

## Google Search Modification

Large pre-existing peaks in search volumes had the potential to smooth and obscure important data after the COVID-19 pandemic and therefore searches of individual words were modified to remove such peaks (note that Google Trends allows search string modification for individual words but not phrases such as “how to commit suicide”). Trend data was therefore examined visually to identify such peaks and then terms were used to subtract them from the data. When a peak was identified, the search was narrowed to the duration of the peak and the most common related searches during that time were examined (they are provided by Google Trends). Words related to those searches but not usually related to the concept being searched were identified and subtracted from the overall search. This procedure was repeated until the peak was removed from the 5 year search. For example, for “suicide”, there were large peaks in search volumes in July 2015 and July/August 2016 which, when the most common searches for those periods were examined, clearly related to the marketing and release of the film “Suicide Squad”, in January 2018 related to Youtube celebrity Logan Paul posting video of people who had died by suicide in Japan, and in June 2018 related to the suicides of Kate Spade and Anthony Bourdain. Accordingly the search of “suicide” was modified to "suicide -squad -logan -spade -bourdain" which eliminated those peaks. For sadness, the 2015 film “Inside Out” and searches for Halloween costumes that fall were subtracted as follows: “sadness -disney -costume”. For “hopeless” in the US, peaks in searches for “hopeless fountain kingdom leak” and “we fell in love in a hopeless place” in spring 2017 were subtracted as follows: “hopeless -kingdom -lyrics”. For worldwide, “hopeless” was modified to “hopeless -kingdom -lyrics -saint -romantic” for peak searches of the film “para sa hopeless romantic” in early 2015 and “patron saint” in May 2018. “Hope” was modified to subtract peak searches for soccer star Hope Solo in 2015 and the

White House aide Hope Hicks in 2018 as follows: “hope -hicks -solo”. The word “survival” was adapted for to “survival -evolved -rules” to subtract 2015 peaks for the video game “ARK: Survival Evolved” and a 2018 peak for the computer game “Rules of Survival”. Note that although these modifications help to exclude potentially irrelevant searches from our analysis, they do not change the fact that many searches for the terms studied here may be unrelated to the suicidality, mental health and/or resilience of individual Google users who may be searching terms for any number of other reasons. Likewise, our study used English language terms which may fail to capture important information from the many non-English speaking countries worldwide. We also cannot rule out that other major public events we did not identify as large peaks could have influenced the results of the study. Finally, note that there is no consensus for which specific words are best used in a study of this kind. The list used here included several basic terms in addition to several specific terms used in previous studies of Google trends. However, we cannot rule out that the use of other terms/synonyms could have yielded different results.

Table S1: Worldwide change in Google searches following COVID-19 pandemic.

<b>Search terms</b>	<b>Rate Ratio (95% CI)</b>	<b>Expected (per week)</b>	<b>Observed (per week)</b>	<b>Difference</b>
Suicide*	0.88 (0.78 to 0.99)	56.6	49.6	-7.0
Suicide methods	0.61 (0.41 to 0.91)	29.4	18.0	-11.4
How to commit suicide	0.98 (0.49 to 1.99)	7.3	7.2	-0.1
How to kill yourself	0.84 (0.69 to 1.02)	48.6	40.8	-7.8
Sadness*	1.22 (1.13 to 1.32)	53.7	65.6	11.9
Depression	0.97 (0.92 to 1.03)	91.3	88.8	-2.5
Anxiety	0.92 (0.88 to 0.97)	84.2	77.6	-6.6
Hopeless*	0.87 (0.78 to 0.98)	71.7	62.6	-9.1
Survival*	1.45 (1.37 to 1.53)	63.2	91.6	28.4
How to survive	1.34 (1.11 to 1.62)	22.7	30.4	7.7
Resilience	1.17 (1.08 to 1.27)	63.4	74.4	11.0
Hope*	1.05 (1.00 to 1.10)	82.3	86.2	3.9

\*Note that these search terms included adjustment to remove large pre-existing peaks that might have skewed the data.

Table S2: US change in Google searches following COVID-19 pandemic

<b>Search terms</b>	<b>Rate Ratio (95% CI)</b>	<b>Expected (per week)</b>	<b>Observed (per week)</b>	<b>Difference</b>
Suicide*	0.83 (0.72 to 0.96)	48.3	40.2	-8.1
Suicide methods	0.64 (0.43 to 0.94)	31.6	20.2	-11.4
How to commit suicide	0.89 (0.61 to 1.29)	30.6	27.2	-3.4
How to kill yourself	0.97 (0.81 to 1.17)	47.7	46.4	-1.3
Sadness*	1.13 (1.01 to 1.27)	45.7	51.6	5.9
Depression	1.03 (0.95 to 1.12)	87.2	90.2	3.0
Anxiety	0.94 (0.89 to 0.98)	97.7	91.4	-6.3
Hopeless*	1.06 (0.96 to 1.17)	71.6	75.6	4.0
Survival*	1.47 (1.38 to 1.56)	60.8	89.2	28.4
How to survive	1.45 (1.24 to 1.70)	22.6	32.8	10.2
Resilience	1.01 (0.89 to 1.13)	82.7	83.2	0.5
Hope*	1.06 (1.02 to 1.11)	82.0	87.2	5.2

\*Note that these search terms included adjustment to remove large pre-existing peaks that might have skewed the data.