

The Prevalence of Depression in Individuals Accounts on Twitter

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INTRODUCTION

- There has been an increase of 59% between 2007 and 2017 in the total number of teenagers who have recently experienced depression
- The rate of this growth was far faster for teenage girls (66%) than for boys (44%)
- Many adolescents who engage in social media platforms, such as, Twitter are more likely to be exposed to depressing posts
- Currently, less is known about how adolescents to talk about their depression on Twitter
- *The purpose of this study aims to explore the prevalence and linguistic elements of posts referencing depression on Twitter*

METHODS

This was a content analysis study on Twitter

Subjects/Search Strategy

- The search strategy was to search the hashtag: #depression
- Select posts that fit the inclusion criteria

Inclusions vs. Exclusions

Inclusions	Exclusions
- Individual accounts	- Business/organization run accounts
- 25 characters or more	- 24 characters or less
- Use the hashtag: #depression	- Verified accounts

Variables

- The variables of interest were the presence of depression symptoms (PHQ-9 scale)

PHQ-9 variable	Definitions
1	Little/no interest
2	Feeling sad/depressed
3	Insomnia/Hypersomnia
4	Little/no energy
5	Under/overeating
6	Poor self esteem
7	Trouble concentrating
8	Talking to fast or slowly
9	Under/overeating

METHODS

Variables

- Linguistic elements of posts based on LIWC dictionaries

LIWC variables	Definitions
Positive emotion	are the posts a more positive (happy, joyful)
Negative emotion	are the posts worried, scared
Certainty	are the posts negative (sad, hurt, ugly)
Anger	do the posts mention hate, kill
Anxiety	do the posts mentioned always, never, won't

Analysis

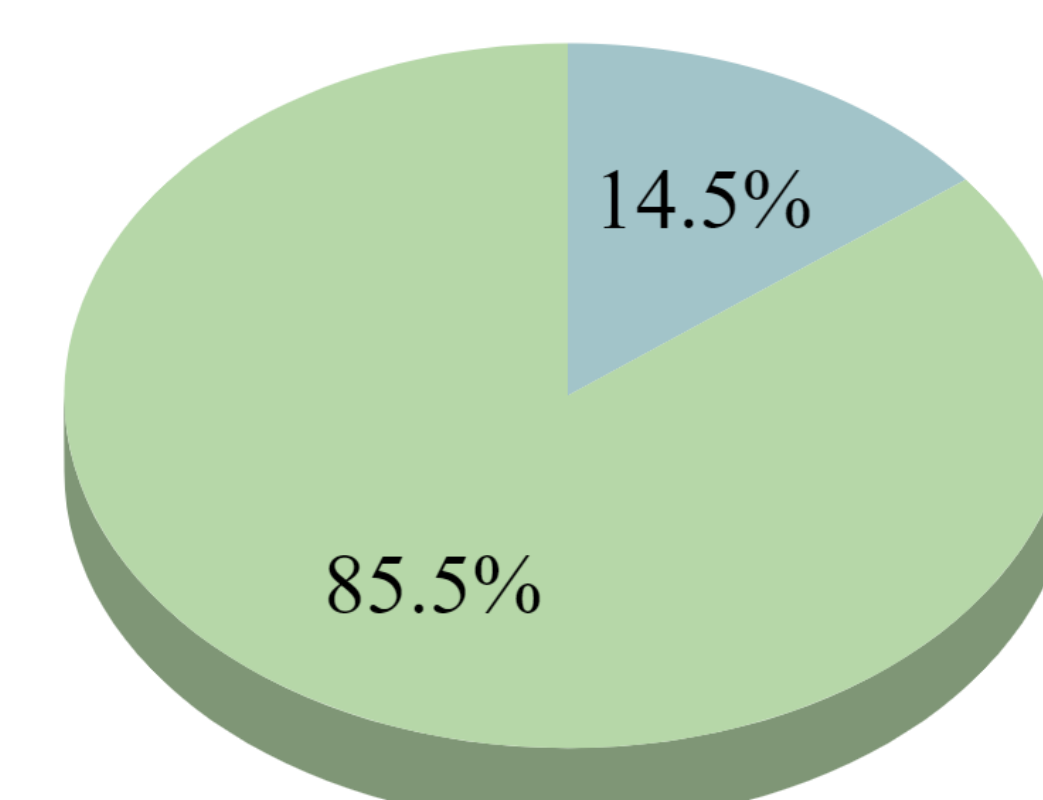
- Descriptive Statistics for social media demographics, PHQ-9 symptoms, and LIWC variables were all calculated

RESULTS

- Of 200 tweets screened, 29 met inclusion criteria and were analyzed

Business/Organization Accounts vs. Individual Accounts

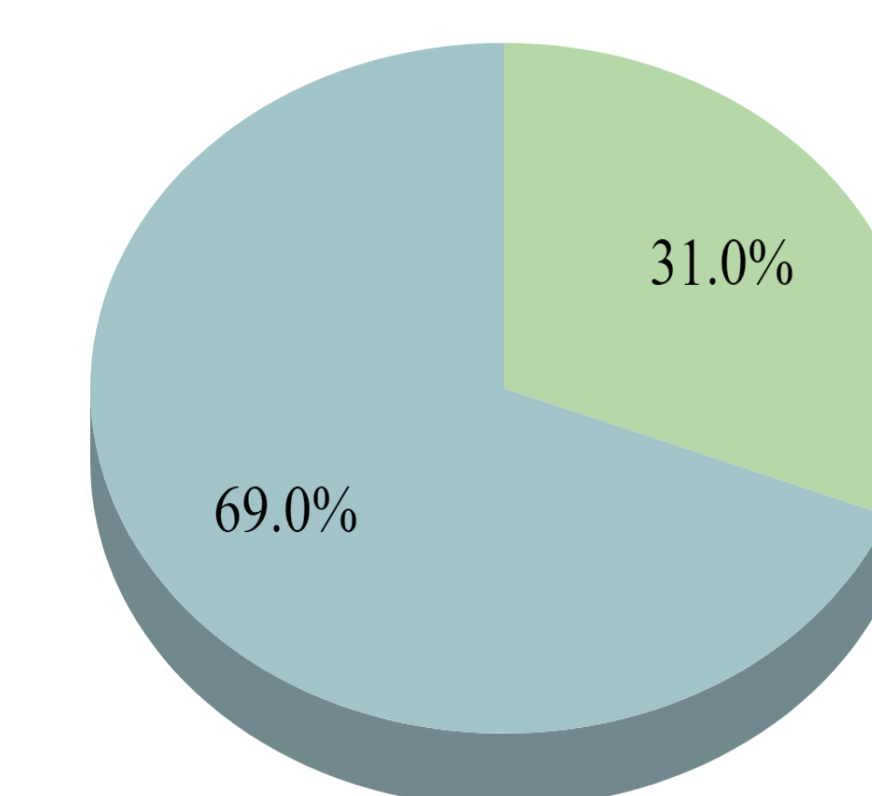
- Individual run accounts
- Business/Organization Run Accounts



RESULTS

Fall into PHQ-9 Categories

- Fall into at least 1 PHQ-9 category
- Fall into none of the PHQ-9 categories

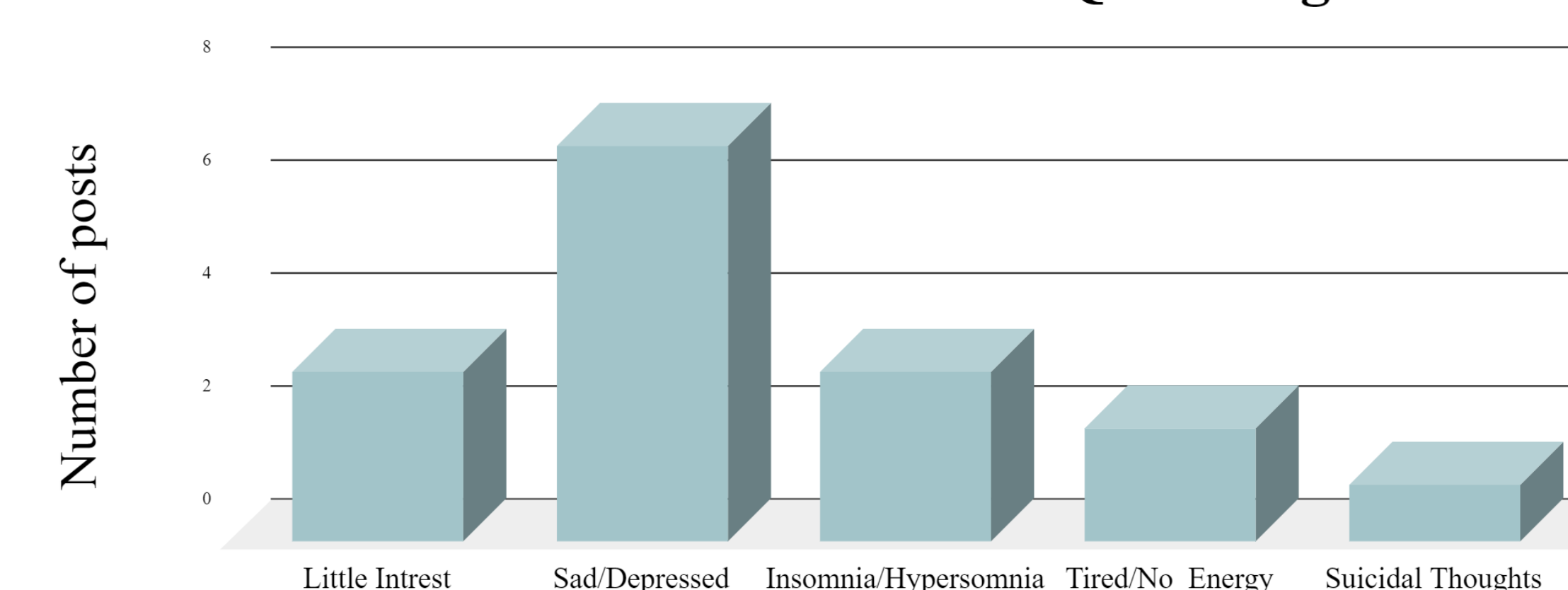


"I was so damn depressed today I could hardly bring myself to get out of my chair. Feels like the weight of the universe is sitting on my chest & I just want to sleep. #depression #bipolar"

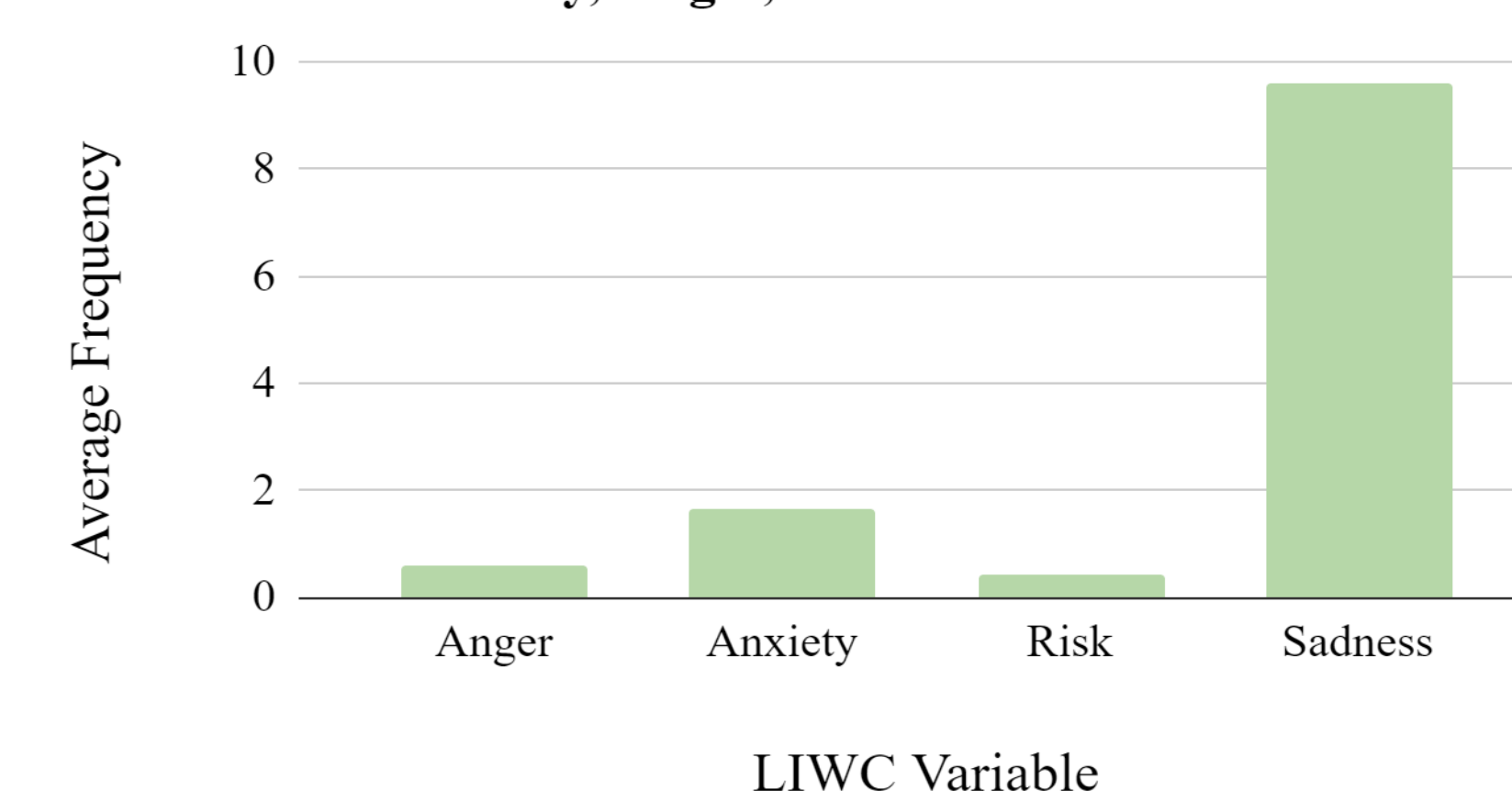
#depression feels like that nothing matters and everything matters. It's a sense that you aren't existing yet every sinew of you is in the deepest pain imaginable.

- 5 symptoms from the PHQ-9 that are present in individuals Twitter posts and the frequency of them showing up
- The 5 symptoms that showed up are 1-4 and 9
- Symptoms 5-8 were not present in any of the individuals' posts

Number of Posts that Fell into the PHQ-9 Categories

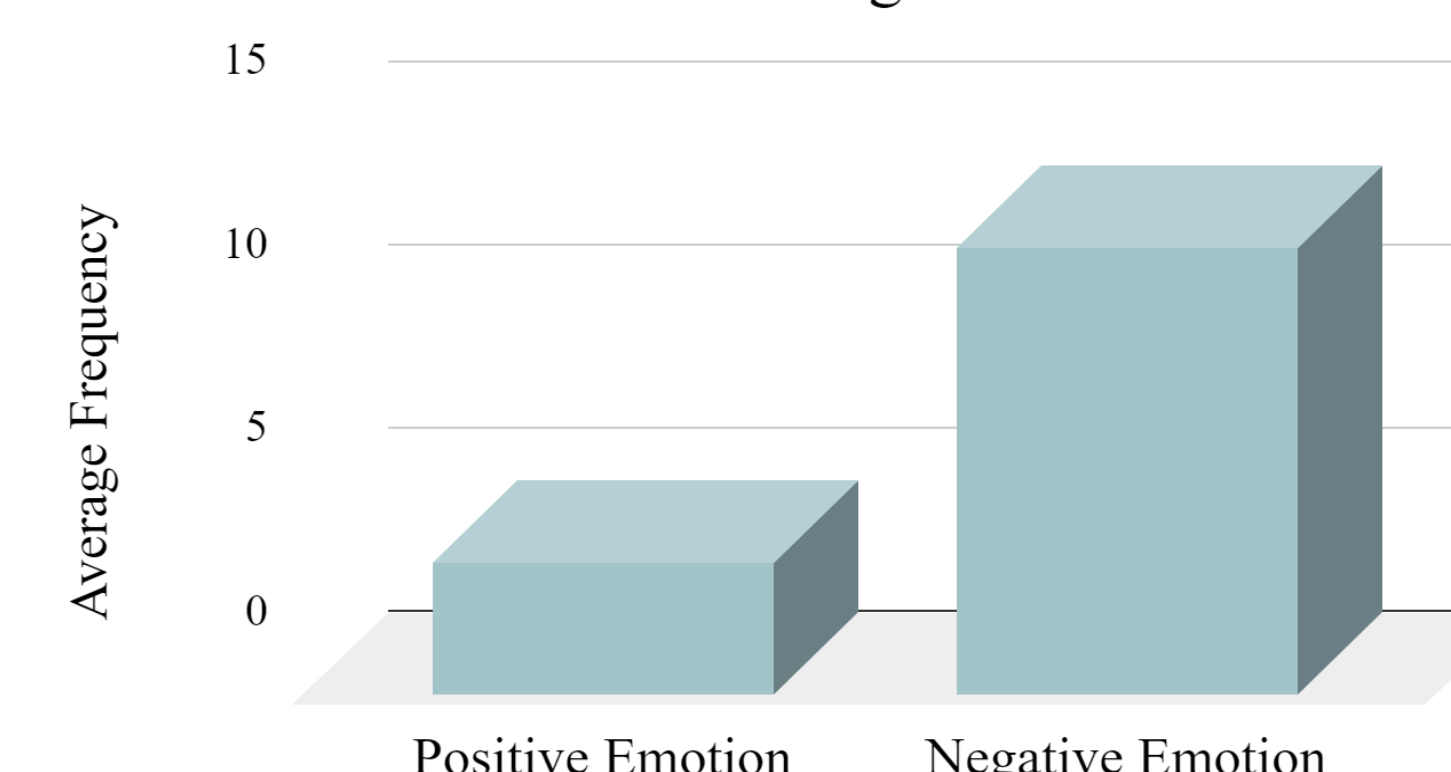


Prevalence of Anxiety, Anger, Sadness and Risk Words



"Completely Alone. The days when you're all alone. No matter how many people are around you, no matter what anyone says. Only your feelings. #depression #NFTartist"

Prevalence of Positive vs. Negative emotion



#epilepsy brings a lot of baggage that is hard to carry on your own including #depression don't be afraid to talk about it and talk to someone anyone if you feel you need to. I suffer with depression I know when it's getting too much. #epilepsyawareness #MentalHealthMatters

CONCLUSIONS

Main Findings

- With the results of this study, there was an unexpected lack of posts by individual non-verified accounts on Twitter
- The most prevalent depression symptom was feeling sad or depressed
- The most prevalent LIWC variable was sadness including negative emotion
- Posts showed more negative emotion than positive emotion

Limitations

- While gathering the posts to analyze there was an unexpected lack of posts by individual accounts nonbusiness/organization ran accounts. This caused a lack of data for the analyzation process
- Based on how LIWC calculates tone and wording, there is a lack in determining what individuals' posts are speaking on their recovery from depression and what individuals' posts are referencing the current depressive state that they are in

Implications

- Providers working with adolescents should be aware that Tweets referencing depression are about being in a sad or depressed mood
- Providers working with adolescents should also be aware that most posts using the #depression are negative emotion posts
- Due to the lack of individual posts, there were some new perspectives to look at, like, the change in social media use over the past couple years and where it is heading

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