

# How Do Visuals Convey Distant Suffering? A Content Analysis of the Visual Strategies on Disaster Aid Organizations' Social Media

Sun Young Lee, Ph.D., Jungkyu Rhys Lim, & Duli Shi, University of Maryland

## Background

Natural disasters strike around the world. In response, disaster aid organizations, such as The International Committee of the Red Cross (ICRC), UNICEF, and Americares, regularly convey disaster-related messages containing visuals via social media to engage the world audience and generate public support. Although disaster-stricken areas often require years of reconstruction efforts to become fully functioning again, media coverage is often transient, and the public's attention does not last long. Thus, how disaster aid organizations can effectively use visuals in their social media messages is of great importance, but the topic has been little explored.

The present study focuses on disaster aid organizations' visual strategies. The dominance of visuals over texts has been well-documented in the literature, especially when a message relates to human survival, called *motivationally relevant information*. Visuals play a crucial role in social media, as not only do they often occupy more space than do texts, they also capture the public's attention when they quickly scroll through social media feeds.

## Research Questions

RQ1: How do disaster aid organizations use visuals on social media?

RQ2: What kinds of visuals are correlated with higher rates of public response, when controlling for the number of the accounts' followers?

## Methods

- Content analysis of the tweets issued by 42 disaster aid organizations from July 1, 2018, to June 30, 2019, capturing a full one-year period.
- Content preparation: Twitter API and manual downloading in some cases; disaster-related keywords (e.g., earthquake, storm, flood, tsunami, tornado, cyclone, etc.).
- A total of 1,018 tweets were extracted to be coded → 810 qualified
- Codebook
  - Based on the four levels of visual framing (Rodriguez & Dimitrova, 2011) and the literature.
    - Denotative: Who/what is depicted
    - Stylistic: Stylistic or technical aspects
    - Connotative: Signs and symbols attached to persons and objects
    - Ideological: Coherent interpretation of the rationale behind photographs
  - Variables: visual frames, victims' characteristics, camera position and angle, an organization's visibility, public responses (i.e., number of likes, retweets, and replies).



## Results

Visual framing	n	%
Victims in need or distress	389	48.02
Disaster aid efforts	203	25.06
Disaster impacts	81	10.00
Disaster preparation efforts	43	5.31
Victims recovered	39	4.81

Org visibility	n	%
None	551	68.02
Target org only	210	25.93
Target & partner orgs	26	3.21
Partner org only	23	2.84

Other Subjects	n	%
No other subject	526	64.94
Volunteers/ field workers	221	27.28
Professionals	30	3.70
Political figures	10	1.23

Camera position	n	%
Close-up	107	13.21
Medium shot	610	75.31
Long shot	93	11.48

Camera angle	n	%
Looking down	91	11.23
Looking straight	682	84.20
Looking up	37	4.57

Victims' characteristics	n	%
Adult	286	67.61
Kid/child	162	38.30
Baby	96	22.70
Elderly	28	6.62

Family	n	%
No family	273	64.54
Family	135	31.91

Facial expression	n	%
Neutral	233	55.08
Positive + Low intensity	81	19.15
Positive + High intensity	37	8.75
Negative + Low intensity	34	8.04
Negative + High intensity	1	0.24

		Like		Retweet		Reply	
		Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Visual framing	Victims in need or distress	<b>-0.36</b>	0.02	<b>-0.10</b>	0.03	<b>-0.24</b>	0.11
	Victims recovered	<b>-0.25</b>	0.02	<b>-0.35</b>	0.04	<b>-0.60</b>	0.16
	Disaster preparation efforts	<b>-0.38</b>	0.03	<b>-0.30</b>	0.04	-0.34	0.18
	Pragmatic frame: Disaster effects	<b>-0.16</b>	0.02	<b>0.32</b>	0.02	<b>0.36</b>	0.11
Camera shot	Medium shot	<b>-0.14</b>	0.01	<b>-0.04</b>	0.02	<b>-0.62</b>	0.07
	Long shot	<b>0.24</b>	0.02	<b>0.41</b>	0.03	<b>-0.45</b>	0.12
Camera angle	Straight	<b>-0.47</b>	0.01	<b>-0.52</b>	0.02	<b>-0.27</b>	0.09
	Looking up	<b>-0.77</b>	0.03	<b>-0.90</b>	0.05	-0.30	0.18
Visual pattern	Individual (1 person)	<b>0.17</b>	0.02	<b>0.07</b>	0.03	-0.11	0.11
	A small group of 2-3	<b>0.21</b>	0.02	<b>0.09</b>	0.03	0.07	0.11
	A medium group of 4-8	<b>0.30</b>	0.03	<b>0.13</b>	0.04	0.17	0.16
	A focused individual(s)	<b>0.38</b>	0.02	<b>0.40</b>	0.04	<b>1.29</b>	0.12
	A large group of 9 or more	<b>-0.18</b>	0.03	<b>-0.33</b>	0.05	0.17	0.18
	Other	<b>-0.36</b>	0.02	<b>-0.46</b>	0.04	<b>-0.92</b>	0.19
Organizational visibility	Target only	<b>-0.07</b>	0.01	<b>-0.18</b>	0.02	<b>-0.17</b>	0.08
	Partner only	<b>-0.15</b>	0.04	<b>-0.19</b>	0.05	0.06	0.19
	Target + Partner	<b>-0.22</b>	0.04	<b>-0.45</b>	0.06	0.32	0.17

		Like		Retweet		Reply	
		Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Age	Baby	<b>0.03</b>	8.16	0.04	0.19	<b>0.16</b>	3.78
	Kid	-0.01	0.02	<b>-0.10</b>	0.03	-0.24	0.14
	Adult	<b>-0.38</b>	0.02	<b>-0.43</b>	0.04	<b>-0.72</b>	0.15
	Elderly	<b>-0.30</b>	0.04	<b>-0.14</b>	0.05	-0.08	0.20
Gender	Male	<b>0.06</b>	0.02	<b>0.15</b>	0.03	-0.01	0.14
	Female	-0.03	0.02	<b>-0.03</b>	0.03	<b>-0.44</b>	0.14
Family (Reference group = Portrayal of family)	No family	<b>-0.10</b>	0.02	<b>-0.12</b>	0.04	0.03	0.13
	Cannot identify	<b>-0.13</b>	0.04	<b>0.11</b>	0.06	<b>-0.57</b>	0.25
Facial expression	Positive + High intensity	<b>0.28</b>	0.02	<b>-0.19</b>	0.04	-0.08	0.18
	Positive + Low intensity	<b>0.23</b>	0.02	<b>-0.09</b>	0.03	0.01	0.13
	Neutral	<b>0.12</b>	0.02	<b>0.09</b>	0.03	<b>0.54</b>	0.12
	Negative + Low intensity	<b>-0.28</b>	0.03	<b>-0.30</b>	0.04	-0.11	0.16
	Negative + High intensity	<b>-0.68</b>	0.23	<b>-1.76</b>	0.50	-13.47	539.76

## Conclusion

- The study gives a snapshot of how disaster-aid organizations use visuals.
- Popular visual strategies are not always the most effective strategies in engaging publics in social media.
- Effective visual strategies: disaster aid efforts; close-up or long shot; focused on small number of victims; no organizational visibility; portraying babies, males, or family; neutral or positive facial expression