 1.16) than those with no family member employed in a keyworker role (*M* = 3.34, *SD* = 1.09). An independent samples t-test revealed this difference was significant (*t* = -2.40, *df* = 712, *p*<.05).

4.7.2.3 Adults living alone

Concerns about infecting others with COVID-19 were higher among those who lived in a household with others (*M* = 3.50, *SD* = 1.12) than for those who lived alone (*M* = 3.30, *SD* = 1.17). An independent samples t-test indicated these differences were statistically significant (*t* = 1.97, *df* = 716, *p*<.05).

4.7.2.4 Existing mental health condition

Concerns about infecting others were higher among those with an existing mental health condition (*M* = 3.80, *SD* = 1.11) compared to those with no such condition (*M* =3.31, *SD* = 1.11). An independent samples t-test indicated these differences were statistically significant (*t* =-5.50, *df* = 716, *p*<.001).

4.7.2.5 Social media

As can be seen in table 12, concerns about infecting others were highest among those with high social media consumption, followed by those with moderate consumption, and lowest among those with low social media consumption. A one-way analysis of variance indicated that these variations by income were significant (*F* = 7.35, *df* = 2, 717, *p*<.001). Post hoc Tukeys tests indicated significant differences between those in the low use group compared to those in both the moderate and high social media use groups.

Table 12: Concerns about infecting others by social media consumption

Social Media	Mean	SD
High	3.68	1.22
Moderate	3.63	1.05
Low	3.32	1.15

4.7.2.6 Linear regression of factors associated with concerns about infecting others

As can be seen in Table 13 when accounting for the influence of all of the characteristics identified above as significantly related to concerns about infecting others, only the presence of an existing mental health condition and social media consumption were significantly associated with concerns about infecting others. (Rsq is only .05, F (8,692) = 4.515***). Individuals with an existing mental health condition had higher concerns than those who did not have such a condition, and those with high social media consumption had higher concerns about infecting others than those with low social media consumption.

Table 13: Linear regressions for concerns about infecting others.

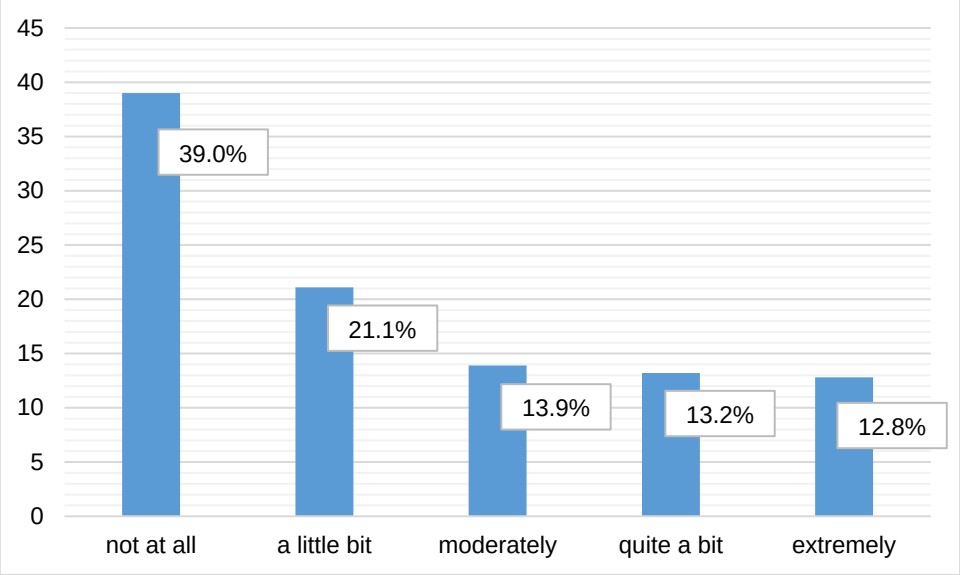
	r	p
Age: 25 – 34	-.055	.383
35 – 44	-.084	.175
45 – 54	-.072	.200
55 – plus	-.077	.143
Family member or friend a keyworker	.059	.146
Adult living alone	-.071	.080
Prior mental health condition	**.147**	**<.001**
High social media consumption	**.103**	**.012**

Note: significant findings in bold

4.7.3 Concerns about job security

Concerns about job security was measured using the item “How worried are you about your job security if the coronavirus (COVID-19) situation worsens?”. Responses were scored on a Likert-type scale from ‘Not at all’ (1) to ‘Extremely’ (5), and are reported in figure 14. This variable was treated continuously for group comparisons. Only significant group comparisons are reported here, details of all other analyses can be provided on request

Figure 44: Concerns about job security



4.7.3.1 Age

As can be seen in table 14, concerns about job security were highest among the 24 – 35 age group, and lowest among the oldest age group (65 years and older). A one-way analysis of variance indicated that these variations by age were significant (F = 10.12, df = 5, 717, p<.001). Post hoc Tukeys tests indicated significant differences between those aged between 24 and 54 years old with those aged 65 years and older, and between those aged 45 – 54 years old and those aged 65 and older. Adults aged 24 – 54 years were significantly more concerned about job security than those aged 65 years and older, as were those aged 45 – 54 years compared with those 65 years and older.

Table 14: Concerns about job security by age

Age	Mean	SD
18 – 24	2.55	1.51
25 – 34	2.66	1.49
35 – 44	2.52	1.41
45 – 54	2.30	1.29
55 – 64	1.83	1.32
65 and older	1.17	0.61

4.7.3.2 Keyworker

Individuals employed in a keyworker role had lower concerns about job security (M = 2.22, SD = 1.36) than those not employed in a keyworker role (M = 2.51, SD = 1.48).

An independent samples t-test indicated that this difference was statistically significant (t = 2.74, df = 600.03, p<.01).

4.7.3.3 Income

As can be seen in table 15, concerns about job security were highest among those who perceived their income was below average, followed by those who perceived their income was average, and lowest among those who perceived their income was above average. A one-way analysis of variance indicated that these variations by income were significant (F = 3.99, df = 2, 717, p<.05). Post hoc Tukeys tests indicated significant differences between those in the below average income groups with those in the above average group.

Table 15: Concerns about job security by income

Income	Mean	SD
Above Average	2.15	1.20
Average	2.38	1.43
Below Average	2.57	1.55

4.7.3.4 Housing type

Concerns about job security were higher among those who did not live in a house (M = 2.58, SD = 1.50) compared to those who lived in a house (M =2.28, SD = 1.39). An independent samples t-test indicated these differences were statistically significant (t =2.68, df = 589.973, p<.05).

4.7.3.5 Social Media consumption

As can be seen in table 16, concerns about job security were highest among those with high social media consumption, followed by those with moderate consumption, and lowest among those with low social media consumption. A one-way analysis of variance indicated that these variations by income were significant (F = 3.24, df = 2, 717, p<.05). Post hoc Tukeys tests were unable to identify specific differences between groups.

Table 16: Concerns about job security by social media consumption

Social Media	Mean	SD
High	2.65	1.54
Moderate	2.52	1.46
Low	2.29	1.40

4.7.3.6 Linear regression of factors associated with concerns about job security

As can be seen in Table 17, when accounting for the influence of all of the characteristics identified above as significantly related to concerns about job security, only age and keyworker employment were significantly associated with concerns about job security. The regression model was significant, and explained 4% of the variation in concerns about job security (F = 3.945, df = 9, 596, p<.001). Individuals in the 55 – 64 years' age group were significantly less concerned than those in the 18 – 24 years age group about their job security, and those employed as keyworkers were significantly less concerned about their job security than those not employed in such a role.

Table 17: Linear regressions for concerns about job security

	r	p
Age: 25 – 34	.022	.735
35 – 44	.006	.928
45 – 54	-.051	.369
55 plus	**-.141**	**.008**
Keyworker	**-.128**	**.002**
Below average income	.082	.148
Average income	.042	.445
High social media consumption	.029	.467
Lives in other (not a house) accommodation	-.048	.249

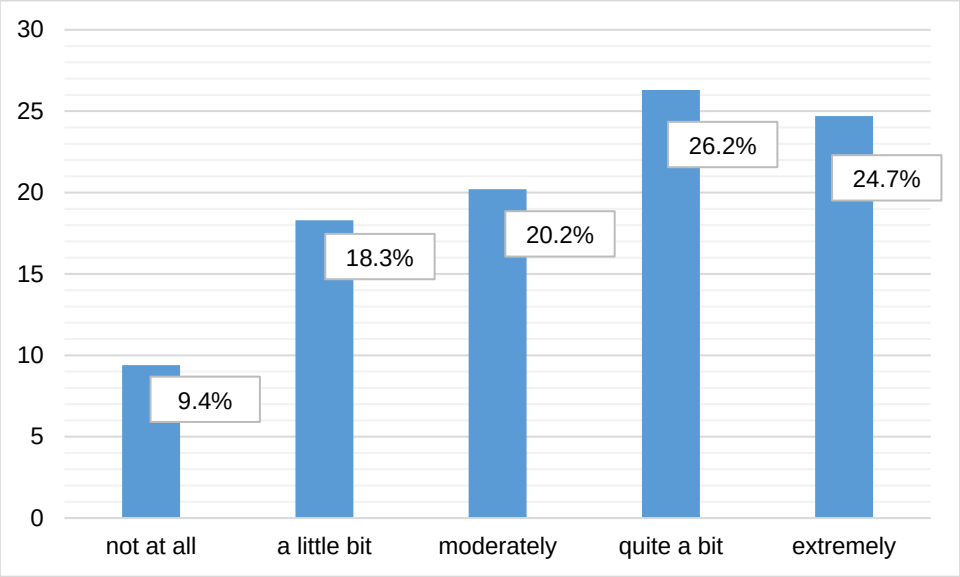
Note: significant findings in bold

4.7.4 Concerns about financial implications

Concerns about the financial implications of COVID-19 was measured using the item "How worried are you about the financial implications of the coronavirus (COVID-19) outbreak?". Responses were scored on a Likert-type scale from 'Not at all' (1) to 'Extremely' (5). Percentages of individuals reporting concerns are reported in figure 15. This variable was treated continuously for group comparisons. Only significant

group comparisons are reported here, details of all other analyses can be provided on request.

Figure 15: Concerns about the finances



4.7.4.1 Age

As can be seen in table 18, concerns about finances were highest among the younger age groups, and lowest among the oldest age group (65 years and older). A one-way analysis of variance indicated that these variations by age were significant (F = 4.58, df = 5, 717, p<.001). Post hoc Tukeys tests indicated significant differences between those aged 18 – 24 years with those in each of the 45 years and older categories, and between those aged 25 – 34 years and those aged 65 years and older.

Table 18: Concerns about finances by age

Age	Mean	SD
18 – 24	3.73	1.15
25 – 34	3.52	1.24
35 – 44	3.38	1.31
45 – 54	3.20	1.22
55 – 64	3.12	1.50
65 and older	2.78	1.42

4.7.4.2 Keyworker

Individuals employed in a keyworker role had lower concerns about finances (M = 3.15, SD = 1.26) than those not employed in a keyworker role (M = 3.53, SD = 1.26).

An independent samples t-test indicated that this difference was statistically significant (t = 3.88, df = 716, p<.001).

4.7.4.3 Income

As can be seen in table 19, concerns about being finances were highest among those who perceived their income was below average, followed by those who perceived their income was average, and lowest among those who perceived their income was above average. A one-way analysis of variance indicated that these variations by income were significant (F = 11.05, df = 2, 717, p<.001). Post hoc Tukeys tests indicated significant differences between those below average income group with those in the average and above average income groups.

Table 19: Concerns about finances by income

Income	Mean	SD
Above Average	3.07	1.34
Average	3.31	1.27
Below Average	3.66	1.25

4.7.4.4 Housing type

Concerns about finances were higher among those who did not live in a house (M = 3.57, SD = 1.24) compared to those who did live in a house (M =3.27, SD = 1.32). An independent samples t-test indicated these differences were statistically significant (t =3.01, df = 716, p<.01).

4.7.4.5 Traditional media consumption

As can be seen in table 20, concerns about finances were highest among those with moderate traditional media consumption, followed by those with high consumption, and lowest among those with low traditional media consumption. A one-way analysis of variance indicated that these variations by income were significant (F = 3.06, df = 2, 717, p<.05). Post hoc Tukeys tests indicated significant differences between those in the low traditional media consumption group and those in the moderate consumption group.

Table 20: Concerns about finances by traditional media consumption

Traditional Media	Mean	SD
High	3.56	1.42
Moderate	3.63	1.20
Low	3.33	1.31

4.7.4.6 Linear regression of factors associated with concern about financial implications

As can be seen in Table 21, when accounting for the influence of all of the characteristics identified above as significantly related to concerns about financial implications, age, keyworker status and perceived income were significantly associated with concerns about financial implications. The model was significant and explained 6% of the variation in concern about financial implications (F= 5.258, df = 9,657, p<.001). Individuals over the age of 45 years were significantly less concerned about financial implications than those aged 18 – 24 years, those employed as keyworkers were significantly less concerned than those not employed as keyworkers, and those who perceived their income to be less than average had significantly more concerns about the financial implications of COVID-19 than those who perceived their income to be above average.

Table 21: Linear regressions for concerns about financial implications

	r	p
Age: 25 – 34	-.046	.439
35 – 44	-.062	.289
45 – 54	**-.110**	**.035**
55 plus	**-.113**	**.021**
Keyworker	**-.143**	**<.001**
Less than average income	**.127**	**.020**
Average income	.049	.347
High traditional media consumption	**.068**	**.075**
Live in other (not a house) accommodation	**-.054**	**.171**

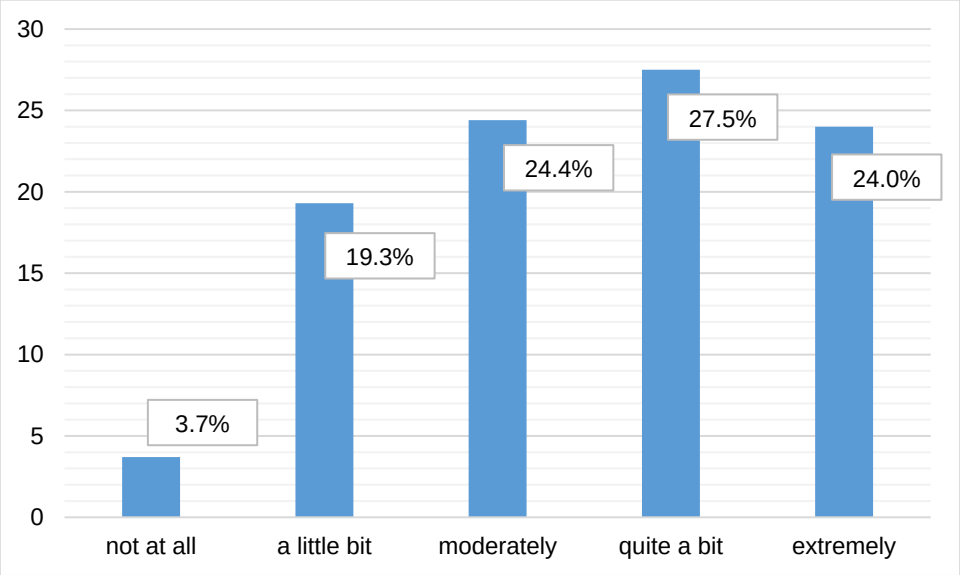
Note: significant findings in bold

4.7.5 Concerns about the UK government's ability to manage

Concerns about the UK Government's ability to manage was measured using the item "How worried are you about the UK Government's ability to manage the coronavirus (COVID-19) situation?". Responses were scored on a Likert-type scale from 'Not at all'

(1) to ‘Extremely’ (5). The percentage of individuals within each of these categories are reported in figure 16. This variable was treated continuously for group comparisons. .Only significant group comparisons are reported here, details of all other analyses can be provided on request

Figure 16: Concerns about the ability of government to manage the COVID-19 situation



4.7.5.1 Gender

Females had higher concerns (*M* = 3.57, *SD* = 1.13) about the ability of the government to cope than males (*M* = 3.24, *SD* = 1.23). An independent samples t-test indicated that this difference was statistically significant (*t* = -3.22, *df* = 286.435, *p*<.001).

4.7.5.2 Income

As can be seen in table 22, concerns about the ability of the Government to cope were highest among those who perceived their income was below average, followed by those who perceived their income was average, and lowest among those who perceived their income was above average. A one-way analysis of variance indicated that these variations by income were significant (*F* = 4.82, *df* = 2, 717, *p*<.01). Post hoc Tukeys tests indicated significant differences between those in below average income groups and those in the above average group.

Table 22: Concerns about ability of government to manage by income

Income	Mean	SD
Above Average	3.25	1.23
Average	3.49	1.13
Below Average	3.63	1.15

4.7.5.2 Children in Household

Concerns about the Government's ability to manage were lower among those with children in the household (*M* = 3.33, *SD* = 1.11) than in households without children (*M* = 3.58, *SD* = 1.18). An independent samples t-test indicated these differences were statistically significant (*t* = 2.69, *df* = 716, *p*<.01).

4.7.5.3 Housing type

Concerns about the ability of the Government to manage were higher among those who did not live in a house (*M* = 3.63, = 1.16) compared to those who did live in a house (*M* = 3.40, *SD* = 1.16). An independent samples t-test indicated these differences were statistically significant (*t* = 2.56, *df* = 716, *p*<.05).

4.7.5.4 Existing mental health condition

Concerns about the ability of the Government to manage the COVID-19 situation were higher among those with an existing mental health condition (*M* = 3.89, *SD* = 1.05) compared to those with no such condition (*M* = 3.32, *SD* = 1.17). An independent samples t-test indicated these differences were statistically significant (*t* =-6.46, *df* = 464.360, *p*<.001).

4.7.5.5 Social media consumption

As can be seen in table 23, concerns about the ability of the Government to cope were highest among those with high social media consumption, followed by those moderate consumption, and lowest among those with low social media consumption. A one-way analysis of variance indicated that these variations by income were significant (*F* = 12.86, *df* = 2, 717, *p*<.001). Post hoc Tukeys tests indicated significant differences between those in the low use group compared to those in both the moderate and high social media use groups.

Table 23: Concerns about ability of Government to manage by social media consumption

Social Media	Mean	SD
High	3.92	1.23
Moderate	3.66	1.12
Low	3.31	1.14

4.7.5.6 Linear regression of factors associated with concerns about the UK Government's ability to manage COVID-19

As can be seen in Table 24 when accounting for the influence of all of the characteristics identified above as significantly related to concerns about UK Government's ability to manage, gender, presence of an existing mental health condition and social media consumption were significantly associated with concerns about infecting others. The regression model was significant and explained 7% of the variation in levels of concern (F = 8.336, df = 7,633, p<.001). Females had higher concerns than males, those with an existing mental health condition had higher concerns than those who did not have such a condition, and those with high social media consumption had higher concerns about the UK Government's ability to manage COVID-19 than those with low social media consumption.

Table 24: Linear regression for concerns about the UK Government's ability to manage

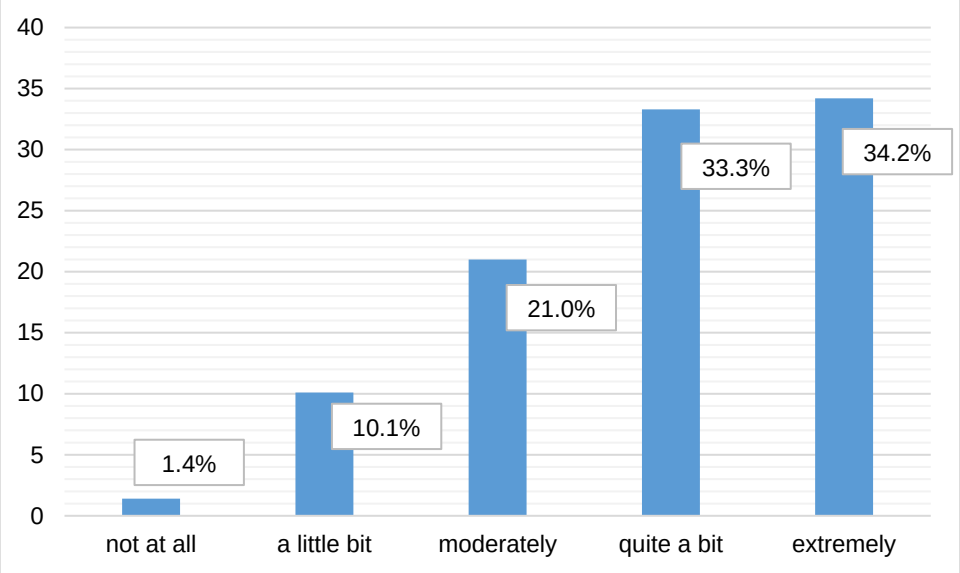
	r	p
Gender: Female	**.104**	**.007**
Income: Below average	.059	.271
Average income	.078	.126
Children in household	-.075	.061
Prior mental health condition	**.177**	**<.001**
High social media consumption	**.122**	**.002**
Live in accommodation other than a house	-.042	.295

Note: significant findings in bold

4.7.6 Concerns about the ability of health systems to care coronavirus (COVID-19) patients' situation worsens

Concerns about the capacity of health systems to cope was measured using the item "How worried are you about the ability of health systems to care for coronavirus (COVID-19) patients if the situation worsens?". Responses were scored on a Likert-type scale from 'Not at all' (1) to 'Extremely' (5). Again here there were high levels of concerns about the ability of health systems to care for COVID-19 patients. Percentage are reported in figure 17. This variable was treated continuously for group comparisons. Only significant group comparisons are reported here, details of all other analyses can be provided on request.

Figure 7: Concerns about the ability of health system to care for COVID-19 patients



4.7.6.2 Gender

Females had higher concerns (M = 3.94, SD = 1.02) about the ability of the health service to cope than males (M = 3.76, SD = 1.07). An independent samples t-test indicated that this difference was statistically significant (t = -2.90, df = 711, p<.05).

4.7.6.3 Existing physical health condition

Concerns about the ability of health services to cope were higher among those with an existing physical health condition (M = 4.14, SD = 0.92) compared to those with no such condition (M =3.83, SD = 1.06). An independent samples t-test indicated these differences were statistically significant (t =-3.70, df = 292.426, p<.001).

4.7.6.4 Existing mental health condition

Concerns about the ability of health services to cope were higher among those with an existing mental health condition (*M* = 4.19, *SD* = 1.91) compared to those with no such condition (*M* =3.77, *SD* = 1.06). An independent samples t-test indicated these differences were statistically significant (*t* =-5.36, *df* = 488.994, *p*<.001).

4.7.6.5 Linear regression of factors associated with concerns about ability of health systems to care for COVID-19 patients

As can be seen in Table 25 when accounting for the influence of all of the characteristics identified above as significantly related to concerns about health systems coping, only the presence of a prior physical or a prior mental health condition were significantly associated with concerns about ability of the health systems to care for patients. The regression model was significant and explained 5% of the variation in concerns (*F*= 13.999, *df* = 3.717, *p*<.001). Individuals with prior physical or mental health conditions had higher concerns than those who did not have such a condition.

Table 25: Linear regression for concerns about the ability of health systems to care for COVID-19 patients

	r	p
Gender: Female	.068	.063
Prior physical health condition	**.175**	**<.001**
Prior mental health condition	**.119**	**.001**

Note: significant findings in bold

Section 3: Discussion & Key Recommendations

5.0 DISCUSSION

The results of this study suggest that during the month following lockdown (23rd March – 24th April 2020), a relatively high proportion of the sample met the criteria for anxiety, depression and PTSD. These rates are substantially higher than what had previously been reported in the UK both before (Mental Health Foundation, 2016) and during the COVID-19 pandemic (Shevlin et al 2020). However, these are comparable to reports emerging across countries in the wake of COVID-19 (Gao, et al, 2020). Several factors make direct comparisons to previous studies difficult, such as the use of different measures of common mental health problems and the period over which respondents are asked to report their symptoms (e.g., lifetime vs. past month). Additionally, the COVID-19 PWS was not designed to be fully representative of the population of Scotland; certain groups including older adults and males were under-represented[5]. Factors such as this may also account for the much higher rates of mental health problems reported in this study. Despite these methodological differences, the level of mental health issues in the current sample is concerning and requires an appropriate response. Almost one third of all participants scored over the clinical threshold for anxiety, a third for depression, and one fifth for PTSD. These prevalence rates of serious mental health conditions are of great concern given the substantial impact that such ill health can have for the individual, their family, and the wider society. Conversely, it is equally important to note that the majority of the sample reported that they are not currently suffering with clinical levels of mental ill health. This suggests a high level of resilience among the Scottish population at the outset of the COVID-19 pandemic in Scotland, and within the first four weeks of lockdown restrictions. As the pandemic progresses it is imperative that we continue to monitor the mental health of the population, and identify how vulnerability and resilience to mental ill health fluctuates.

5.1 Factors significantly associated with anxiety, depression and PTSD

Younger individuals, those with a pre-existing mental health condition, and those with higher concerns about being infected and about the UK Government's ability to manage the COVID-19 situation had a higher likelihood of meeting the criteria for a

[5] For census comparisons - see Armour, McGlinchey, Butter, McAloney-Kocaman & McPherson 2020; (https://psyarxiv.com/9p4tv)

mental health condition. Concerns about infecting others, about financial implications and about the ability of health care systems to care for COVID-19 patients also emerged as significant predictors for some mental health conditions, as did having a pre-existing physical health condition. This identifies key at risk groups who require support in order to mitigate their vulnerability to mental ill health during this time.

5.2 Factors significantly associated with COVID-19 related concerns

A variety of factors influenced different COVID-19 concerns, but consistent across the data were sizeable proportions of the sample concerned about each of the concerns examined. Younger individuals in particular often had higher concerns, as did those with pre-existing health conditions. Media consumption, and income were also significantly associated with higher levels of some COVID-19 concerns.

6.0 RECOMMENDATIONS

Whilst there are several more nuanced findings detailed within this report, overall the most consistent predictors of mental ill health across the sample were the presence of a pre-existing mental health condition, younger age, high concerns about being infected, and high concerns about the ability of the UK Government to manage the COVID-19 situation.

From a **public and policy perspective**, the following recommendations are made:

1) There are specific groups of individuals who appear to have an increased risk of psychological distress during this time. Younger people and those with existing mental health conditions appear to be particularly vulnerable at this time, and in the case of anxiety and depression, this extends to those with an existing physical health condition. Government bodies and other relevant decision-makers should be mindful of these groups when creating and revising COVID-19-related policy in future, implementing this policy, and communicating these changes to the public.
2) Given the impact of COVID-19 media consumption on mental ill health, clear media guidelines on the reporting of COVID-19 information should be drafted

and implemented. These guidelines should be informed by empirical research, clinicians and key stakeholders.

3) Concerns around the financial implications of the pandemic, including job security must be carefully considered by the Government. These concerns may be long-lasting and still remain after schools and businesses reopen and the spread of the virus is brought under control. Young people and those on low incomes reported the highest level of concerns about job security during the pandemic, and it is predicted that these are the groups most likely to be impacted by both job losses and reductions in income at this time.
4) While the findings of the current report only examine mental health outcomes at the early stages of the pandemic, spanning the first four weeks of the lockdown restrictions, these outcomes will be tracked as the COVID-19 situation progresses. As such, based on the outcomes of this and other national studies, a priority at a policy level should be to plan for how a potential increase in the need for mental health support resulting from this pandemic can be managed efficiently and effectively.

Regarding **service provision**, the following recommendations are made:

1) It will be important to improve the outreach of services to those who may have difficulty accessing them, particularly those with existing mental and physical health conditions (e.g., OCD or social phobia), those with concerns about social distancing or infection, individuals who are considered ‘high-risk’ and may be shielding for a prolonged period, and those who may not be able to access services digitally. Academics, clinicians, practitioners and community organisations must work together in order to help bridge the gap for those who are currently unable to access services, both in the short and long-term.
2) Further consideration from both a research and service provider standpoint should be given to fostering positive mental health and wellbeing during the transition out of lockdown, and contingency measures put in place for the re-introduction of lockdown restrictions at both local and national levels in response to the pandemic progression. For many, and in particular those with existing mental health conditions, an established daily routine, contact with significant others, exercise and doing things they enjoy are paramount to

psychological wellbeing. Both academics and service providers need to prioritise ways to support individuals in this regard. A recent report by Holmes and colleagues (2020) suggested research evaluating the effectiveness of interventions or programmes aimed at boosting people's ability to manage distress, such as positive coping, emotional regulation, stress management and resilience community-based activities, would be beneficial in this regard. Alongside, programmes that aim to teach practical life skills, such as exercising safely, cooking skills and other activities that can be done within the limitations of social distancing and lockdown restrictions, need to be assessed for potential implementation.

3) Mental health organisations, particularly those within third sector, will require adequate funding to ensure easily accessible mental health support is available to people when needed, being mindful that this provision may require the resources to deliver virtually.
4) Funding should also be considered to adequately support a mental health workforce, given the potential influx of individuals needing mental health support. A focus on providing a workforce at a Step 2 level (primary care) may alleviate waiting lists for higher intensity mental health services, facilitate early intervention with individuals in crisis, and provide pathways to intervention support for those at the thresholds of referral. This would act to help those whose symptoms may worsen as time progresses and prevent them reaching a point of crisis. This should be implemented alongside workforce capacity building through an uplift in Practitioner Psychologist training.

From a **future research** perspective, the following recommendations are made:

1) More research attention is needed with respect to the vulnerable groups identified in this report; for example, those with existing physical and mental health condition and younger people. Furthermore, as the relationship between certain risk factors (such as infection concern, media consumption) and mental health problems are complex, it is important that future research aims to embrace and investigate this complexity by, not only studying causal links, but also the mechanisms that influence the relationship between risk factors and

mental health problems. For example, the relationships between, social isolation and loneliness, emotional regulation, coping strategies, certain demographic risks such as living alone, and financial and employment concerns.

2) Specific groups of individuals may need specific research attention (e.g. parents, keyworkers) because they may have specific experiences and/or needs. Such research in turn should guide where interventions should best focus their efforts.
3) Relatedly, research should prioritise the evaluation of therapeutic interventions to treat common mental health problems (i.e. anxiety, depression) and their effectiveness when delivered virtually, to ensure those who need access to mental health services can continue to receive the support that they need.
4) Qualitative research may be particularly useful for understanding the unique lived experiences of those vulnerable groups, such as those with a pre-existing mental health condition, keyworkers.
5) The situation is rapidly evolving and individuals are constantly adapting to change and challenges in their lives and routines, moving from normal life, to a series of lockdown restrictions, and then the gradual easing of restrictions. Individuals have had to navigate distancing from significant others, working from home, job losses, and at times inability to grieve in the usual way. It is likely that the lasting effects of this pandemic may not fully manifest for some time to come, and it is likely that there will be fluctuations in relation to key events. For example, a spike in poor mental health following lockdown and an ease in COVID-19 concerns and concerns with time (C19PRC, 2020; Fancourt et al., 2020). It is therefore imperative that longitudinal and prospective research is prioritised in order to map these changes in Scotland.

7.0 STRENGTHS & LIMITATIONS

7.1 Strengths

The current study was designed around key research priorities identified within previous epidemic and pandemic research (e.g. SARS) and the broader literature surrounding the impact of traumatic events. Moreover, this study aligns well with a recent report published, after this study was launched, in the Lancet (Holmes et al., 2020) which identifies priorities for mental health research during the COVID-19

pandemic in the UK. Specifically, (1) monitor and report rates of common mental health problems, (2) investigate whether there are specific at-risk groups who are vulnerable to mental ill health and (3) investigate the effect of repeated pandemic-related media consumption.

The sampling strategy has allowed a rapid recruitment and administration of the survey, resulting in a sample size that allows for a thorough examination of key factors that may be influential in the mental health and well-being of individuals living in Scotland during the COVID-19 pandemic, and the first four weeks of lockdown restrictions. The longitudinal nature of the study will allow for a more nuanced examination of these factors, and of mental health and how they change, as the pandemic progresses, and government policy develops.

7.2 Limitations

Certain groups such as females, younger adults and highly educated individuals were more prevalent in the sample than in the general population of Scotland. The sampling strategy while optimising the capacity to rapidly recruit a sizeable sample, did not facilitate a sample entirely representative of the population of Scotland. As a consequence, these findings should be interpreted in context and applied to the general population with caution.

The results reported only represent how respondents were feeling at a particular point in time. As stated above, the circumstances surrounding this pandemic rapidly evolving and therefore, as individuals try to adapt to these changes, it is likely that there will be fluctuations in their wellbeing over time. Therefore, ongoing monitoring through longitudinal research as the situation unfolds across Scotland is necessary.

In addition, the analyses presented here are not do not fully able to account for bi-directional relationships between variables, nor should the analyses presented here be interpreted as evidence of causal relationships. For example, while increased media consumption is associated with higher levels of anxiety; this may reflect individuals' anxiety increasing as a function of greater media consumption, or indeed greater media consumption by individuals with a predisposition, or existing anxiety condition.

8.0 CONCLUSIONS

It is hoped that this report can be used as a locally focused resource in Scotland, to be used by the general public, policy makers and funders of key services, to highlight areas where key resources may need to be allocated or refined. From a research perspective this report has generated data for academic and theoretical debate and adds to the now growing evidence base of research examining mental ill health during this pandemic. Ongoing monitoring of these mental health outcomes over the course of the pandemic will provide an extended knowledge base for decision makers to utilise when planning for an appropriate mental health response.

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