

Characterization of Centers for Disease Control and Prevention Communications via Social Media Regarding the COVID-19 Pandemic and Effects on Public Engagement and Response

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Background

- It is critical for public health organizations and medical providers to provide timely information amid emerging scientific issues and public health crises.
- Many organizations use social media to communicate with a broad audience.
- Objective was to characterize how the Centers for Disease Control (CDC) communicated via social media about the COVID-19 pandemic and how the public responded to these communications.

Methods

- Performed a content analysis of 470 CDC Facebook posts regarding COVID-19 from January 2020 to July 2020.
- Performed a content analysis of posts to identify major themes.
- Linear regressions were used to establish relationship between CDC communication methods and public engagement and responses.
- Characterized the methods and language and analyzed how the methods relate to engagement of posts (number of reactions, shares, and comments) and responses to post (positive, neutral, or negative in nature).

Results

Figure 1: Characterization of CDC communication methods.

Category		Number of posts receiving this code	Percentage (out of 426 posts used for analysis)
Topic ^a	Science of the virus	26	6.1
	Transmission	230	54.0
	Medical	44	10.3
	Risk	70	16.43
	COVID and pets	16	3.8
	Effects of quarantine	36	8.5
	Info for professionals	53	12.4
	Other	102	23.9
Medium ^a	None (beyond text)	246	57.7
	Videos	70	16.4
	Infographics	110	25.8
Purpose ^a	Information	189	44.4
	Recommendations	155	36.4
	Directives	160	37.6
Advice offered ^a	None	102	23.9
	Travel recommendation	23	5.4
	Personal behaviors	215	50.5
	Masking	107	25.1
	Caregiving	30	7.0
	Other	99	23.2
Tone ^a	Certain	281	66.0
	Uncertain	145	34.0
Evidence offered ^a	None	308	72.3
	Outbreak data	80	18.8
	Use of expert testimony	37	8.7

^aEach post received at least one code for each independent variable (topic, medium, purpose, advice, tone, evidence). Posts could receive multiple codes for topic, purpose, and advice, but only one code for medium, tone, and evidence. Thus, the percentages for topic, purpose, and advice add to more than 100%.

Figure 2: The number of reactions towards COVID-19 by medium.

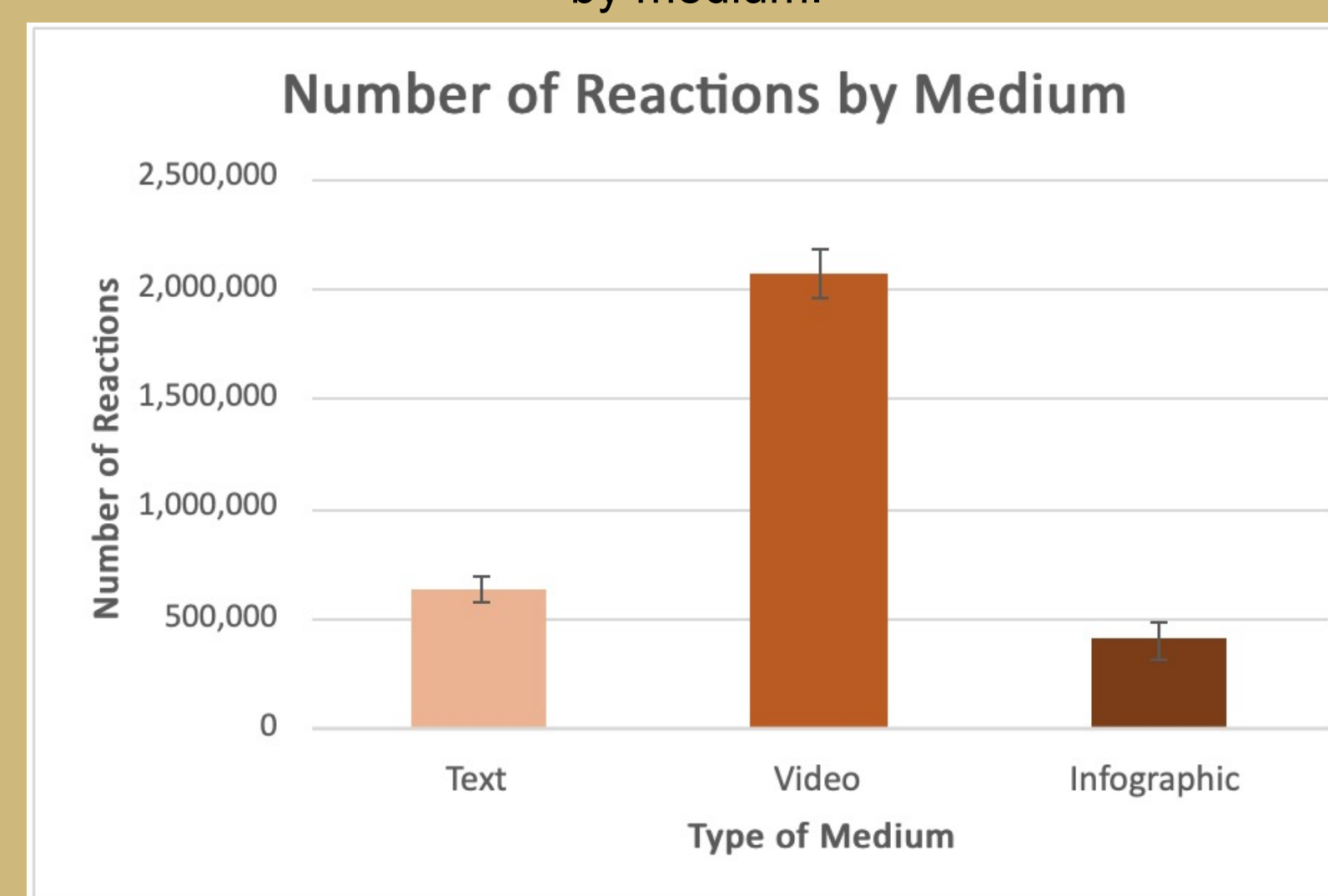
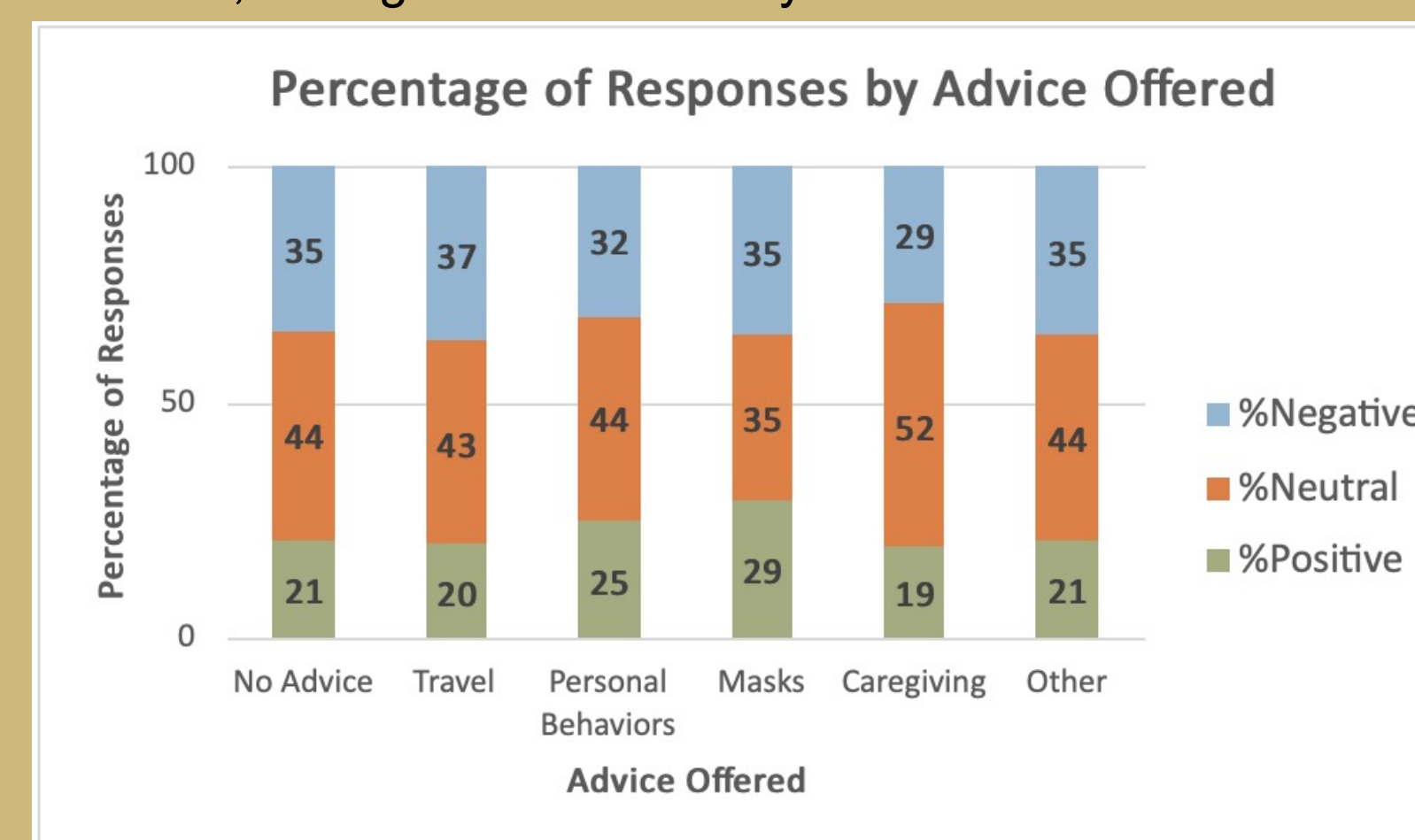


Figure 3: The percentage of responses that were positive, neutral, or negative in nature by COVID-19 advice offered.



Discussion

- Videos seem to be a useful tool to present information on diverse health topics.
- Advice on masks was correlated with less neutral and more positive, while negative responses remained more consistent compared to other forms of advice.
- We did not find an influence of certain versus uncertain language on post engagement or responses. The CDC used certain tones 66% of the time and uncertain tones 34% of the time.

Conclusion

- Videos increase engagement with posts.
- Subtle strategies may increase acceptance of recommendations for controversial advice like masking.
- These analyses and recommendations will be useful in continued communication regarding COVID-19 as well as for future emerging infectious diseases.

References

- Kowitz SD, Schmidt AM, Hannan A, Goldstein AO. Awareness and trust of the FDA and CDC: Results from a national sample of US adults and adolescents. *PLoS One*. 2017;12(5).
- Reynolds B, W. Seeger M. Crisis and emergency risk communication as an integrative model. *Journal of Health Communication*. 2005;10(1):43-55.