



## **COVID-Fear and Life Satisfaction**

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Rapid Report



Economic  
and Social  
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**STIRLING**



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## **EXECUTIVE SUMMARY**

The COVID-19 Pandemic was associated with a significant reduction in life satisfaction. This rapid report describes the evolution of life satisfaction before and during the pandemic. It tracks the sharp decline in life satisfaction which coincided with the beginning of the pandemic and considers how far these relate to concerns and worries expressed by respondents to the HAGIS Covid-Fear survey. Allowing for differences between modal responses and observables that vary with life satisfaction, the analysis shows that financial worries and constraints on movement and human interaction are strongly negatively related to individual life satisfaction.

## **KEY FINDINGS**

1. There was an unprecedented short-run decline in life satisfaction during the pandemic.
2. Estimates of life satisfaction vary substantially across the different modes and surveys used to construct the HAGIS Covid-Fear dataset
3. They also vary by observables such as age, gender and location
4. Measures of fear and worry associated with the pandemic are negatively associated with life satisfaction
5. Correcting for observables and survey mode reveals strong associations between life satisfaction and concerns about financial resilience. Less strong are concerns associated with both the security and wellbeing of friends and family.
6. The same methodology applied to pandemic-related worries reveals that self-isolation, movement restrictions and access to GP Services and the NHS have a strongly negative association with life satisfaction.

## COVID-Fear and Life Satisfaction

The HAGIS Covid-Fear Survey asked several questions relating to wellbeing and mental health. These included the life satisfaction question most commonly found in household surveys - “on a scale from 0 (not at all) to 10 (extremely), how satisfied are you with your life nowadays?” Although there are slight variations in the wording and length of the response scale, many regularities in responses to this question have been observed through time and across space – for example, the U-shaped relationship between life satisfaction and age (Blanchflower and Oswald 2008<sup>1</sup>).

This rapid report compares the results from HAGIS Covid-Fear with those found in other surveys that include the same life satisfaction instrument and were conducted before and during the pandemic. We also investigate how responses to the life satisfaction question varied by survey mode – online, telephone, postal etc. and by source – HAGIS, Generation Scotland and DJS. Finally, due to the wealth of questions relating to pandemic-related concerns and worries that were collected in the HAGIS Covid-Fear survey, we investigate associations between life satisfaction and these pandemic-related concerns and worries.

### 1. Life satisfaction in Other Surveys

#### Annual Population Survey

The Annual Population Survey has asked the same well-being question as was included in our Covid Fear survey since 2012. Although it is an annual survey, it is possible to construct a monthly indicator of the average life satisfaction score from APS data. Figure 1 shows the evolution of mean well-being from 2012 to 2021 for those aged 50+ in Scotland and the UK as a whole drawn from the APS. The scores for Scotland and the UK as a whole are broadly in line with Scotland having slightly higher mean scores in the early part of the period and then broadly the same as those in the rest of the UK from around 2016. The 2021 data should be treated with care because the sample size is relatively small.

After a gradual increase in life satisfaction from 2012 to 2016, it levels out averaging around 7.6 in 2018. The lockdown at the beginning of 2020 coincides with a dramatic fall in how satisfied individuals are with their lives. In both Scotland and the UK its value fell to 7.2. This decline implies a very significant change reduction in life satisfaction, which is typically characterised by inertia. There was some recovery during the latter part of 2020 followed by a During 2021, it appears that well-being scores in Scotland were below those in the UK as a whole: after some recovery, there was some further decline in Scotland. There was some recovery as lockdown eased, but that was reversed at the beginning of 2021, particularly in Scotland. This reversal is partly explained by the reimposition of restrictions towards the end of 2021. The Blavatnik School at the University of Oxford has monitored the management of the pandemic across the world, producing a daily index of the stringency of restrictions. This is shown in Figure 2 for 2020 and 2021 for both Scotland and England. Increasing restrictiveness from the beginning of 2020 is followed by a relaxation and then a re-imposition towards the end of that year and running into 2021. This reintroduction of constraints on normal life may explain the second downturn in life satisfaction that is evident at the end of 2021 in Figure 1.

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<sup>1</sup> Blanchflower, D.G. and Oswald, A.J., 2008. Is well-being U-shaped over the life cycle?. *Social science & medicine*, 66(8), pp.1733-1749.

Figure 1: Mean Well-Being in Scotland on the UK from the Annual Population Survey

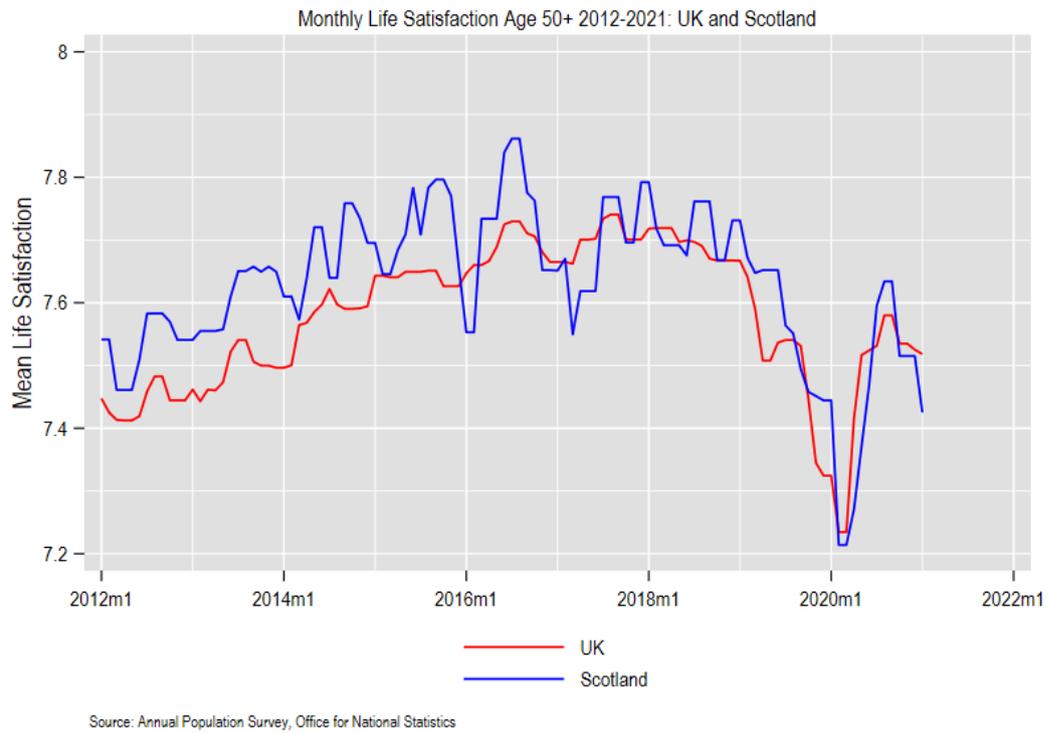
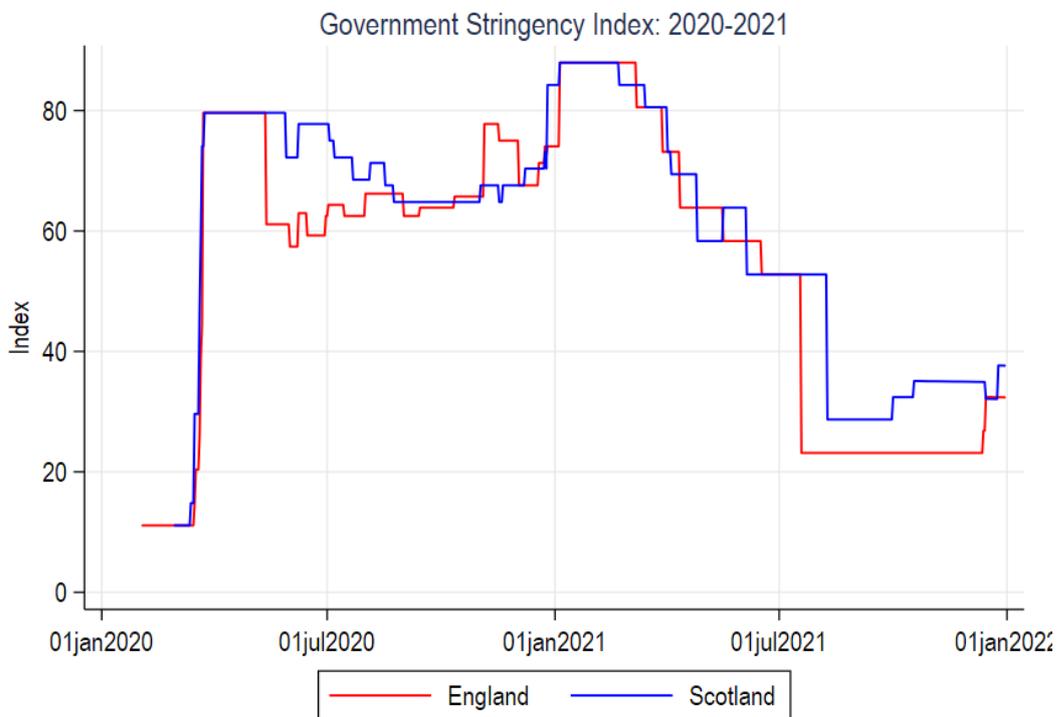


Figure 2: Blavatnik Index of Stringency of Government-imposed COVID-related restrictions.

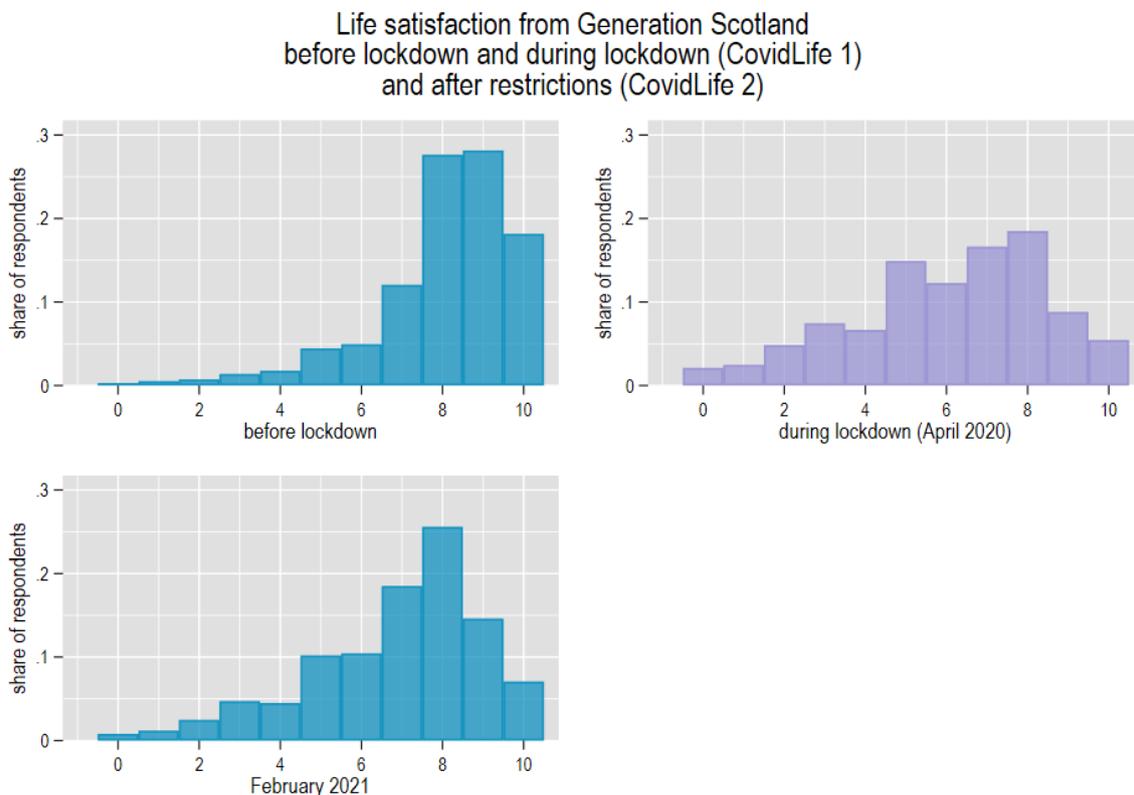


## Generation Scotland

Another survey that measured life satisfaction around this time Generation Scotland, a well-established study of Scottish families based at the University of Edinburgh. Respondents reside almost exclusively in Scotland. They are not representative of Scotland as a whole due to the relatively high numbers of older people, the well-educated and those located in the Lothians or Tayside. Generation Scotland was funded to conduct two “Covid-life” surveys during the pandemic. In the first of these, the life satisfaction question was asked twice, first asking respondents to save what they felt their life satisfaction was “before the pandemic” and then what it was “nowadays”. The first wave was conducted in April and May 2020 (during lockdown), while the second was conducted in February 2021, still a time of considerable restriction. From the usual 0 to 10 life satisfaction scale, mean scores for Generation Scotland respondents aged over 50 were 8.1 prior to the pandemic, 6.0 during lockdown and 6.9 in February 2021. These scores are more variable more than those from the APS but follow the same pattern of a sharp dip following lockdown and then a partial recovery after restrictions were initially eased.

Figure 3 shows the distribution of scores for the three life satisfaction questions asked in the course of the two Generation Scotland Covid-Life surveys. The change in the distribution of responses between the “before lockdown” and the “during lockdown” results is evident with a substantial shift from the upper tail of the distribution to the centre as individuals become substantially less satisfied with the restrictions and concerns associated with lockdown.

**Figure3: Well-Being Distribution from Generation Scotland Waves One and Two**



Source: Generation Scotland

The third panel, which relates to CovidLife 2, and was sampled in February 2021, shows some return towards the upper tail of the distribution, though not to the levels reported pre-pandemic. Though Generation Scotland is limited to Scotland, the pattern of responses from the over 50s to the life satisfaction question is consistent with the changes evident from the time series responses to the life satisfaction question from the APS for the same age group both in Scotland and the UK. It is worth noting that the Blavatnik stringency index shows relatively little difference between Scotland and England during the second half of 2020 and all of 2021, so differences in life satisfaction between Scotland and the UK as a whole over this period are unlikely to be rooted in the strength of the measures that were employed on the populace by the respective governments.

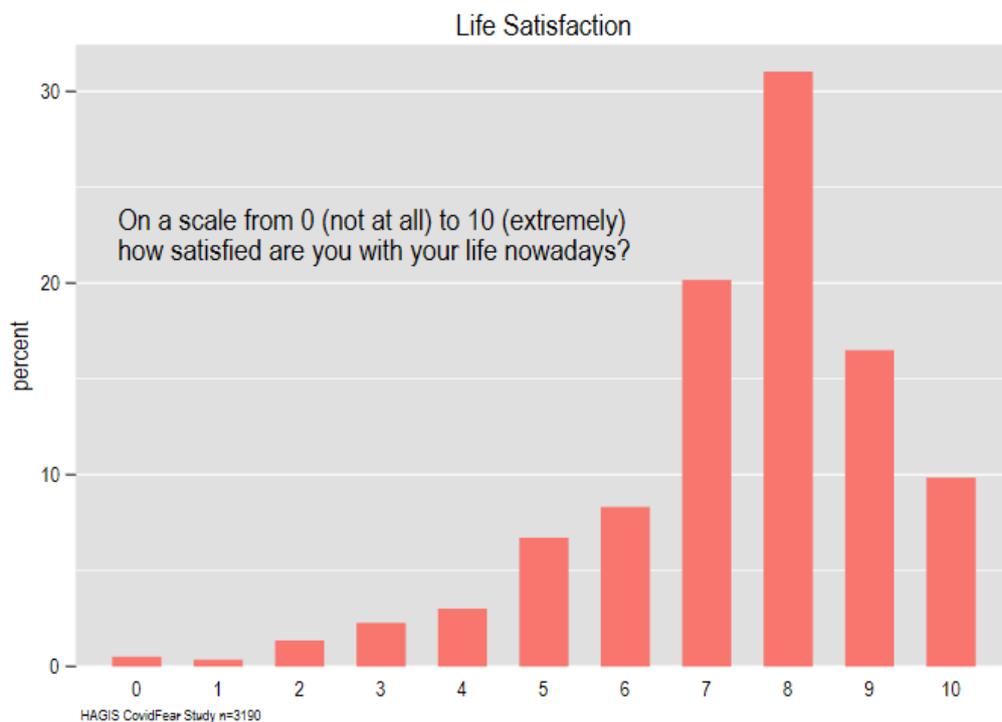
### HAGIS Covid-Fear

The HAGIS COVID-Fear fieldwork took place between October 2021 and January 2022, after the completion of CovidLife 2. The distribution of responses to the life satisfaction question from HAGIS COVID-Fear is shown in Figure 3. The modal response is 8 as in the Generation Scotland CovidLife 2 survey. However this differed substantially from the Generation Scotland CovidLife 1 distribution during lockdown which had a much more substantial left-hand tail. The mean score was 7.4, an increase of 0.5 between February 2021 and the time of the HAGIS COVID-Fear fieldwork at the end of 2021. This is consistent with some recovery towards pre-pandemic levels of life satisfaction during 2021 as vaccines became available and the restrictions gradually reduced as is evident from Figure 2.

The distribution of responses to the life satisfaction question in Figure 3 conceals substantial differences between the different survey collection modes used to assemble the HAGIS COVID-Fear data. The Generation Scotland

Figure 4 shows the distribution of life satisfaction results for the Generation Scotland (online and postal); the DJS online sample and the three modes of HAGIS data collection - online, postal and telephone. Figure 5 shows the corresponding means for these data collection methods.

**Figure 3: Distribution of Life Satisfaction from HAGIS Covid Fear**

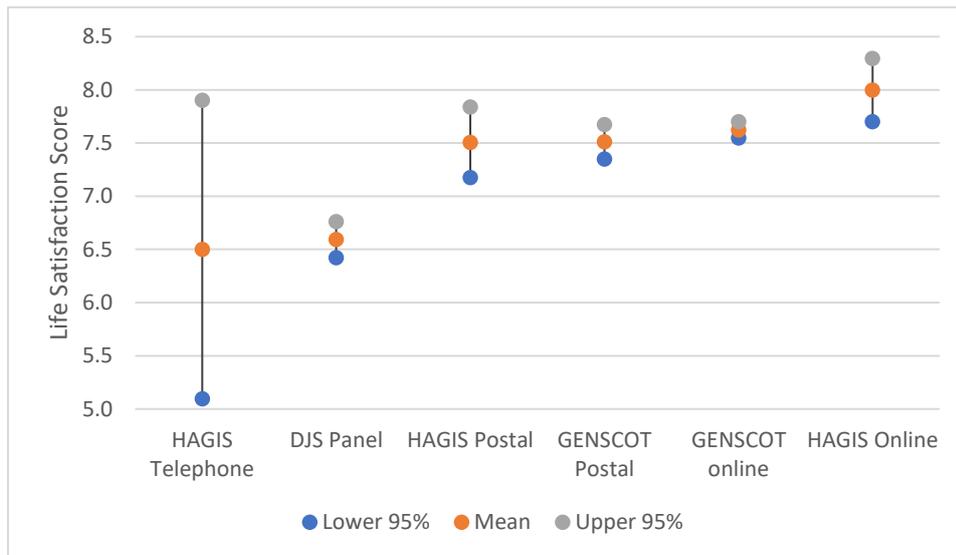


**Figure 4: Distribution of Life Satisfaction by Survey Mode**



Figure 5 shows the corresponding means and confidence intervals for the different data collection methods. There is a substantial range between the HAGIS-online mode with a life satisfaction average score of 8 and HAGIS-telephone (small sample – large confidence interval) with a much smaller mean score of 6.5. These differences reflect differences in the characteristics of those approached using the different modalities and on their willingness to engage with the survey. Some of these will be due to observable characteristics correlated with selection into the study and then with the willingness of potential respondents to engage with the modes offered. For example, older people may be less willing to engage with online questionnaires. Other participation decisions will be due to unobservables, such as individuals' availability to complete the survey within the set timetable.

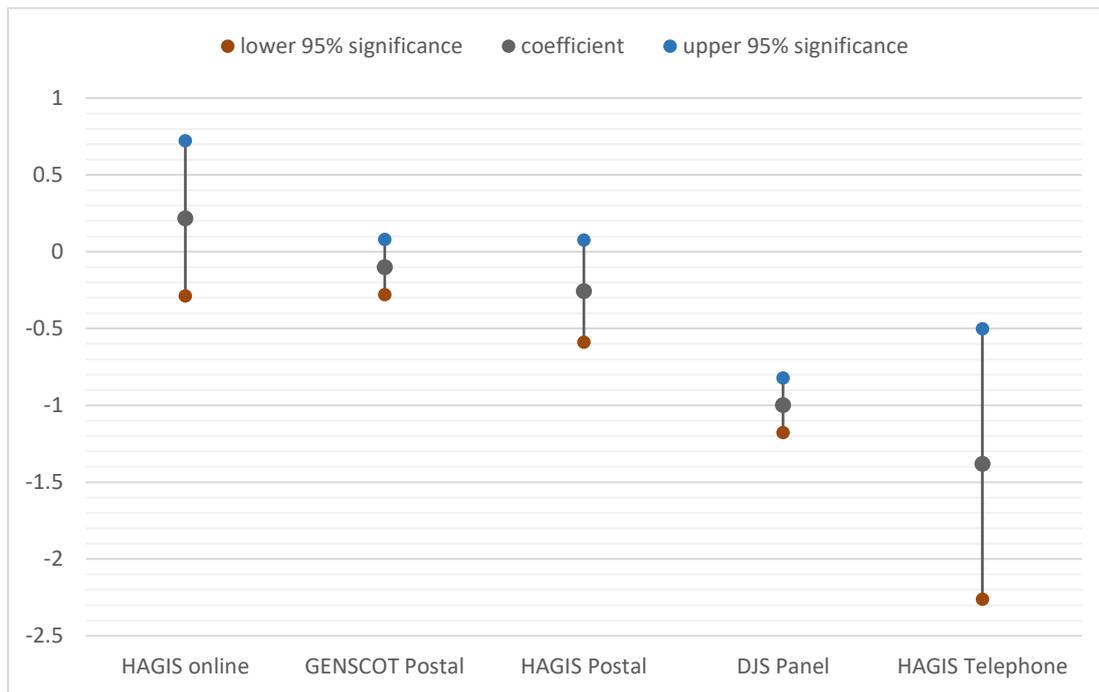
**Figure 5: Mean life satisfaction by survey and mode**



It is obviously only possible to correct for observables. One way to determine whether unobservables play a role is to compare the means by survey and mode after correcting for some of the variables included in the dataset. This can be achieved by regressing life satisfaction on a group of observables and dummies for the different surveys. Comparisons of the coefficients on the dummies provides a measure of whether there remains significant mode effects, conditional on the observables. Figure 6 shows the outcome of such an exercise where age, gender and health board make up the set of observables. A case can be made for a more extensive set, but these serve to illustrate the approach.

The bars in Figure 6 show the difference between each mode and survey used to construct the dataset and the excluded category, which is GENSCOT online. Since a value of zero is within their respective confidence intervals, mean life satisfaction in HAGIS online, GENSCOT postal and HAGIS postal are statistically indistinguishable from GENSCOT online after taking account of the observables. It is only the DJS panel and HAGIS telephone where the coefficients differ significantly from zero, suggesting that mean life satisfaction in these surveys is significantly less than that observed in GENSCOT online, even after conditioning on age, gender and health board.

**Figure 6: Difference in mean life satisfaction (conditional) from GENSCOT online by survey and mode**



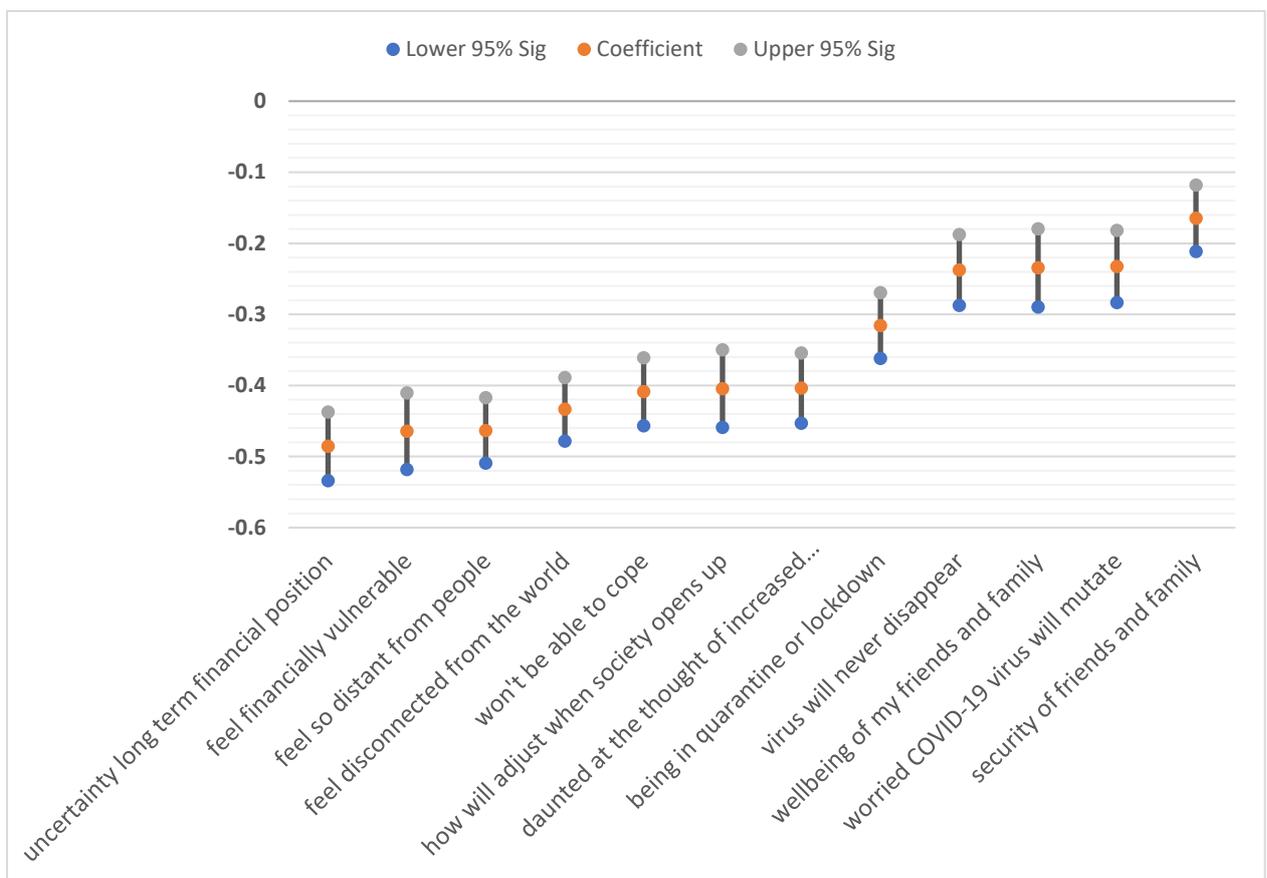
Armed with this understanding of the importance of recognising possible modality differences between surveys, we next consider what COVID related fears and concerns were influencing individual life satisfaction when the HAGIS COVID-Fear survey was being carried out. The unprecedented fall in life satisfaction shown in Figure 1 during 2020 and 2021 was clearly associated with fears and concerns relating to the pandemic. The questions included in HAGIS-Covid Fear survey help identify which concerns associated with the pandemic were most closely associated with declines in life satisfaction. Since these instruments all use the same scale, it is possible to make valid comparisons. Thus, for example, for the “Covid worries” questions such as whether respondents are concerned about social distancing, the possible responses are drawn from a five-point scale: not at all worried (1), slightly worried (2), moderately worried (3), very worried (4) and extremely worried (5). For the “Covid fear” instruments such as “The pandemic has caused me to feel disconnected from the world around me”, possible responses are: strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4) and strongly agree (5). The relevant worries and fears questions are listed in Appendix 1.

From the earlier discussion, life satisfaction clearly varies both with observable and unobservable effects unrelated to the pandemic. Estimates of the associations between life satisfaction and variables relating to the pandemic are conditional on those variables unrelated to its evolution. To assess the relative sizes of the pandemic-related effects, we therefore ran a set of regressions of life satisfaction on the same set of observables (age, gender and health board). We also included a set of dummies to capture survey and mode effects. We also included one of the measures of Covid fear or worry in each equation to calibrate the size of the association between it and respondents’ life satisfaction. The resultant coefficients on the fear and worry variables are ranked by size and shown in Figures 7 and 8 respectively.

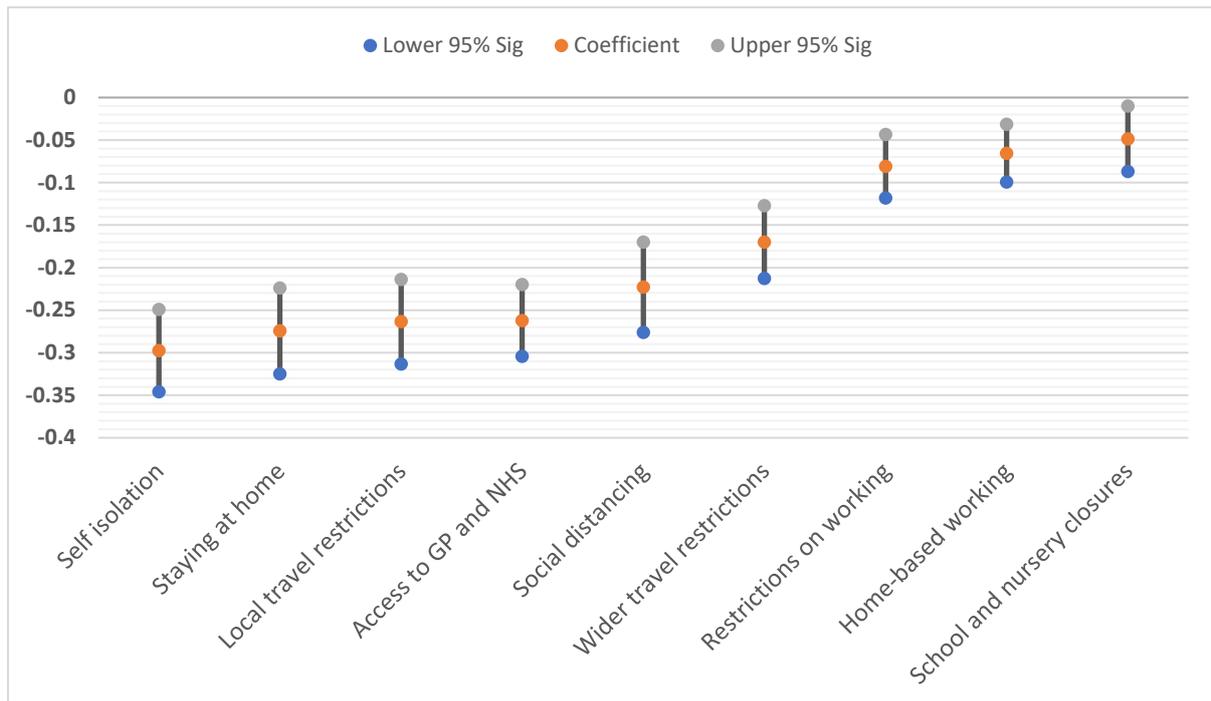
The coefficients are all negative and significant, implying that stronger agreement with negative statements about Covid fears or worries is associated with lower life satisfaction. In relation to Covid fears, the most negative effects, (around -0.5 on the 10-point scale) are associated with financial concerns with effects directly associated with lockdown such as concerns about the return to normality and worries about coming back into contact with people were also strongly negative. Perhaps surprisingly, concerns about friends and family were not so strongly associated with declines in life satisfaction, as were uncertainties about the future evolution of the virus.

Among the worries (Figure 8), having to self-isolate and being stuck at home were associated with the largest reductions of in life satisfaction (around -0.3 points on the 10-point scale). Access to services such as GPs and travel restrictions were also important, while the effects of working from home and the lack of access to school and nurseries were less important.

**Figure 7: Association between measures of Covid fear and life satisfaction**



**Figure 8: Association between measures of Covid worries and life satisfaction**



## Conclusion

This paper has examined the evolution of life satisfaction in Scotland before and during the pandemic. It showed that there was a significant decline in life satisfaction around the time of the pandemic, evident in both the Annual Population Survey and Generation Scotland. The downturns broadly coincided with the strength of restrictions, as measured by the Blavatnik index. Life satisfaction varies by both observable and unobservable characteristics. Some of the unobservables are likely related to the different surveys (drawn from different populations) and modes (online, postal, telephone) used to construct the HAGIS Covid-Fear dataset.

The reduction in life satisfaction during the pandemic was associated with the consequent disruptions to normal life. HAGIS COVID-Fear asked a number of questions relating to individuals' pandemic related worries and fears. Analyses of the responses suggests that financial uncertainty and restrictions on normal individual interactions were most strongly associated with the decline in life satisfaction.

## APPENDIX 1 Covid fears and worries questions

### Covid Fears

I worry that I won't be able to cope if COVID-19 restrictions are reintroduced
I am worried about being in quarantine or lockdown for a long time
The pandemic has caused me to feel disconnected from the world around me
Since the start of the pandemic I feel so distant from people
I am concerned about how I will adjust when society fully opens up after the pandemic
I am daunted at the thought of increased socialising
I am worried that the COVID-19 virus will mutate into a deadlier strain
I am worried that the COVID-19 virus will never disappear from the population
I feel financially vulnerable due to the pandemic
To what extent do you agree with the following statements?
I feel uncertainty around my longer term financial position
Since the start of the pandemic, I worry more about the wellbeing of my friends and family
Since the start of the pandemic, I worry more about the security of my friends and family

### Covid Worries

During the pandemic (from March 2020 until now), have you been worried about:
social distancing
self-isolation
staying at home as much as possible
travel restrictions in your local area
wider travel restrictions
restrictions on who can work
home-based working
access to GP and NHS services
school and nursery closures

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