Careful What You Post: Pronoun Choice Can Mirror Emotions in Tweets About Terrorism

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Introduction

- People's-word choices reflect who they are & what they are thinking (Chung & Pennebaker 2007).
- Personal pronoun choice has been revealing about how people relate to others and about their collectivist/individualist psychological states.
- New methodologies make online communication a popular behavior to investigate.
- Tweets that are produced by a massive-scale network can be analyzed for emotional indicators such as valence, arousal, and concreteness (Shaikh et al. 2017).
- GOAL: Describe the development of two different online communities from naturally occurring social media data (tweets) by analyzing patterns of word choice in twitter messages surrounding the Charlie Hebdo Attack (January 2015) and the 2015 November Paris attacks.

Methods: Data collection

- Data consisted of all the tweets that contained at least one of 14 hashtags pertaining to the Charlie Hebdo attacks (January-February 2015) and the November 2015 Paris attacks collected via Twitter streaming API
- Final data set was filtered to always contain hashtags from a category of hashtags that pertained to Paris

 Some examples: 			
#franceattack	#IStandWithFrance	#Paris	#par
#franceshooting	#IStandWithParis	#ParisAttack	#Pra

Methods: Tweet Analysis

• Tweets for each Terrorist attack were analyzed by:

- Classifying tweets into set by which pronoun they included
 - First Person Singular (I)
 - First Person Plural (We)
 - No Pronoun (Baseline)
- Tracking Valence and Arousal for 25% most negatively valenced and 25% most positively valenced words in each set
 - Calculating weighted Valence and Arousal Means (x frequency)
 - Determining NRC classification across 8 categories of affect as well positive and negative sentiment for each word and computed proportion
 - Computing Entropy

$$H = -\sum p(x)\log p(x)$$

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- People tend to respond with words that reveal fear more so than anger.
- emotions of anger, disgust, fear, and sadness.

• Thus, pronoun use in conjunction with negatively/positively valenced word choices influences uniformity and degree of arousal, as well as the particular



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