

Electronic Supplementary Material 1

Table E1: The difference in crisis conversations between 2019 and 2020. Overall from March 13, 2020, to July 20, 2020, 715,907 crisis conversations were exchanged in the US. In comparison, in 2019, for the same time period, 526,108 crisis conversations were exchanged. The largest increases in crisis tags were for Stress/Anxiety (35.3%), Bereavement (32.3%), and Isolation (32%). Surprisingly text volume for suicidal (4.2%) and bullying (-7.1%) exhibited a general decline or non-significant increases than other crisis tags during the pandemic period (Figure 1). All crisis tags were significantly different ($\alpha = 0.05$). In fact, the number of new CTL users peaked in March of 2020 for stress and anxiety ($n=12372$), a 55% increase from new users seeking help for stress and anxiety in March of 2019 ($n=6872$).

Crisis Tags	2020	2019	% Increase
Substance Abuse	8160	5832	28.5%*
Depressed	120569	103010	14.6%*
Suicidal thoughts	75358	72220	4.2%*
Self-harm	40300	29813	26.0%*
Stress/anxiety	127571	82515	35.3%*
Relationship Issue	117861	97719	17.1%*
Bereavement	15716	10634	32.3%*
Bully	6509	6973	-7.1%**

Isolated	77831	52928	32.0%*
Eating	12278	8061	34.3%*
Abuse	23800	16802	29.4%*
LGBTQ	5900	4757	19.4%*
3 rd party	10872	8487	21.9%*
Other	23511	18246	22.4%*
Prank	1765	1120	36.5%*
Testing	4840	3560	26.4%*
COVID-19	40122	0	100.0%*
Mandatory report	236	116	50.8%*
Active Rescue	2708	3315	-22.4%*

*<0.01

**<0.05

Table E2: Jaccard Similarity Index of each risk tag was used to visualize the co-occurrence (i.e., the extent of overlap) of mental health concerns (Gower and Legendre 1986). The Jaccard coefficient is the fraction of the number of times two binary variables appear together divided by the total number of occurrences of both and are summarized below. Prominent Jaccard Indices (JI) include feelings of depression with isolation (JI: 0.398), relationship issues (JI: 0.427), stress and anxiety (JI: 0.433), and suicidal thoughts (JI: 0.422). It is also worthwhile to note that feelings of isolation had high co-occurrence with relationship issues (JI: 0.377), self-harm (JI: 0.233), stress and anxiety (JI: 0.335), and suicidal thoughts (JI: 0.33)

	Abuse	Active Rescue	Bereavement	Bully	Depressed	Imminent Risk	Isolated	LGBTQ	Relationship	Self Harm	Stress and Anxiety	Substance
Active Rescue	0.034											
Bereavement	0.081	0.027										
Bully	0.113	0.036	0.067									
Depressed	0.145	0.021	0.092	0.088								
Imminent Risk	0.084	0.118	0.064	0.082	0.067							
Isolated	0.152	0.026	0.101	0.106	0.398	0.080						
LGBTQ	0.072	0.027	0.045	0.082	0.062	0.064	0.073					
Relationship	0.163	0.020	0.087	0.091	0.427	0.065	0.377	0.070				
Self Harm	0.152	0.038	0.085	0.107	0.258	0.104	0.233	0.084	0.228			
Stress and Anxiety	0.147	0.019	0.080	0.085	0.433	0.059	0.335	0.066	0.402	0.236		
Substance	0.063	0.054	0.051	0.036	0.044	0.069	0.050	0.038	0.043	0.059	0.043	
Suicidal thoughts	0.161	0.035	0.092	0.105	0.422	0.118	0.330	0.075	0.339	0.301	0.326	0.053

Table E3: Results show the Relative Risk (RR) and 95% Confidence Interval for each mental health concern for the ‘stay at home’ compared to the ‘reopening’ phase of the pandemic.

	Stress & Anxiety		Depression		Self-harm		Suicidal Thoughts		Substance Abuse	
	RR	<i>p</i> -value	RR	<i>p</i> -value	RR	<i>p</i> -value	RR	<i>p</i> -value	RR	<i>p</i> -value
	(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)	
<i>Stay-at-home</i>	1.01	0.29	0.98	<.008	1.1	<.0001	1.06	<.0001	1.07	0.2
	(0.99, 1.03)		(0.96, 0.99)		(1.06, 1.14)		(1.03, 1.09)		(0.97, 1.17)	
<i>Reopening</i>	1	(ref)	1	(ref)	1	(ref)	1	(ref)	1	(ref)

Stay-at-home period: March 13 to May 13, 2020, Reopening period: May 14 to July 20, 2020

Table E3:continued.

	Bereavement		Isolation		Bullying		Abuse		Relationships	
	RR	<i>p</i> -value	RR	<i>p</i> -value	RR	<i>p</i> -value	RR	<i>p</i> -value	RR	<i>p</i> -value
	(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)	
<i>Stay-at-home</i>	0.8	<.0001	0.93	<.0001	0.95	0.28	1.06	0.04	1.1	<.0001
	(0.74, 0.85)		(0.91, 0.95)		(0.86, 1.04)		(1.00, 1.11)		(1.06, 1.14)	
<i>Reopening</i>	1	(ref)	1	(ref)	1	(ref)	1	(ref)	1	(ref)

Stay-at-home period: March 13 to May 13, 2020, Reopening period: May 14 to July 20, 2020

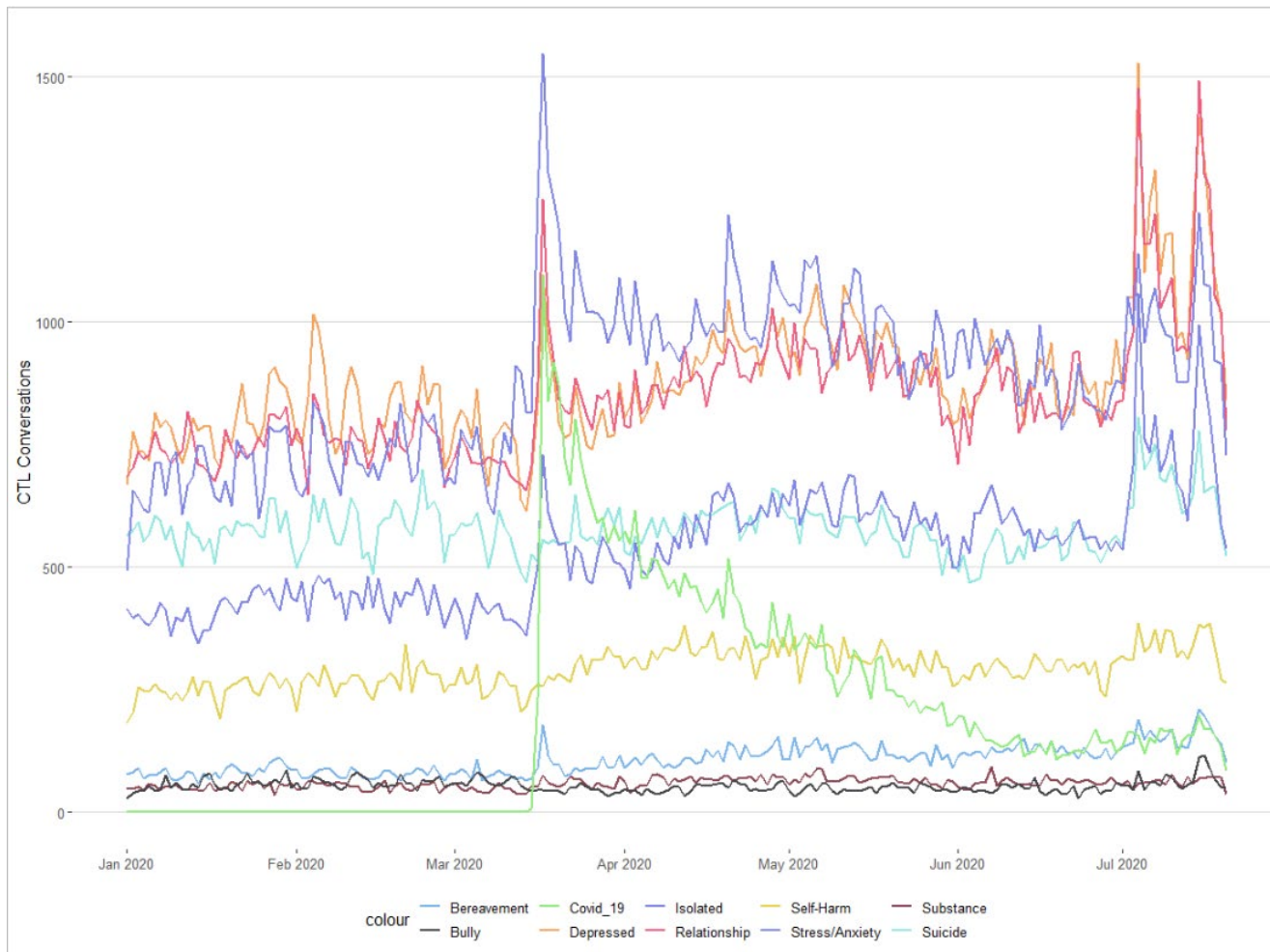


Figure E1: Time-series of Crisis Tags from January 1, 2020, to July 20, 2020