

# Effective Crisis Communication on Social Media & Other Short Messaging Platforms

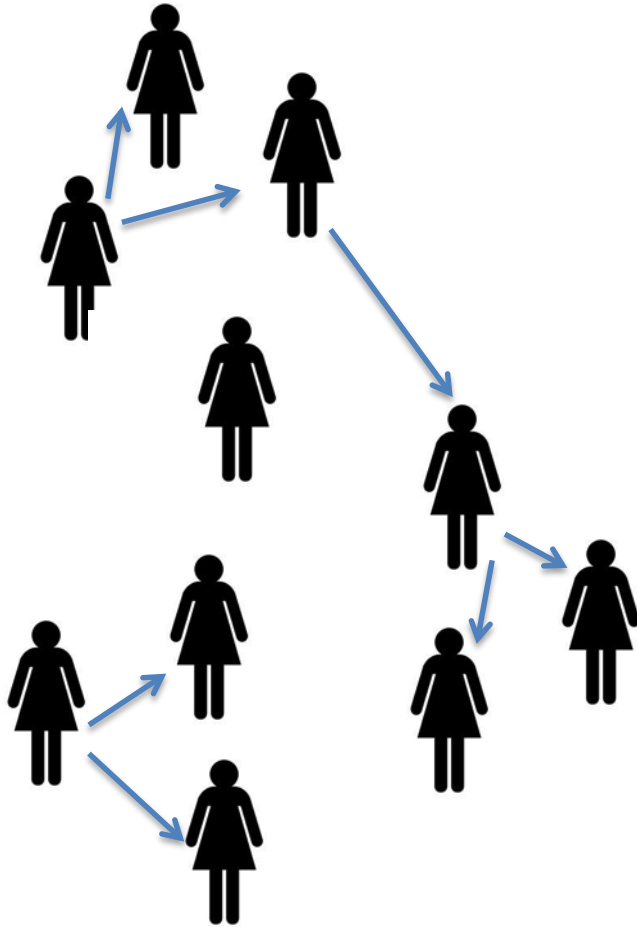
**Jeannette Sutton**

Department of Communication  
Risk and Disaster Communication Center  
College of Communication and Information





# Our research shows how to get people to...



**Share**



**Protect**



6,000,000,000 Tweets collected

3,000,000,000 Network connections

800,000 Tweets analyzed

Across 19 hazards

6 distinct events



Strategies to employ when sending 140 character messages

# **WHAT MAKES PEOPLE PASS MESSAGES ON?**

We modeled message retransmission by analyzing **official accounts'** **number of followers**, the **style** of the message, and the message **thematic contents**.

The image shows a Twitter interface with a tweet from the account **BirdCityEmergencyManager** (@BirdCityEmergencyManager). The tweet text is: **MANDATORY** evacuation. South of GOG West of I-25. Take pets and don't use phones for calls. #COSwildfire bit.ly/Hx32. The tweet has 753 retweets and 213 favorites. The timestamp is 5:42 PM - 12 Aug 2015 - via Twitter. Below the tweet are options to Reply, Delete, and Favorite. An inset shows the profile of Bird City (@BirdCityEmergencyManager) with 129 tweets, 200 following, and 50,846 followers. The number 50,846 is highlighted with a red box. Various text elements in the tweet are highlighted with colored boxes: the account name and handle with a green box, 'MANDATORY' with a blue box, 'evacuation.' with an orange box, 'I-25.' with a blue box, 'Take pets and don't use phones for calls.' with a blue box, and the hashtag and link with a blue box.

**BirdCityEmergencyManager**  
@BirdCityEmergencyManager

**MANDATORY** evacuation. South of GOG West of I-25. Take pets and don't use phones for calls.  
#COSwildfire bit.ly/Hx32

753 RETWEETS 213 FAVORITES

5:42 PM - 12 Aug 2015 - via Twitter · Embed this Tweet

Reply Delete Favorite

**Bird City**  
@BirdCityEmergencyManager

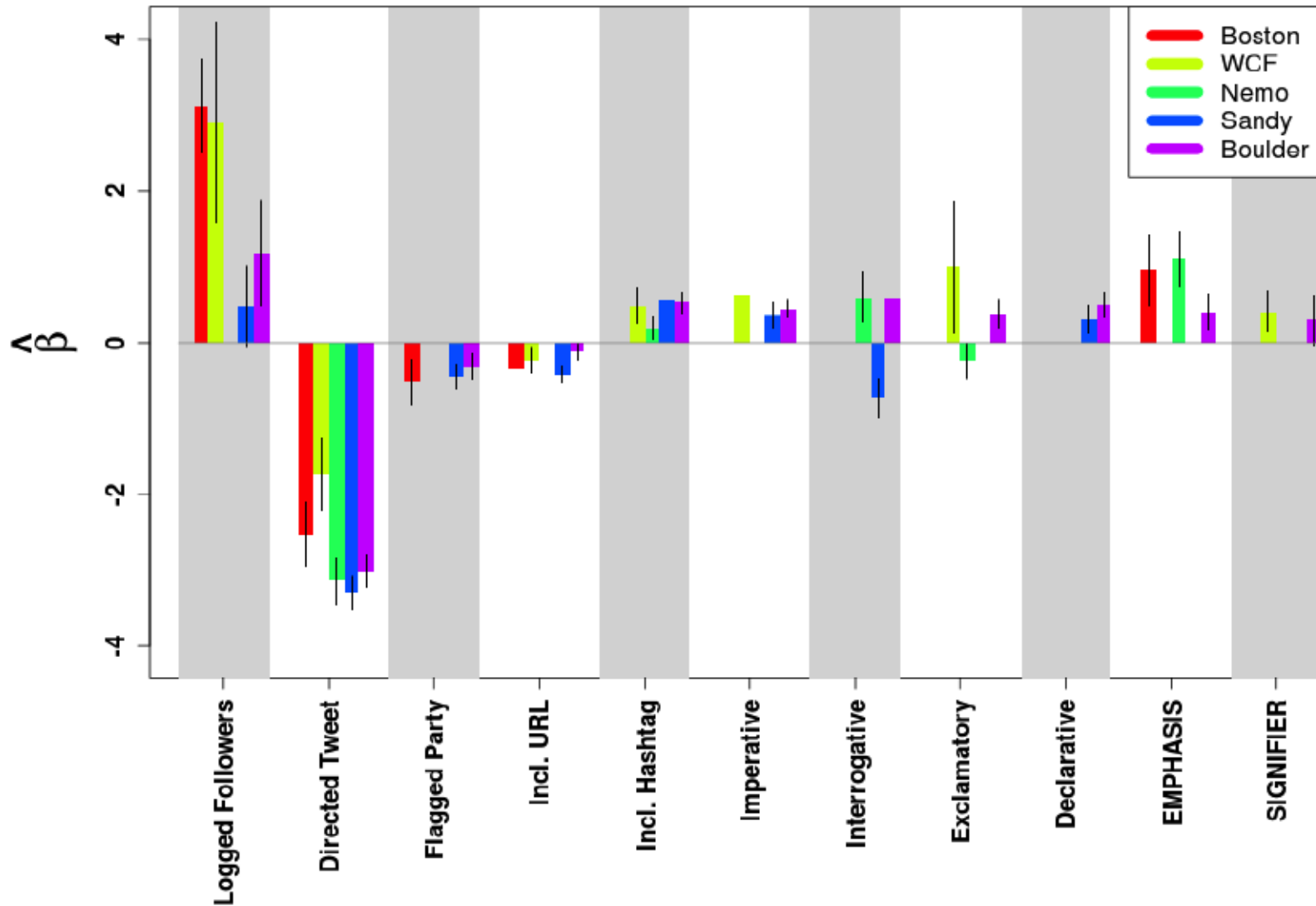
129 TWEETS 200 FOLLOWING **50,846 FOLLOWERS**

Strategies to employ when sending 140 character messages

# **STYLE MATTERS**

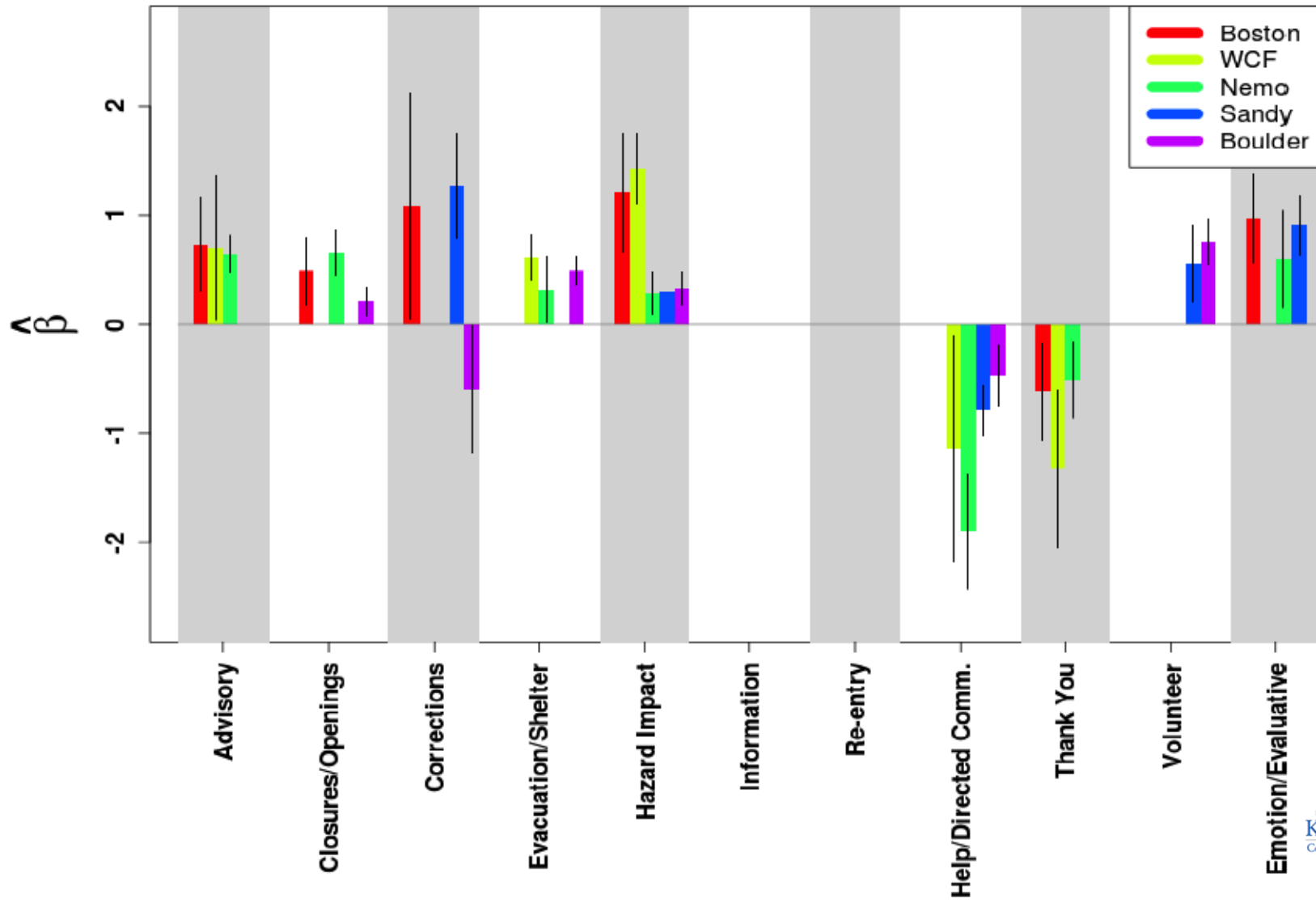
# Effects of followers and style on predicted retransmission

Negative Binomial Coefficients Predicting Retweet Counts of Official Messages During Five Hazard Events



# Effects of message content on predicted retransmission

Negative Binomial Coefficients Predicting Retweet Counts of Official Messages During Five Hazard Events







**Mike Bloomberg** ✓

@MikeBloomberg



Follow

#NYC PLEASE RT: Do not go outside.  
Conditions are extremely dangerous. Please  
stay where you are until the storm passes  
#Sandy

← Reply ↩ Retweet ★ Favorite ⋮ More

4,625

RETWEETS

231

FAVORITES



8:14 PM - 29 Oct 12



**Cory Booker** ✓

@CoryBooker



Follow

Police have reported ZERO looting or  
crimes of opportunity in Newark. And  
ceaseless reports of acts of kindness abound  
everywhere #Gratitude

← Reply ↩ Retweet ★ Favorite ⋮ More

8,578

RETWEETS

1,492

FAVORITES



8:26 AM - 30 Oct 12



# Image Effects on Retransmission

**CDC** @CDCgov Following

Infographic: Learn how contact tracing can stop the spread of #Ebola:

**What is contact tracing?**  
Contact tracing can stop the Ebola outbreak in its tracks.

Contact tracing is finding everyone who comes in direct contact with a sick Ebola patient. Contacts are watched for signs of illness for 21 days from the last day they came in contact with the Ebola patient. If the contact develops a fever or other Ebola symptoms, they are immediately isolated, tested, provided care, and the cycle starts again—all of the new patient's contacts are found and watched for 21 days. Even one missed contact can keep the outbreak going.



**RETWEETS** 362 **FAVORITES** 146

10:20 AM - 2 Oct 2014

**MMWR** @CDCMMWR

...mboo hand washing stations are  
...ed in Liberia to help combat the  
#Ebola. [go.usa.gov/wrZH](http://go.usa.gov/wrZH)



**RETWEETS** 97 **FAVORITES** 48

8:35 AM - 3 Oct 2014

**Shelby County Health** @ShelbyTNHealth Follow

@myfoxmehphis Have questions about Ebola? Live in Shelby County? Our staff is here to help!

**Ebola Speakers Bureau**

The Shelby County Health Department has established a Speaker's Bureau to answer your questions about the **Ebola virus** and how our community is preparing.

If you would like to request our presence at your next staff meeting, neighborhood association meeting, family gathering, church get-together, or other event, please do one of the following:

**Email:** [Heather.Fortner@shelbycountyttn.gov](mailto:Heather.Fortner@shelbycountyttn.gov)  
**Call:** (901) 270-7179  
**Visit:** [www.schdresponse.com](http://www.schdresponse.com) (click on the Speakers Bureau link)

Please provide at least seven (7) days notice. We do offer after hours presentation when staff is available. A minimum of fifteen (15) guests per group is required. There is no maximum.

1:08 PM - 21 Oct 2014

# Future Research

## Applied

- More case based, comparative events (Zika, and weather based events)

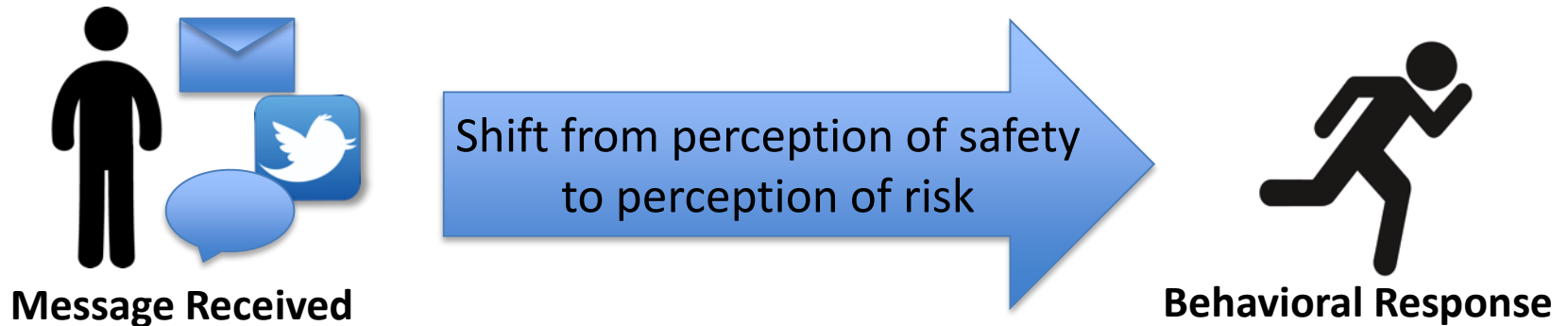
## Theoretical

- Developing theory on visual risk communication
  - Borrowing from scholarship on visualizing uncertainty information and the extended parallel processing model (EPPM)

Strategies to employ when sending 140 character messages

# **SIZE MATTERS**

# We use this model to examine socio-behavioral responses to warning messages.

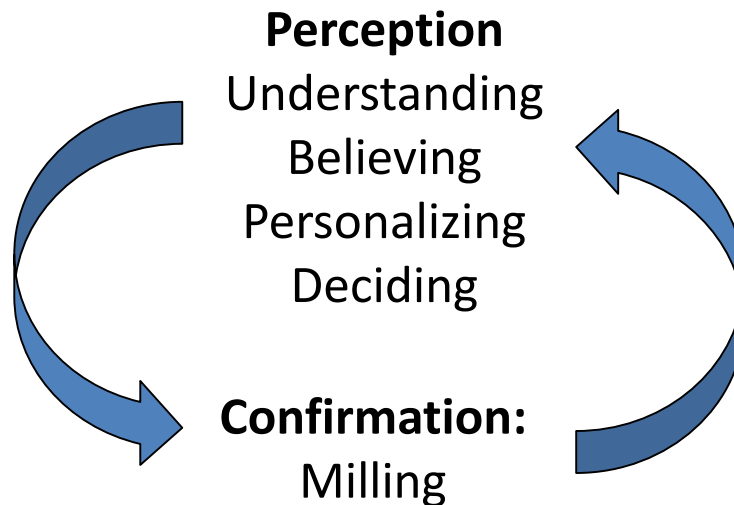


## Style

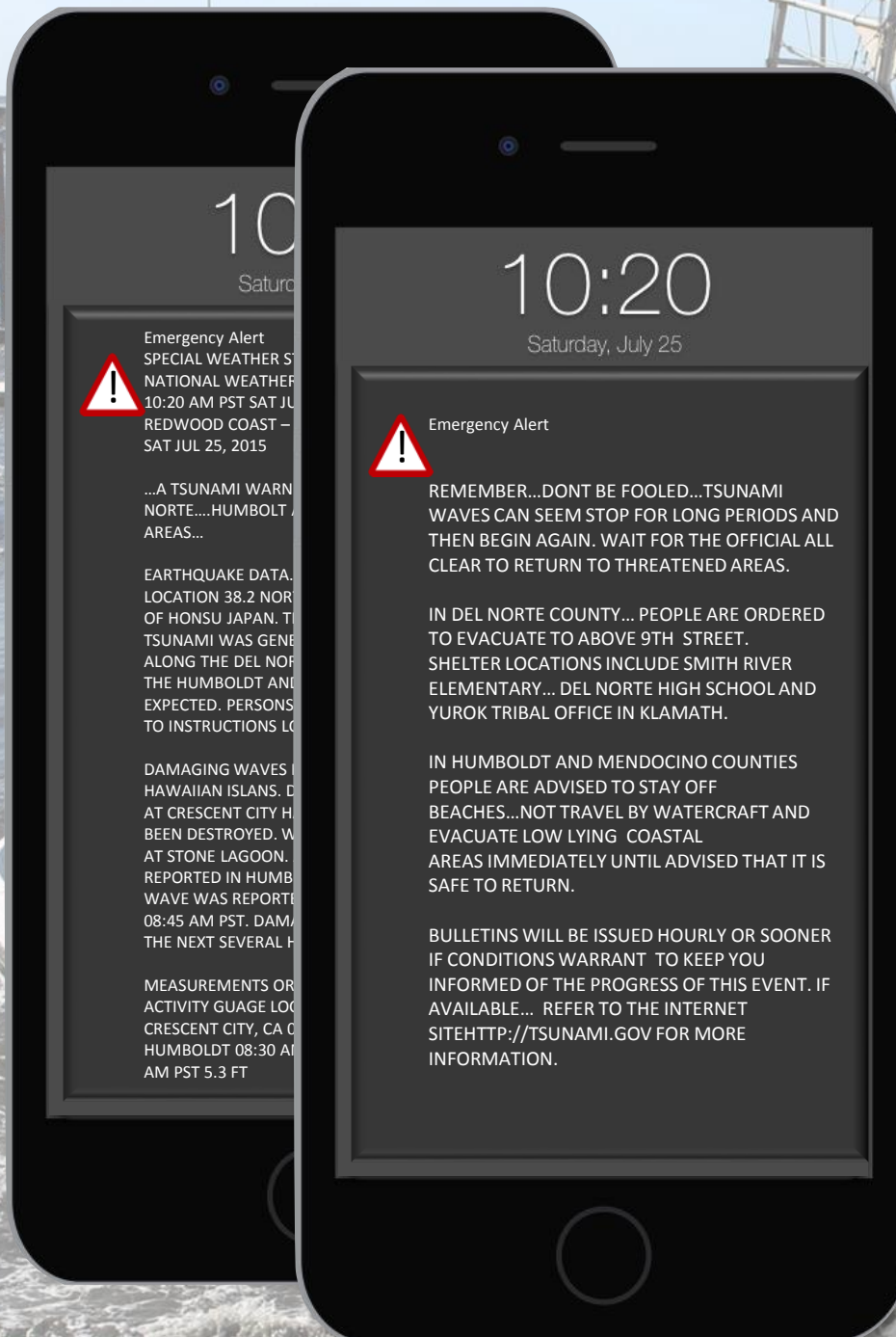
Clear, specific, certain,  
accurate & consistent

## Content

Hazard, time, location,  
source & guidance







10:20  
Saturday, July 25



Emergency Alert  
SPECIAL WEATHER STATEMENT  
NATIONAL WEATHER SERVICE  
10:20 AM PST SAT JUL 25  
REDWOOD COAST –  
SAT JUL 25, 2015

...A TSUNAMI WARNING  
NORTE.....HUMBOLDT  
AREAS...

EARTHQUAKE DATA  
LOCATION 38.2 NORTH  
OF HONSHU JAPAN. THE  
TSUNAMI WAS GENERATED  
ALONG THE DEL NORTE  
THE HUMBOLDT AND  
EXPECTED. PERSONS  
TO INSTRUCTIONS LOCATED

DAMAGING WAVES  
HAWAIIAN ISLANDS. DAMAGE  
AT CRESCENT CITY HAS  
BEEN DESTROYED. DAMAGE  
AT STONE LAGOON.  
REPORTED IN HUMBOLDT  
WAVE WAS REPORTED  
08:45 AM PST. DAMAGE  
THE NEXT SEVERAL HOURS

MEASUREMENTS OR  
ACTIVITY GAUGE LOCATED  
CRESCENT CITY, CA  
HUMBOLDT 08:30 AM  
AM PST 5.3 FT

10:20

Saturday, July 25



Emergency Alert

REMEMBER...DON'T BE FOOLED...TSUNAMI  
WAVES CAN SEEM STOP FOR LONG PERIODS AND  
THEN BEGIN AGAIN. WAIT FOR THE OFFICIAL ALL  
CLEAR TO RETURN TO THREATENED AREAS.

IN DEL NORTE COUNTY... PEOPLE ARE ORDERED  
TO EVACUATE TO ABOVE 9TH STREET.  
SHELTER LOCATIONS INCLUDE SMITH RIVER  
ELEMENTARY... DEL NORTE HIGH SCHOOL AND  
YUROK TRIBAL OFFICE IN KLAMATH.

IN HUMBOLDT AND MENDOCINO COUNTIES  
PEOPLE ARE ADVISED TO STAY OFF  
BEACHES...NOT TRAVEL BY WATERCRAFT AND  
EVACUATE LOW LYING COASTAL  
AREAS IMMEDIATELY UNTIL ADVISED THAT IT IS  
SAFE TO RETURN.

BULLETINS WILL BE ISSUED HOURLY OR SOONER  
IF CONDITIONS WARRANT TO KEEP YOU  
INFORMED OF THE PROGRESS OF THIS EVENT. IF  
AVAILABLE... REFER TO THE INTERNET  
SITE [HTTP://TSUNAMI.GOV](http://tsunami.gov) FOR MORE  
INFORMATION.

# Original Message (1380 Characters)

10:20

Saturday, July 25



EMERGENCY ALERT

NWS EUREKA, CA TSUNAMI WARNING. A MAGNITUDE 8.9 EARTHQUAKE OCCURRED NEAR JAPAN AT 11:46 PM PST JUL 24, 2015. INITIAL WAVES WERE DETECTED AT 0830 AM PDT JUL 25, 2015. DOCKS HAVE BEEN DESTROYED AT CRESCENT CITY HARBOR.

DAMAGING WAVES HAVE BEEN SIGHTED IN HUMBOLDT BAY AND MOVING UP THE MAD RIVER. OTHER WAVES WILL STRIKE OVER MANY HOURS AND MAY BE DEADLY.

THE TSUNAMI WARNING IS INEFFECT FOR DEL NOTRE, HUMBOLDT AND MENDOCINO COUNTY COASTAL AREAS INCLUDING CRESCENT CITY, KLAMATH, EUREKA & ARCATA.

IF YOU ARE IN AN IMPACT AREA AND CANNOT REACH HIGH GROUND, GO TO AN UPPER FLOOR OF A TALL BUILDING. STAY OFF BEACHES. DO NOT USE WATERCRAFT. TSUNAMI WAVES MAY BE FILLED WITH DEBRIS, WHICH CAN INJURE OR KILL PEOPLE AND WEAKEN OR DESTROY STRUCTURES.

IF YOU SEE THE OCEAN WATER PULL BACK AND EXPOSE THE SEA FLOOR, RUN TO HIGHER GROUND AS FAST AS YOU CAN BECAUSE A TSUNAMI IS ABOUT TO STRIKE.

IF YOU ARE NOT IN A TSUNAMI IMPACT AREA, STAY AWAY. ONCE YOU ARE IN A SAFE LOCATION, STAY THERE UNTIL OFFICIALS ADVISE IT IS SAFE TO LEAVE.

LISTEN TO YOUR LOCAL MEDIA AND EMERGENCY OFFICIALS FOR ADDITIONAL TSUNAMI UPDATES. IF AVAILABLE, REFER TO TSUNAMI.GOV FOR MORE INFORMATION.

TSUNAMI WARNING MESSAGES WILL BE UPDATED EVERY 30 MINUTES OR SOONER.

# Revised Message (1380 Characters)

10:20

Saturday, July 25



Emergency Alert  
@NWS EUREKA.  
EVACUATE COASTAL AREAS IN MENDOCINO,  
HUMBOLDT, DEL NORTE COUNTIES. TSUNAMI  
WARNING. DESTRUCTIVE WAVES SIGHTED. WARNING  
EXPIRES 9:00 PM PST.

# Short Message (140 Characters)

10:20

Saturday, July 25



Emergency Alert  
@NWS EUREKA, CA. TSUNAMI WARNING. A  
MAGNITUDE 8.9 EARTHQUAKE OCCURRED  
NEAR JAPAN AT 11:46 PM PST JULY 24, 2015  
(MESSAGE 1 OF 11)



Emergency Alert  
INITIAL WAVES WERE DETECTED AT 0830 AM  
PDT JUL 25, 2015. DOCKS HAVE BEEN  
DESTROYED AT CRESCENT CITY HARBOR.  
(MESSAGE 2 OF 11)

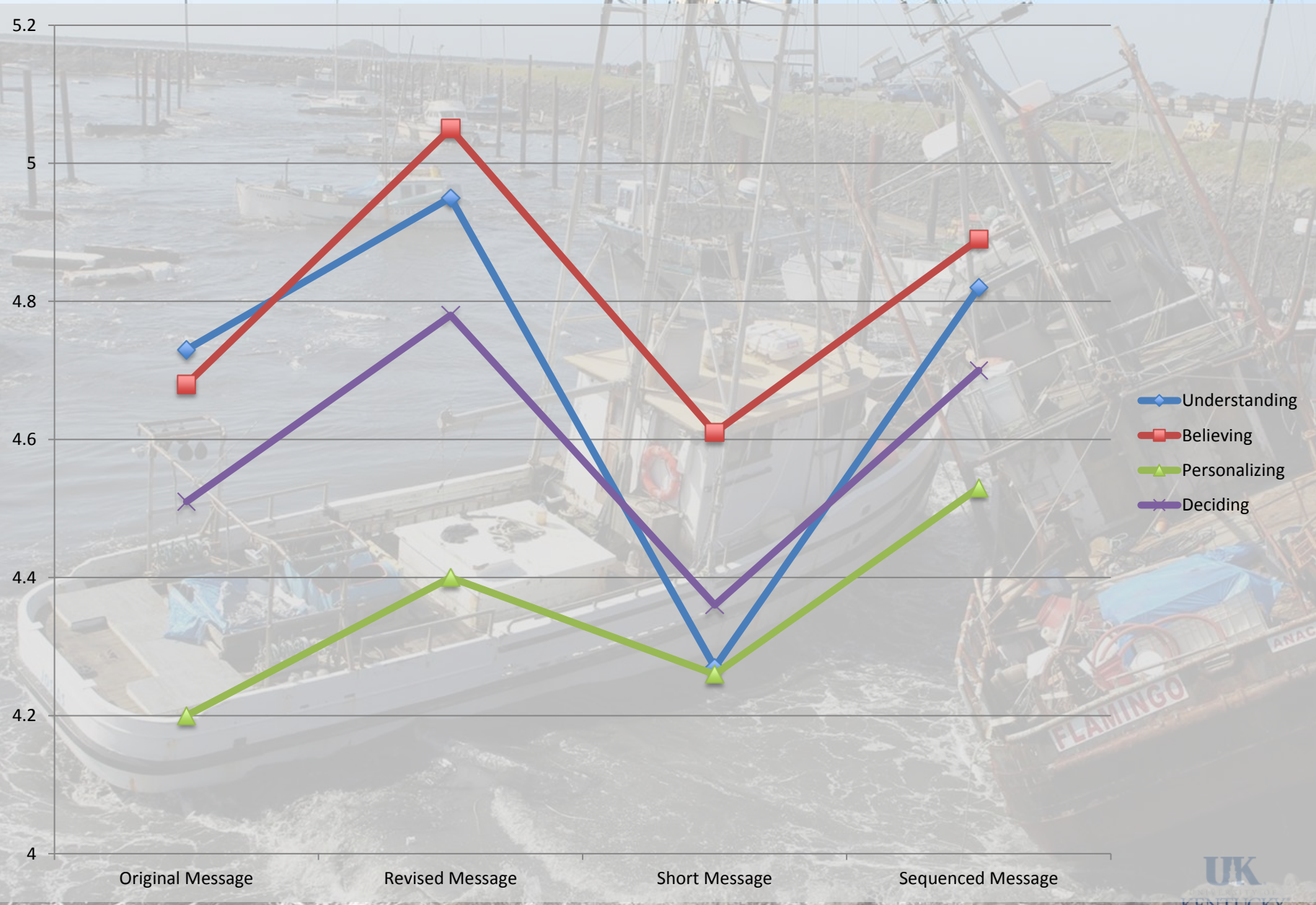


Emergency Alert  
DAMAGING WAVES HAVE BEEN SIGHTED IN  
HUMBOLDT BAY AND MOVING UP THE MAD  
RIVER. OTHER WAVES WILL STRIKE OVER  
MANY HOURS AND MAY BE DEADLY.  
(MESSAGE 3 OF 11)



Emergency Alert  
THE TSUNAMI WARNING IS IN EFFECT FOR DEL  
NORTE, HUMBOLDT & MEDOCINO COUNTY  
COSTAL AREAS INCLUDING CRESCENT CITY,  
KLAMATH, EUREKA & ARCATA. (MESSAGE 4 OF  
11)

# Sequenced Messages (140 Characters)



# Future Research

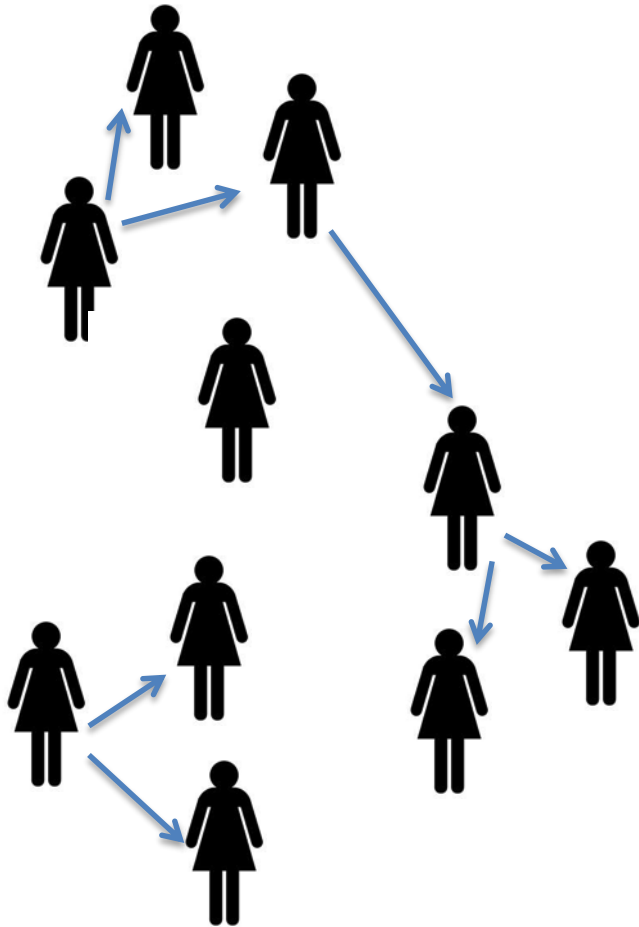
## Applied

- Online experiments on effective messaging
  - Disordered/Random order sequenced messages
  - Short messages with multi-media content
  - Identifying key message content

## Theoretical

- Linking theory to empirically developed models

# Conclusion: To get people to...



**Share:**  
**style matters**



**Protect:**  
**size matters**



# Jeannette Sutton

Jeannette.sutton@uky.edu



Carter T. Butts

University of California, Irvine

Collaborators: Sean Fitzhugh (ARC), Ben Gibson (UCI), Nolan Philips (UCI), Emma Spiro (UW), Monique Turner (GWU), Sarah Vos (UK), Michele Wood (CSUF), Chelsea Woods (UK)

