

# Dimensions of Self-Expression in Facebook Status Updates

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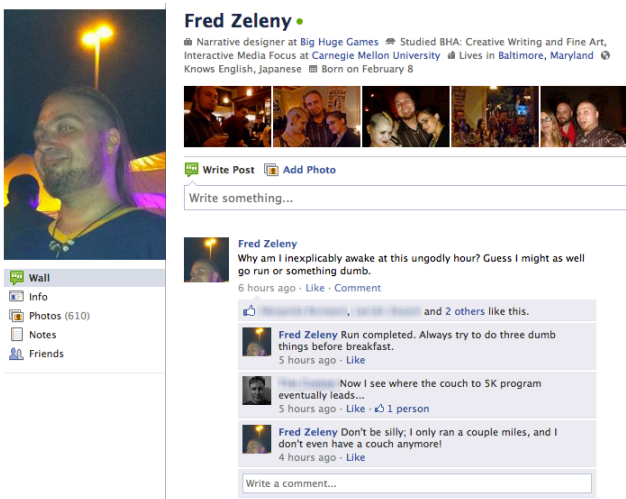
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# Text Analysis

- Natural language (text) is how we express *who* we are and *how* we are to the world.



**Fred Zeleny** •

📍 Narrative designer at [Big Huge Games](#) 🎓 Studied BHA: Creative Writing and Fine Art, Interactive Media Focus at [Carnegie Mellon University](#) 🏠 Lives in [Baltimore, Maryland](#) 🗣️ Knows English, Japanese 📅 Born on February 8

Write Post Add Photo

Write something...

**Fred Zeleny**  
Why am I inexplicably awake at this ungodly hour? Guess I might as well go run or something dumb.  
6 hours ago · Like · Comment

[Michael Brown](#), [John Doe](#) and 2 others like this.

**Fred Zeleny** Run completed. Always try to do three dumb things before breakfast.  
5 hours ago · Like

**John Doe** Now I see where the couch to 5K program eventually leads...  
5 hours ago · Like · 🔄 1 person

**Fred Zeleny** Don't be silly, I only ran a couple miles, and I don't even have a couch anymore!  
4 hours ago · Like

Write a comment...

# Word Counts

- “Word count” approaches to text analysis rely on the *lexical hypothesis*, that the most *important* terms will become encoded as *single lexical items* as language evolves (c.f. Goldberg, 1990)



Fred Zeleny hates passive-aggressive Facebook updates, but loves irony.

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# The Meaning Extraction Method (MEM)

- Beyond our words: Our vocabularies in some context
  - Which words co-occur?

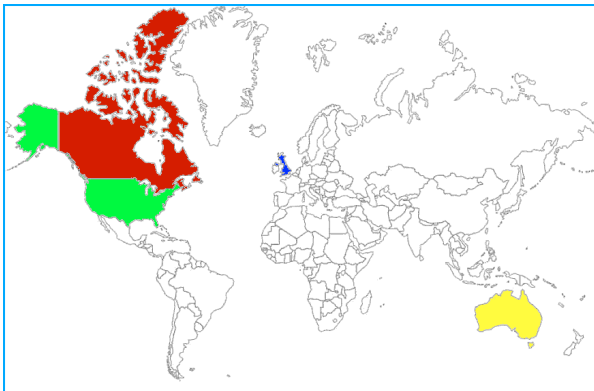


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# Our Goal

- Our corpus is Facebook “status updates”
  - Which words co-occur for users, across their updates?
  - Sampled separately for four countries: Australia, Canada, UK, US

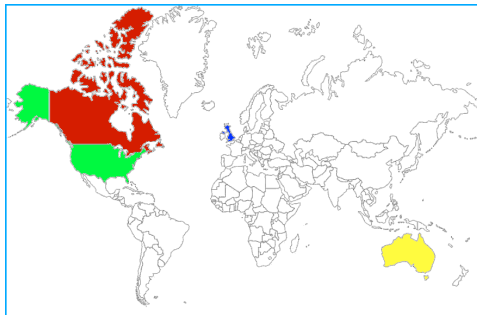


# Method

- We randomly selected 1m users from each country (N=4m)
  - Corpus: the set of all status updates from these users
- We parsed and sorted the 1,000 most frequently used words into a set of 760 stemmed content words, examined each update, conducted principle components analysis
  - PCAs computed both within and across countries
  - These PCAs extract “meaning:” *dimensions* along which users differ in usage of the Status Update product
- At no point were any raw status updates read by researchers, nor were aggregates viewed in any manner connected to an identifying quality of the user as part of this research.

# Results: Overall matrix

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  - One large first factor emerged, representing the natural separation of the use of language among countries
  - Loadings for, e.g., “mom,” “vacation,” and “laundry,” opposed loadings for “pub,” “mate,” and “arse.”



# Results: Individual Countries

- Countries' individual correlation matrices were quite similar,  $\alpha=0.97$ , but differed significantly  $\chi^2(3) = 40,202$ ; we examine the US first.
- Component 1 included loadings for “informal speech,” including internet neologisms (haha, lol) and profanity

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- Component 3 contained mostly school-related words (homework, study, essay)

# Results: Australia, Canada, the UK...

- ...overall the same. But differences exist in the specifics:
  - Australians showed negative loadings for profanity in the “school” component; *hubby* and *daughter* in informal speech
  - The UK used more neologisms for informality, but showed “Family” instead as an opposite to school

Informal Speech

Reminiscing

School

# Caveats and Future Directions

# Special Thanks!

- James W. Pennebaker
- Moira Burke
- The Facebook Data Team  
[facebook.com/data](https://facebook.com/data)
- Anonymous ICWSM reviewers
- ...and Fred Zeleny.

Questions?