

Audience Response to Health and Risk Message Strategies Used in YouTube Videos Concerning Climate Change

Richard Amoako, George Mason University

What We Know

Climate Change is harming biodiversity and human health

Public engagement through effective communication can help mitigate the climate crisis

Videos are effective



Why YouTube Videos

- Enhance cognition, understanding, and recall of messages
- Calls for attention and increase engagement with messages
- Evoke emotional responses
- Images are worth a thousand words; how about videos?
- YouTube videos are cost-effective, easy to publish, reach varying audiences



What We DON'T Know

What message strategies are employed in YouTube videos concerning climate change?

What is the relationship between these message strategies and viewer responses?



The Study

- Examines 40 YouTube videos to explore message strategies employed in CC messages
- **Message Strategies:**
Loss/gain framing, health framing, emotional appeals

How?

- Content analysis
- 40 YouTube videos published by international organizations, NGOs, individuals, etc.
- Purposive/snowballing

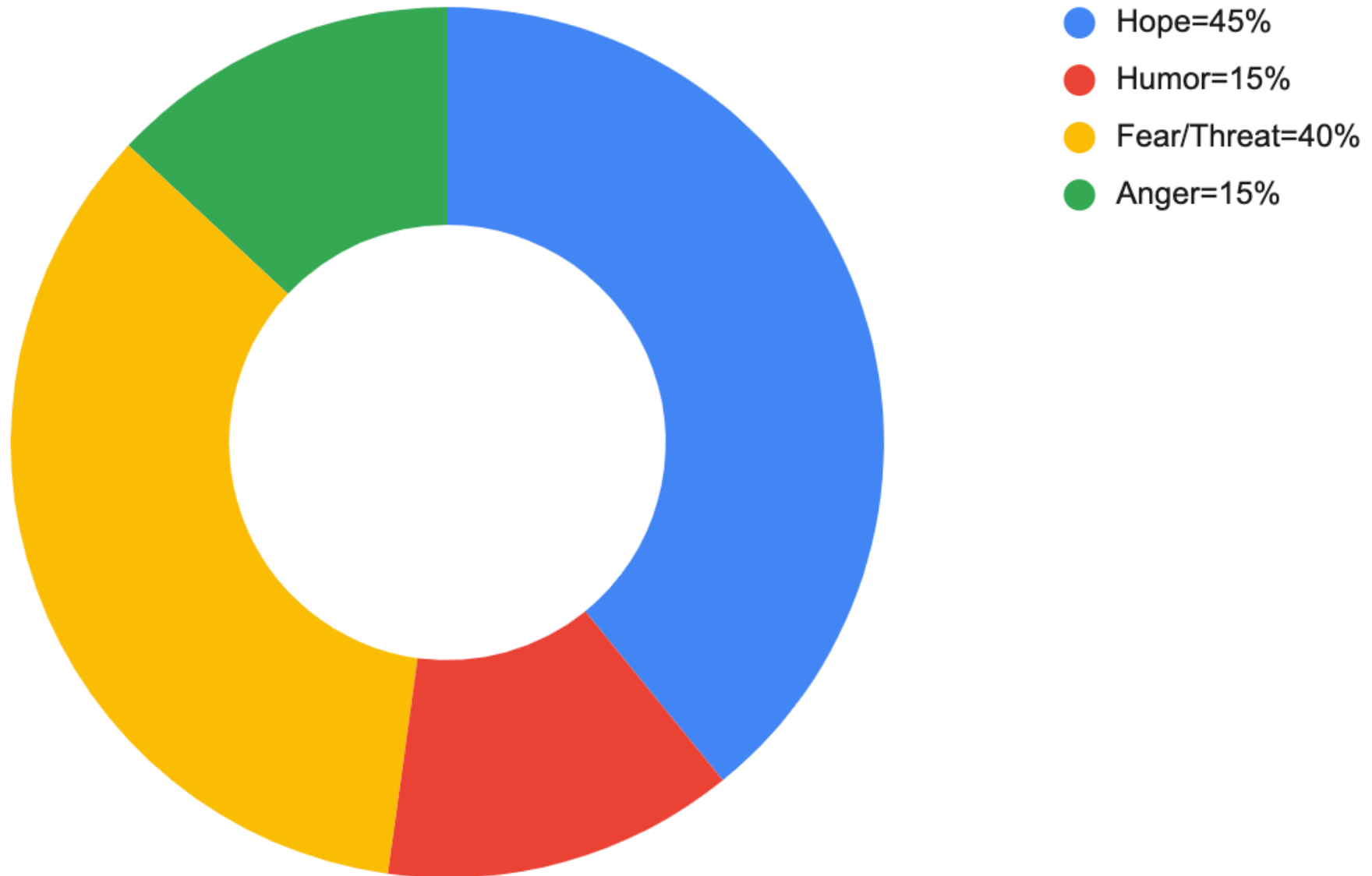
ANALYSIS AND RESULTS

RQ1: To what extent do YouTube videos about climate change utilize message strategies such as gain-loss framing, health framing, and emotional appeals to elicit audience responses?

Table 1: Descriptive Statistics for message strategies

Message Strategy	Frequency	Percentage (%)
Gain-Loss Framing	17	42.5
Gain Framing	9	22.5
Loss Framing	11	27.5
Health Framing	8	20
Emotional Appeals	25	65
Hope	18	45
Humor	6	15
Fear/Threat	16	40
Anger	6	15

Figure 1: Kinds of emotional appeals found in the YouTube videos



RQ2: How is gain-loss framing associated with viewer responses in terms of number of; (a) likes (b) comments (c) supportive or dismissive comments

Results show no significant relationship.

Correlation Matrix

		Views	Likes	Comments	Gain_Loss_Framing	Gain_Framing	Loss_Framing
Views	Pearson's r	—					
	p-value	—					
	N	—					
Likes	Pearson's r	0.755 ^{***}	—				
	p-value	< .001	—				
	N	37	—				
Comments	Pearson's r	0.755 ^{***}	0.959 ^{***}	—			
	p-value	< .001	< .001	—			
	N	40	37	—			
Gain_Loss_Framing	Pearson's r	-0.161	-0.164	-0.107	—		
	p-value	0.320	0.332	0.509	—		
	N	40	37	40	—		
Gain_Framing	Pearson's r	-0.046	-0.119	-0.017	0.506 ^{***}	—	-0.064
	p-value	0.779	0.484	0.916	< .001	—	0.696
	N	40	37	40	40	—	40
Loss_Framing	Pearson's r	-0.095	-0.122	-0.149	0.716 ^{***}	-0.064	—
	p-value	0.561	0.474	0.358	< .001	0.696	—
	N	40	37	40	40	40	—

Note. * p < .05, ** p < .01, *** p < .001

Table 2: Correlation Matrix table reporting p-values for gain-loss framing and viewer responses

RQ3: How is health framing associated with viewer responses in terms of number of; (a) likes (b) comments (c) supportive or dismissive comments

Results show no significant relationship.

Table 3: Correlation Matrix table reporting p-values for health framing and viewer responses

Correlation Matrix

		Views	Likes	Comments	Health_Framing
Views	Pearson's r	—			
	p-value	—			
	N	—			
Likes	Pearson's r	0.755 ^{***}	—		
	p-value	< .001	—		
	N	37	—		
Comments	Pearson's r	0.755 ^{***}	0.959 ^{***}	—	
	p-value	< .001	< .001	—	
	N	40	37	—	
Health_Framing	Pearson's r	0.216	-0.045	-0.023	—
	p-value	0.180	0.790	0.888	—
	N	40	37	40	—

Note. * p < .05, ** p < .01, *** p < .001

RQ4: How is emotional associated with viewer responses in terms of number of; (a) likes (b) comments (c) supportive or dismissive comments

Results show no significant relationship; except for humor with comments

Table 4: Correlation Matrix table reporting p-values for emotional appeals and viewer responses

Correlation Matrix		Views	Likes	Comments	Emotional_Appeals	Positive_Hope	Humor	Negative_Fear_Threat	Anger
Views	Pearson's r	—							
	p-value	—							
	N	—							
Likes	Pearson's r	0.755 ^{***}	—						
	p-value	< .001	—						
	N	37	—						
Comments	Pearson's r	0.755 ^{***}	0.959 ^{***}	—					
	p-value	< .001	< .001	—					
	N	40	37	—					
Emotional_Appeals	Pearson's r	-0.201	-0.021	0.038	—				
	p-value	0.213	0.903	0.814	—				
	N	40	37	40	—				
Positive_Hope	Pearson's r	0.010	0.115	0.166	0.348 [*]	—			
	p-value	0.953	0.496	0.306	0.028	—			
	N	40	37	40	40	—			
Humor	Pearson's r	0.143	0.362 [*]	0.445 ^{**}	0.308	0.324 [*]	—		
	p-value	0.378	0.028	0.004	0.053	0.042	—		
	N	40	37	40	40	40	—		
Negative_Fear_Threat	Pearson's r	-0.207	-0.221	-0.220	0.599 ^{***}	0.082	-0.200	—	
	p-value	0.201	0.189	0.172	< .001	0.615	0.216	—	
	N	40	37	40	40	40	40	—	
Anger	Pearson's r	-0.212	-0.139	-0.133	0.308	0.042	-0.176	0.229	—
	p-value	0.189	0.412	0.414	0.053	0.796	0.276	0.156	—
	N	40	37	40	40	40	40	40	—

Note. * p < .05, ** p < .01, *** p < .001

Therefore...?

- Health appeals are not widely used in climate change videos
- Utilize various message appeals and strategies to elicit viewer
- Video producers ought to be strategic, rather than being intuitive

What Next?

- Large sample size, more robust statistical power
- Experimental Study with controlled variables
- Collective action, Efficacy, normative appeals
- Measure viewer responses via commenting features

Thank You!

Richard Amoako
ramoako@gmu.edu



Scan to connect with me on LinkedIn