Computational Exploration of Gerontology-Related Topics Shared on Social Media Platform Twitter

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Identifying themes of Twitter posts related to aging and older adults.

Data Collection
Keyword expansion to find commonly-used keywords starting with seed hashtags #olderadult, #aging...

Collection of posts using 19 English keywords related to aging and older adults, from 7/1/18 to 7/31/18.

Keywords Used to Retrieve Posts
- senior(s)
- oldperson
- olderman(s)
- elderly
- grandparents

- seniorcitizen(s)
- old(er)people
- oldlady
- elderlypeople
- granny
- seniorszn

Data Analysis
Separation of original tweets and retweets.
Text processing of the original tweets.
Topic modeling: Latent Dirichlet Allocation (LDA) using Matlab 2018a on hashtag-filtered list of posts.
Topics visualized using word clouds (as in [3]).

RESULTS
328,568 original tweets (and 722,552 retweets) collected over 31 days.
10,088 tweets (4,762 retweets) contained the hashtags corresponding to the keywords.
45 topics identified computationally, then qualitatively grouped into themes. Most representative themes listed below.

Themes
Family
Including relations with family, commemoration...
E.g. of tweet:
"Being a Grandma has taught me that my love can be multiplied and my feelings for my children and grandchildren span lifetimes. #family #grandchildren #love #familytime #Grandma #grandparents #myheart #ilovemybabies #thappygrammy"

Social Work
Including community resources, service, charity.
E.g. of tweet:
"Many thanks to the lovely #volunteers from @[edited] who are taking part in a monthly #HelpingHands session as part of our #CommunitySupportProject for olderpeople in #[edited]. Well done & thanks to all, your work is much appreciated!"

Other Themes
Politics and policies (insurance/pension, new laws).
Examples of representative words: medicare, veterans.
News involving older adults (crimes on/by older adults).
Example of representative words: crime, porn.
Online media (e.g., porn, online videos featuring older adults).
Example of representative words: granny, sexy, video.

DISCUSSION
- Some topics have negative connotations (e.g., crime, porn);
some users may use aging-related terms to promote monetized content/spam.
- Knowing the lingua used to exchange about aging/older adults online can help subsequent research and interventions.

Limitations
- Some topics tied to the period studied (July), e.g. tweets related to the heat wave, to the 4th of July.
- Results limited by the keywords chosen, some keywords introduced noise (e.g., high school seniors, senior positions...)

FUTURE WORK
- Comparing these Western (English) themes with themes from Eastern countries (South Korea) as they have different views about aging and older adults
- Analyzing the reach of positive themes (e.g., health promotion) vs. negative ones (e.g., crimes by older adults)

REFERENCES