Flooding Twitter with the Ice Bucket Challenge: A Social and Semantic Networks Approach

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Perhaps no other campaign has ever reached greater success in terms of participation, donations, social media chatter, and attention in popular culture than the ALS Ice Bucket Challenge. This campaign was truly a grassroots effort, fueled by friends of an ALS victim and then spread on social media by millions of participants ranging from average citizens to celebrities. Significant coverage by traditional media and participation by personalities on television further accelerated awareness of the campaign and the cause.

Research Questions

1. What is the impact of celebrity influencers in spreading this campaign on Twitter, and how does their impact compare to that of "ordinary" users?

2. What are the key conversation themes of the challenge on Twitter, particularly with respect to specific mentions of ALS?

Method

- Historical data grant from **Texifter** provided access to more than 500,000 texts and enterprise access to **DiscoverText**, a "cloud-based, collaborative text analytics solution."

- Tweets selected based on the criteria of inclusion of the hashtags of #alsicebucketchallenge or #icebucketchallenge and use of the English language during the period of August 18-22, 2014.

- Fifteen percent of the tweets during this timeframe were randomly selected for inclusion in the sample, resulting in an estimated sample of 494,000. However, when run, the final sample actually delivered 545,563 tweets.

Results

*How the Campaign Spread on Twitter*

When a celebrity tweeted about the campaign, regular users enhanced the impact of that tweet by retweeting it. Regular users also enjoyed tweeting about and to celebrities during this campaign. The top usernames mentioned also provided further evidence that Twitter users enjoyed referencing celebrities in relation to this campaign.

Category	n	%
Non-Celeb with Celeb Mention/Retweet	640	64%
Non-Celeb with Non-Celeb Mention/Retweet	172	17.2%
Non-Celeb, no other Mention/Retweet	44	4.4 %
Celeb with Celeb Mention/Retweet	20	2 %
Other (e.g., organizational tweets)	12	1.2 %
Celeb, no other Mention/Retweet	8	.8 %
Celeb with Non-Celeb Mention/Retweet	4	.4%
Total	**1,000**	**100%**

Top Ten Mentions/Retweets	In-degree
Camerondallas	1391
Nashgrier	1201
Niallofficial	638
Djokernole	627
louis_tomlinson	573
TweetLikeAGirI	436
Justinbieber	270
Drakevslilwayne	208
Alsassociation	71
Relatablequote	67
TOTAL	**5,482**

n=15,035 from a sample of 10,000 tweets

T2G 0.3 for Python (http://dfreelon.org/2013/07/10/t2g-0-3-now-visualize-only-rts-or-mentions-in-gephi/) was used to extract all edges from tweets with multiple mentions (using the @ symbol) from a sample of 1,000 tweets, resulting in 1,457 edges to be analyzed in **NodeXL**. The vertices were grouped by cluster using the Clauset-Newman-Moore algorithm.
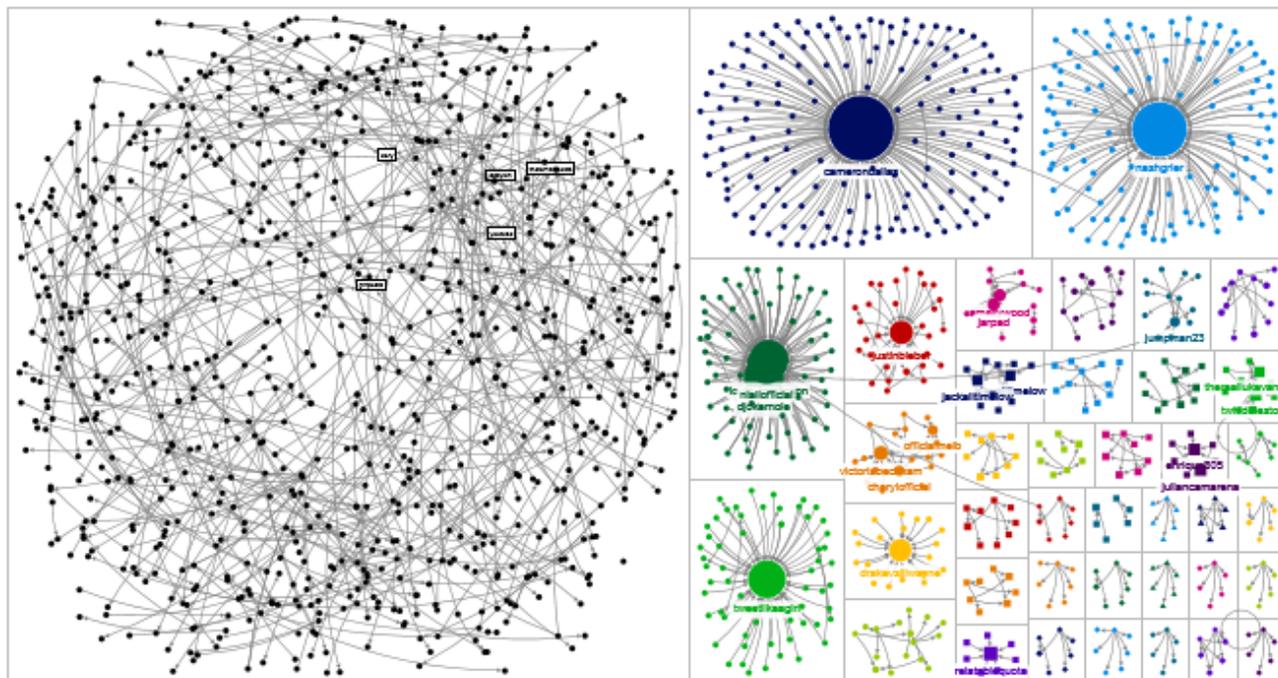
ALS Mentions and Conversation Themes

	n	**%**
Tweets mentioning ALS	406,158	74.4%
Tweets not mentioning ALS	131,266	24.1%
Tweets mentioning "donate"	64,190	11.8%
Tweets mentioning "donate" AND ALS	8,106	1.49%