

Qualitative Analysis of Visual Risk Communication on Twitter during the Covid-19 Pandemic

Joanna Sleigh, Julia Amann, Manuel Schneider, Effy Vayena

Additional file 1

Table S1. Summary of Tweet Locations

Countries	Total
United States of America	268
India	108
United Kingdom	64
Switzerland	32
Philippines	27
China	21
(Unknown)	11
South Korea	10
Nigeria	8
Malaysia	7
Ireland	6
Russia	6
Australia	6
Thailand	5
South Africa	4
New Zealand	4
Canada	4
Qatar	4
France	3
Japan	2
Singapore	2
Germany	1
Jordan	1
Uganda	1
Italy	1
Belgium	1
Rwanda	1
Indonesia	1
Saudi Arabia	1
United Arab Emirates	1
Norway	1
Kenya	1
Maldives	1
Israel	1
Republic of Congo	1

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Table S2.A Spread per Stakeholder / Source

	Health or Gov	Media	Other	Individual	Private Sector
count	101	169	24	316	6
mean	1.29%	1.59%	8.12%	10.02%	0.55%
std	2.76%	5.83%	8.05%	37.06%	0.59%

Table S2.B Spread per Graphic Type

	Composite	Diagram	Graph	Illustrations	Model	Photograph	Symbol
count	78	21	28	139	16	397	316
mean	2.96%	7.56%	2.04%	3.37%	3.28%	7.46%	2.93%
std	7.69%	13.91%	5.06%	9.83%	8.39%	33.01%	11.8%

Table S2.C Spread per Covid-19 Action

	Avoid touching face	Dab to sneeze	Get medical help	Social Distancing	Other	Wash hands	Wear Masks	Stay Home
count	29	48	55	237	104	150	245	246
mean	2.59%	1.35%	3.78%	4.41%	4.02%	4.09%	2.99%	9.44%
std	7.3%	3.28%	12.37%	22.87%	11.47%	24.17%	16.05%	37.36%

Table S2.D Spread per Covid-19 Focus

	Detection	Impact	Other	Prevention	Treatment
count	145	170	7	616	45
mean	2.96%	8.89%	4.16%	6.11%	7.63%
std	9.17%	38.96%	6.84%	27.09%	38.69%

Table S2.E Spread per Message Framing

	Health Gain	Health Loss	Non Applicable
count	200	260	187
mean	6.62%	3.29%	9.16%
std	28.32%	8.06%	38.41%

Table S2.F Spread per Message Tone

	Entertainment	Criticism	Gratitude
count	68	202	40
mean	5.81%	8.26%	13.56%
std	20.83%	23.83%	67.49%

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Table S3.A Graphic types communicated individually

What	Total	Percent
Composite	2	0.80%
Diagram	5	1.90%
Graph	17	6.50%
Illustrations	29	11.10%
Models	2	0.80%
Photograph	181	69.30%
Symbol	25	9.60%

Table S3.B Graphic types combined

What	Total	Percent
Zero graphic types	16	2.60%
One graphic type	261	42.40%
two graphic types	296	48.10%
three graphic types	32	5.20%
four graphic types	10	1.60%
five graphic types	1	0.20%

Table S3.C Normed edges of combined graphic types

From	To	Weight
Diagram: process, flow of results...	Composite Graphics (multiple-images)	0.01511879
Graph: show quantitative relationships	Composite Graphics (multiple-images)	0.00647948
Graph: show quantitative relationships	Diagram: process, flow of results...	0.00215983
Illustrations or rendered pictures	Composite Graphics (multiple-images)	0.06479482
Illustrations or rendered pictures	Diagram: process, flow of results...	0.01511879
Illustrations or rendered pictures	Graph: show quantitative relationships	0.00215983
Models (such as 3d)	Composite Graphics (multiple-images)	0.01727862
Models (such as 3d)	Diagram: process, flow of results...	0
Models (such as 3d)	Graph: show quantitative relationships	0
Models (such as 3d)	Illustrations or rendered pictures	0.01943844
Photograph	Composite Graphics (multiple-images)	0.08855292
Photograph	Diagram: process, flow of results...	0.00647948
Photograph	Graph: show quantitative relationships	0.00215983
Photograph	Illustrations or rendered pictures	0.01511879
Photograph	Models (such as 3d)	0.00647948
Symbol: pictographic or abstract	Composite Graphics (multiple-images)	0.06911447
Symbol: pictographic or abstract	Diagram: process, flow of results...	0.02807775
Symbol: pictographic or abstract	Graph: show quantitative relationships	0.01511879
Symbol: pictographic or abstract	Illustrations or rendered pictures	0.21814255
Symbol: pictographic or abstract	Models (such as 3d)	0.02591793
Symbol: pictographic or abstract	Photograph	0.38228942

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Table S4.A Covid-19 topics communicated individually, aside from prevention

What	Total
Detection	45
Impact	170
Other	0
Treatment	2
None	341

Table S4.B Covid-19 topics combined

What	Total
One topic	341
Two topics	205
Three topics	48
Four topics	22

Table S5.A Covid-19 measures communicated individually

Intent	Sum	Total
Wear a mask	113	33.00%
Avoid touching	1	0.30%
sneezing	3	0.90%
Wash hands	30	8.80%
Social distance	37	10.80%
Stay home	145	42.40%
Get medical help	9	2.60%
Other	4	1.20%

Table S5.B Overall frequency of Covid-19 measures

What	Total
Wear a mask	245
Avoid touching	29
sneezing	48
Wash hands	150
Social distance	237
Stay home	246
Get medical help	55
Other	104

Table S5.C Covid-19 measures combined

Number combined	Total	Percent
one	342	55.50%
two	139	22.60%
three	74	12.00%
four	42	6.80%

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five	12	1.90%
six	5	0.80%
seven	2	0.30%

Table S5.D Normed edges of combined Covid-19 measures

From	To	Weight
Cover mouth & nose when sneezing	Avoid touching mouth and eyes	0.02
Get medical help w. symptoms (call - don't go in)	Avoid touching mouth and eyes	0.01294118
Get medical help w. symptoms (call - don't go in)	Cover mouth & nose when sneezing	0.00823529
Keep distance	Avoid touching mouth and eyes	0.02941176
Keep distance	Cover mouth & nose when sneezing	0.04588235
Keep distance	Get medical help w. symptoms (call - don't go in)	0.02941176
Other	Avoid touching mouth and eyes	0.01647059
Other	Cover mouth & nose when sneezing	0.04
Other	Get medical help w. symptoms (call - don't go in)	0.02470588
Other	Keep distance	0.07058824
Wash hands	Avoid touching mouth and eyes	0.03176471
Wash hands	Cover mouth & nose when sneezing	0.05294118
Wash hands	Get medical help w. symptoms (call - don't go in)	0.01882353
Wash hands	Keep distance	0.11176471
Wash hands	Other	0.06235294
Wear a mask	Avoid touching mouth and eyes	0.00470588
Wear a mask	Cover mouth & nose when sneezing	0.00352941
Wear a mask	Get medical help w. symptoms (call - don't go in)	0.01411765
Wear a mask	Keep distance	0.10588235
Wear a mask	Other	0.03294118
Wear a mask	Wash hands	0.05529412
Work from home	Avoid touching mouth and eyes	0.00705882
Work from home	Cover mouth & nose when sneezing	0.00823529
Work from home	Get medical help w. symptoms (call - don't go in)	0.01882353
Work from home	Keep distance	0.08235294
Work from home	Other	0.02588235
Work from home	Wash hands	0.02941176
Work from home	Wear a mask	0.03647059

Table S6.A Number of tweets with framing

Framing	Total	Percent
Health Gain	169	27.40%
Health Loss	229	37%
Both Gain & Loss	31	5%
Neither	187	30.60%

Table S6.B Framing used from January until October 2020

Month	Only Health Gain	Only Health Loss	Both Gain & Loss	Neither	Total
Jan	20	36	7	27	90
Feb	11	15	3	19	48

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Mar	29	29	4	41	103
Apr	18	20	4	12	54
May	18	10	0	8	36
Jun	16	9	0	6	31
Jul	12	34	4	24	74
Aug	19	46	3	37	105
Sep	19	5	5	7	36
Oct	6	25	1	7	39

Table S7.A Different tones present in the Tweets

What	Total	Percent
Combination	9	1.50%
Criticism	198	32.10%
Entertainment	62	10.10%
Gratitude	32	5.20%
None	315	51.10%

Table S7.B Tones from January until October 2020

Month	Combination	Criticism	Entertainment	Gratitude	None	Total
Jan	2	2	8	6	72	90
Feb	1	7	4	3	33	48
Mar	2	11	11	7	72	103
Apr	0	5	9	4	36	54
May	3	9	8	4	12	36
Jun	0	11	1	2	17	31
Jul	1	32	9	2	30	74
Aug	0	87	4	1	13	105
Sep	0	12	4	2	18	36
Oct	0	22	5	0	12	39

Table S8. Stakeholder presence from January until October 2020

Month	Health / Gov	Individual	Media	Other	Private Sector	Total
Jan	37	17	36	0	0	90
Feb	13	15	19	1	0	48
Mar	17	53	28	3	2	103
Apr	5	26	18	1	4	54
May	4	20	11	1	0	36
Jun	6	21	4	0	0	31
Jul	7	46	21	0	0	74
Aug	4	68	15	18	0	105
Sep	5	22	9	0	0	36
Oct	3	28	8	0	0	39