



# Twitter Emotional Word Analysis

Random Sample of Tweets

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# Data Motivation

## Twitter Emotional Word Analysis

As a former Preschool Teacher, part of my ongoing education was to gain more credentials in Early Childhood Education which led me to focus on a key developmental milestone: Social and Emotional Skills.

Learning this subject matter and how to utilize tools for teaching my class was the catalyst for my new found interest and hobby in emotional intelligence and human behavior.

Over a person's life, new experiences shape social and emotional skills like a ripple effect in water. Thus, my curiosity in how Twitter users express themselves on the social media platform.

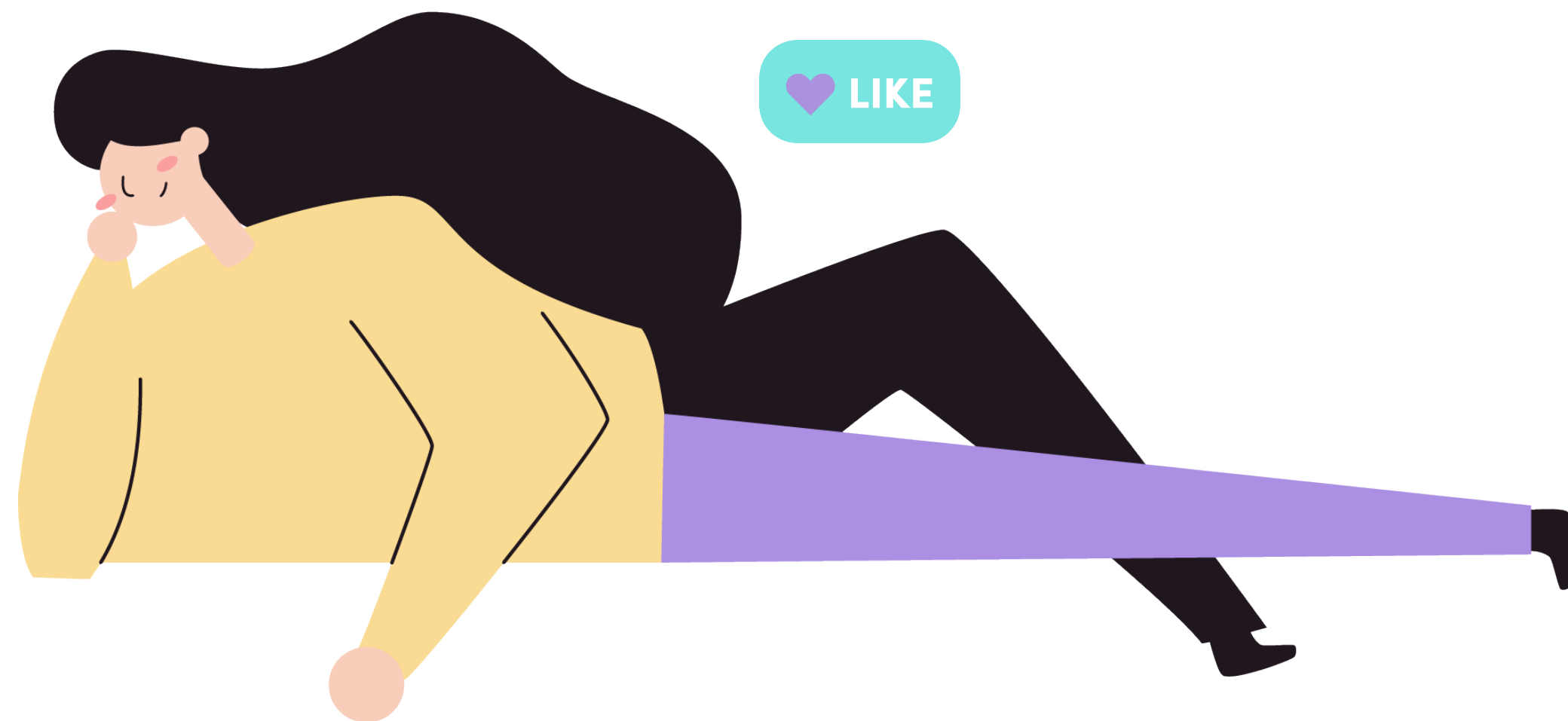
*"Emotions drive learning, decision-making, creativity, relationships, and health."*

*—Yale Center for Emotional Intelligence*

# Data Questions

## Twitter Emotional Word Analysis

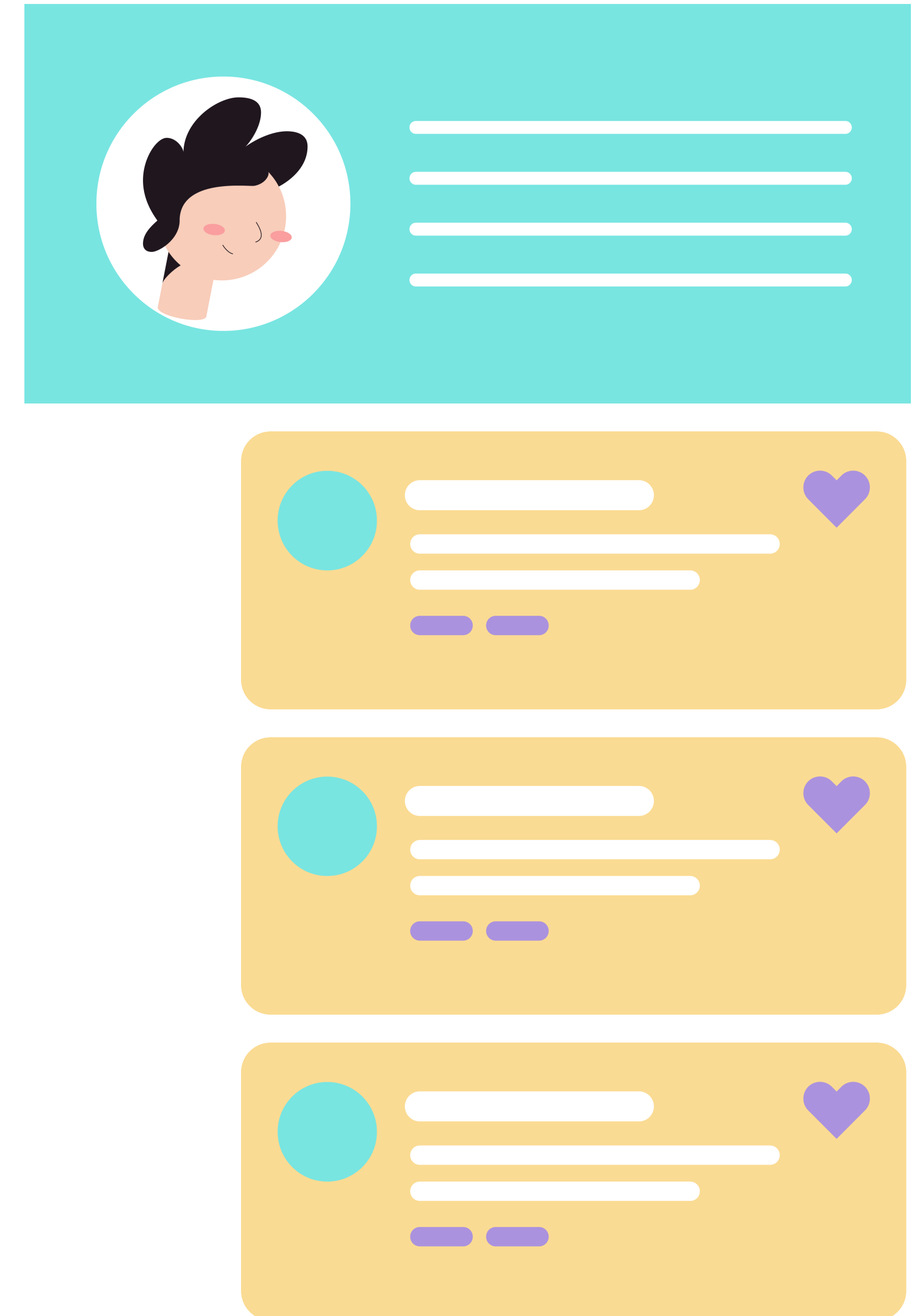
- What types of emotions do Twitter users tweet about more often?
- Do users have a wide emotional vocabulary for describing their feelings?
- Does the type of emotional expression affect the length of a tweet?



# Data

## Twitter Emotional Word Analysis

- Used the Twitter API to pull 25,010 tweets.
  - Before pulling the tweets:
    - the text was filtered by common words such as 'of', 'to', 'be' and/or 'have'. Sensitive language and hashtags were also filtered out to avoid pulling certain offensive content.
    - The tweets had a date and time parameter of April 19th 2021 T12:30:00Z, UTC time zone. Tweets were pulled in reverse chronological order.
    - The resulting data frame was 25,010 rows and 9 columns



# Data Continued

## Twitter Emotional Word Analysis

- Web-scraped for emotional feeling words from [psychpage.com](http://psychpage.com):
  - Reconstructed the scrapped data by words, sub categories, and main categories.
    - 240 feeling words
    - Originally 16 subcategories
    - Two main categories



%

# Pleasant Feeling Words

## Break down of emotional classification

ALIVE	GOOD	HAPPY	INTERESTED	LOVE	OPEN	POSITIVE	STRONG
playful courageous energetic liberated optimistic provocative impulsive free frisky animated spirited thrilled wonderful	calm peaceful at ease comfortable pleased encouraged clever surprised content quiet relaxed serene free and easy bright blessed reassured	great gay joyous lucky fortunate delighted overjoyed gleeful thankful important festive ecstatic satisfied glad cheerful sunny merry elated jubilant	concerned affected fascinated intrigued absorbed inquisitive nosy snoopy engrossed curious	loving considerate affectionate sensitive tender devoted attracted passionate admiration warm touched sympathy close loved comforted drawn toward	understanding confident reliable easy amazed free sympathetic interested satisfied receptive accepting kind	eager keen earnest intent anxious inspired determined excited enthusiastic bold brave daring challenged optimistic re-enforced confident hopeful	impulsive free sure certain rebellious unique dynamic tenacious hardy secure

# Difficult Feeling Words

## Break down of emotional classification

ANGRY	AFRAID	CONFUSED	DEPRESSED	HELPLESS	HURT	INDIFFERENT	SAD
irritated enraged hostile insulting sore annoyed upset hateful unpleasant offensive bitter aggressive resentful inflamed provoked incensed infuriated cross worked up boiling fuming indignant	fearful terrified suspicious anxious alarmed panic nervous scared worried frightened timid shaky restless doubtful threatened cowardly quaking menaced wary	upset doubtful uncertain indecisive perplexed embarrassed hesitant shy stupefied disillusioned unbelieving skeptical distrustful misgiving lost unsure uneasy pessimistic tense	lousy disappointed discouraged ashamed powerless diminished guilty dissatisfied miserable detestable repugnant despicable disgusting abominable terrible in despair sulky bad a sense of loss	incapable alone paralyzed fatigued useless inferior vulnerable empty forced hesitant despair frustrated distressed woeful pathetic tragic in a stew dominated	crushed tormented deprived pained tortured dejected rejected injured offended afflicted aching victimized heartbroken agonized appalled humiliated wronged alienated	insensitive dull nonchalant neutral reserved weary bored preoccupied cold disinterested lifeless	tearful sorrowful pained grief anguish desolate desperate pessimistic unhappy lonely grieved mournful dismayed



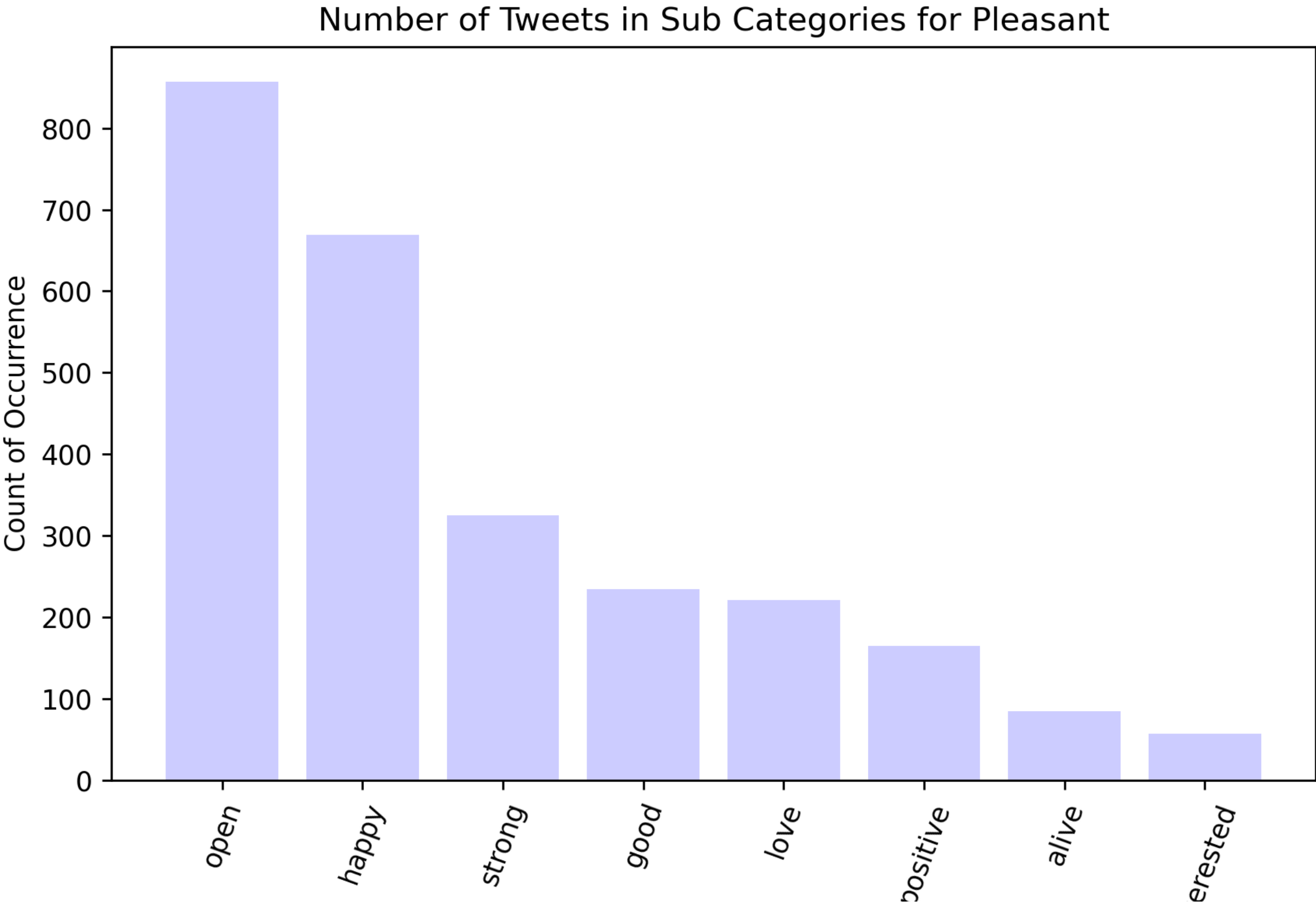
What types of  
emotions do  
Twitter users  
tweet about  
more often?





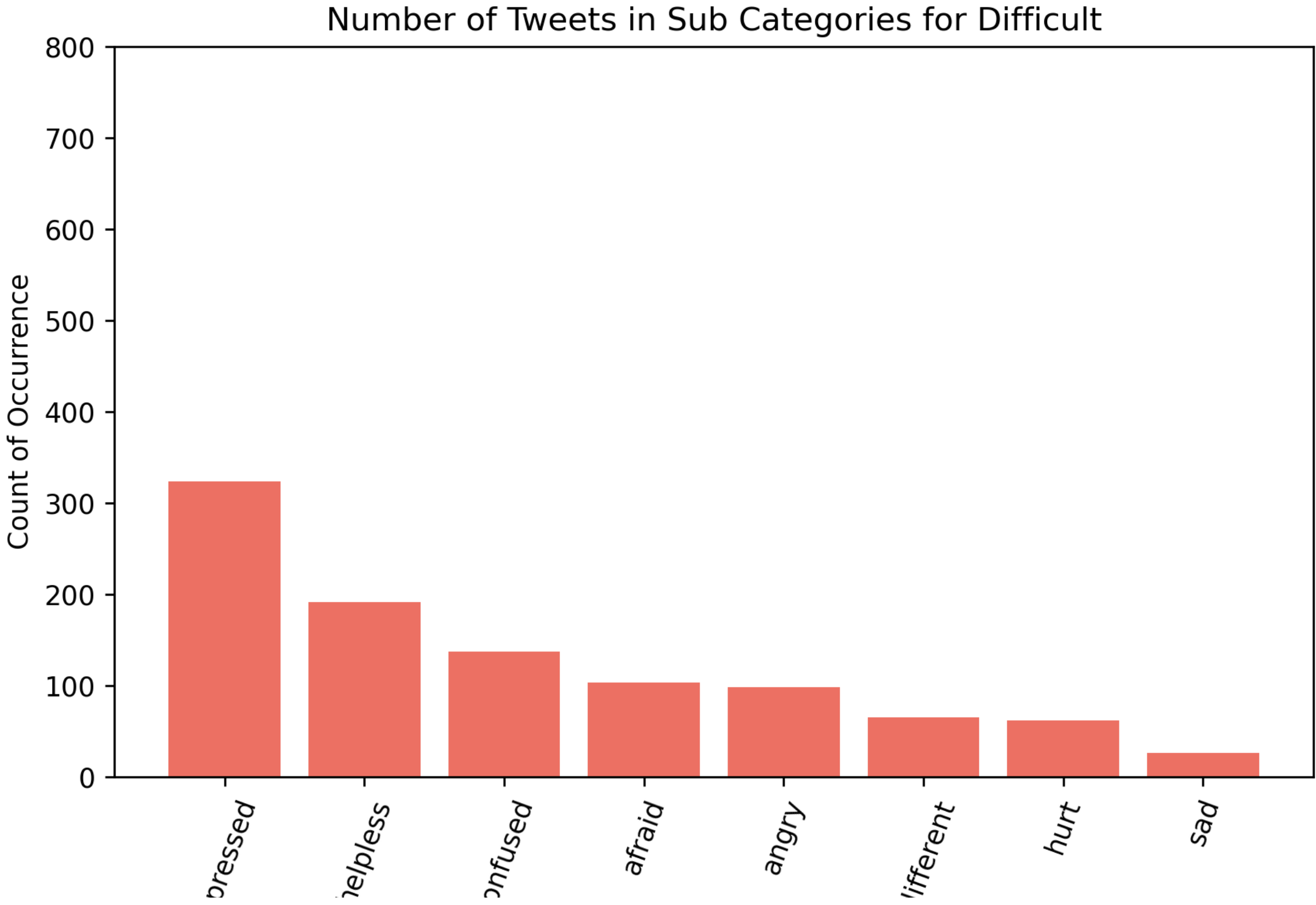
# Subcategories

## Pleasant vs Difficult



### Top Three for Pleasant

Open: 857 | Happy: 669 | Strong: 325



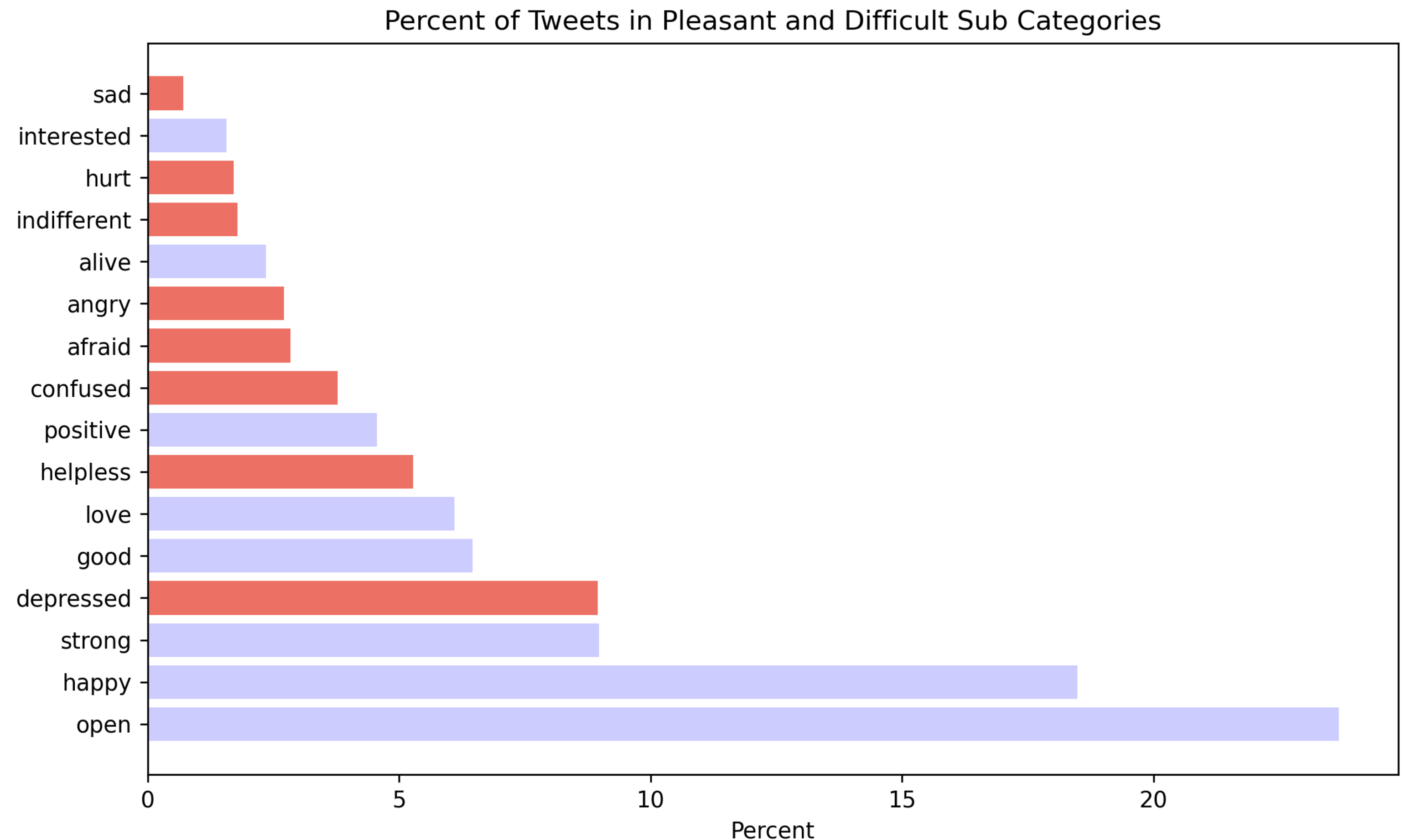
### Top Three for Difficult

Depressed: 324 | Helpless: 191 | Confused: 137

# Subcategories

## Pleasant vs Difficult

- Between Pleasant and Difficult, these two main categories account for 3,619 tweets.
- The highest percent of tweets belongs to the open subcategory with 23.6%
- Second highest goes to the happy subcategory with 18%
- Third highest to the strong subcategory with 8.9%
- Overall, the Pleasant category which is represented as the purple bars consist of 72% of the 3,619 tweets.



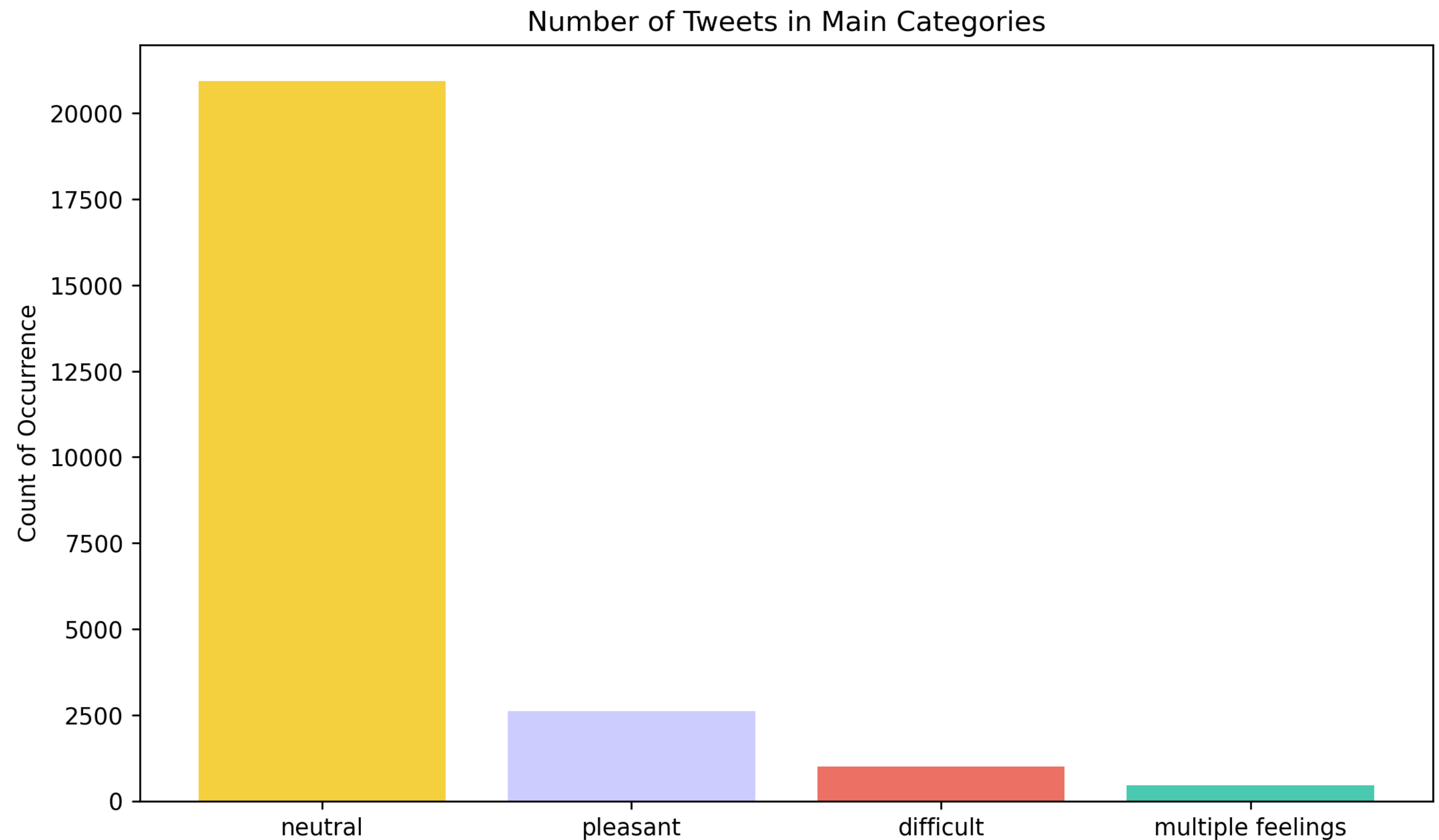
Do users have a  
wide emotional  
vocabulary for  
describing their  
feelings?



# Main Categories

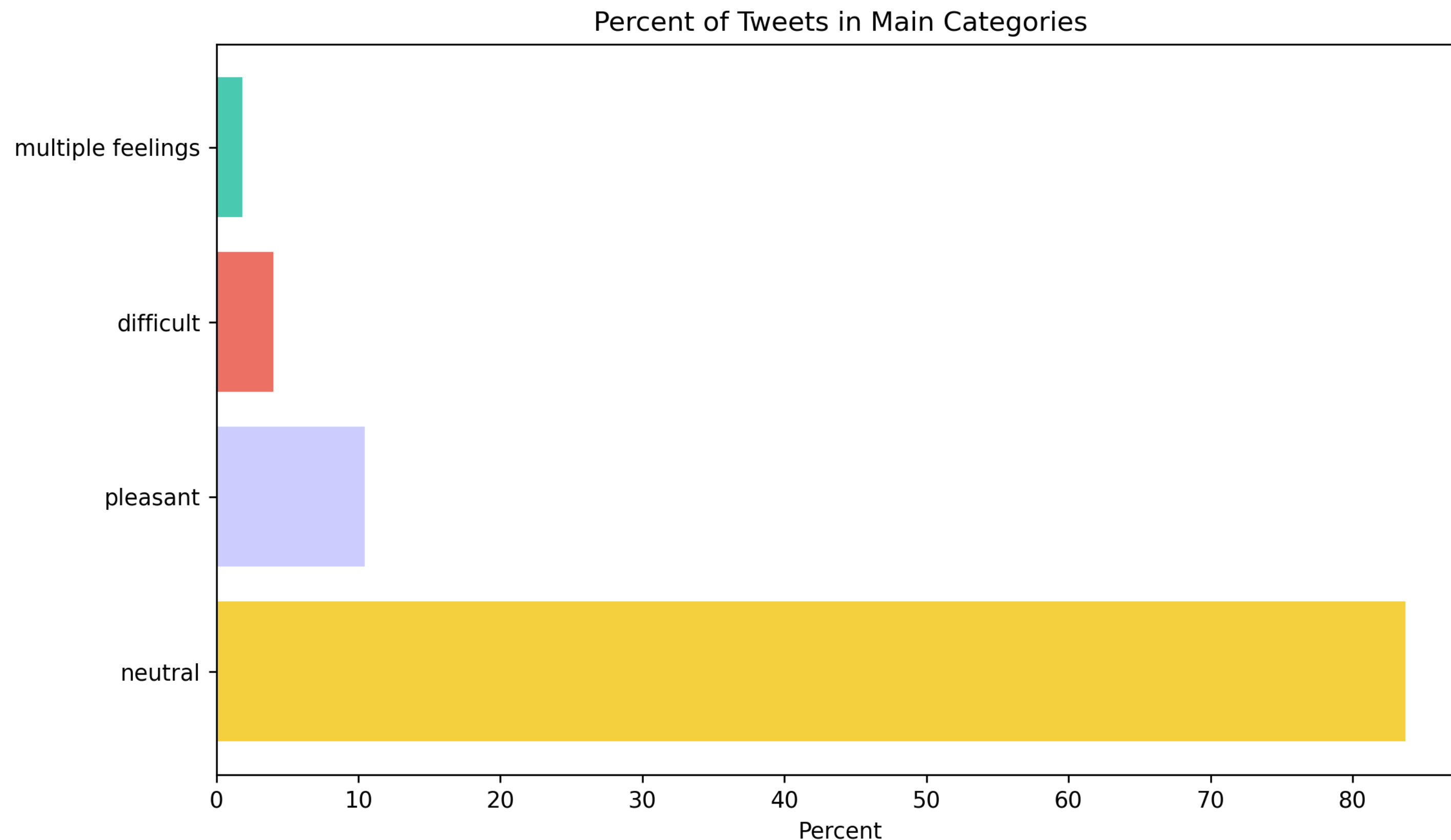
Pleasant | Difficult | Neutral | Multi-Feelings

- The neutral category captures all the tweets that didn't match for any of the 240 feeling words.
- The Multi-Feelings category contains various combinations of the 240 feeling words.
- Majority of tweets were neutral.
  - 20,936 out of 25,010 tweets



# Main Categories

Pleasant | Difficult | Neutral | Multi-Feelings



- The neutral category takes up roughly 84% of all tweets
- Pleasant category 10%
- Difficult category 4%
- Multi-Feelings 2%

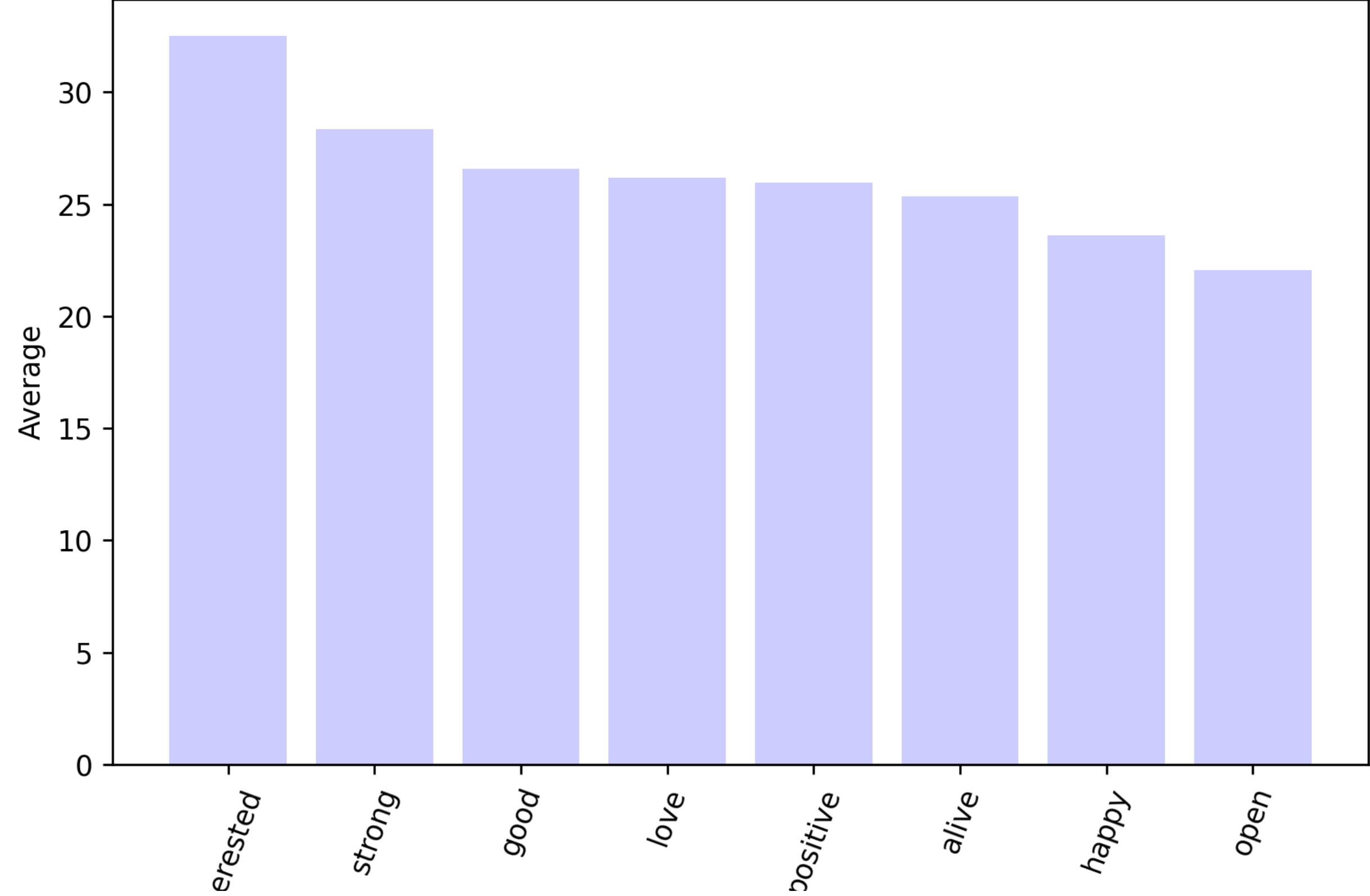
Does the type of  
emotional  
expression  
affect the length  
of a tweet?



# Tweet Length

## Pleasant vs Difficult

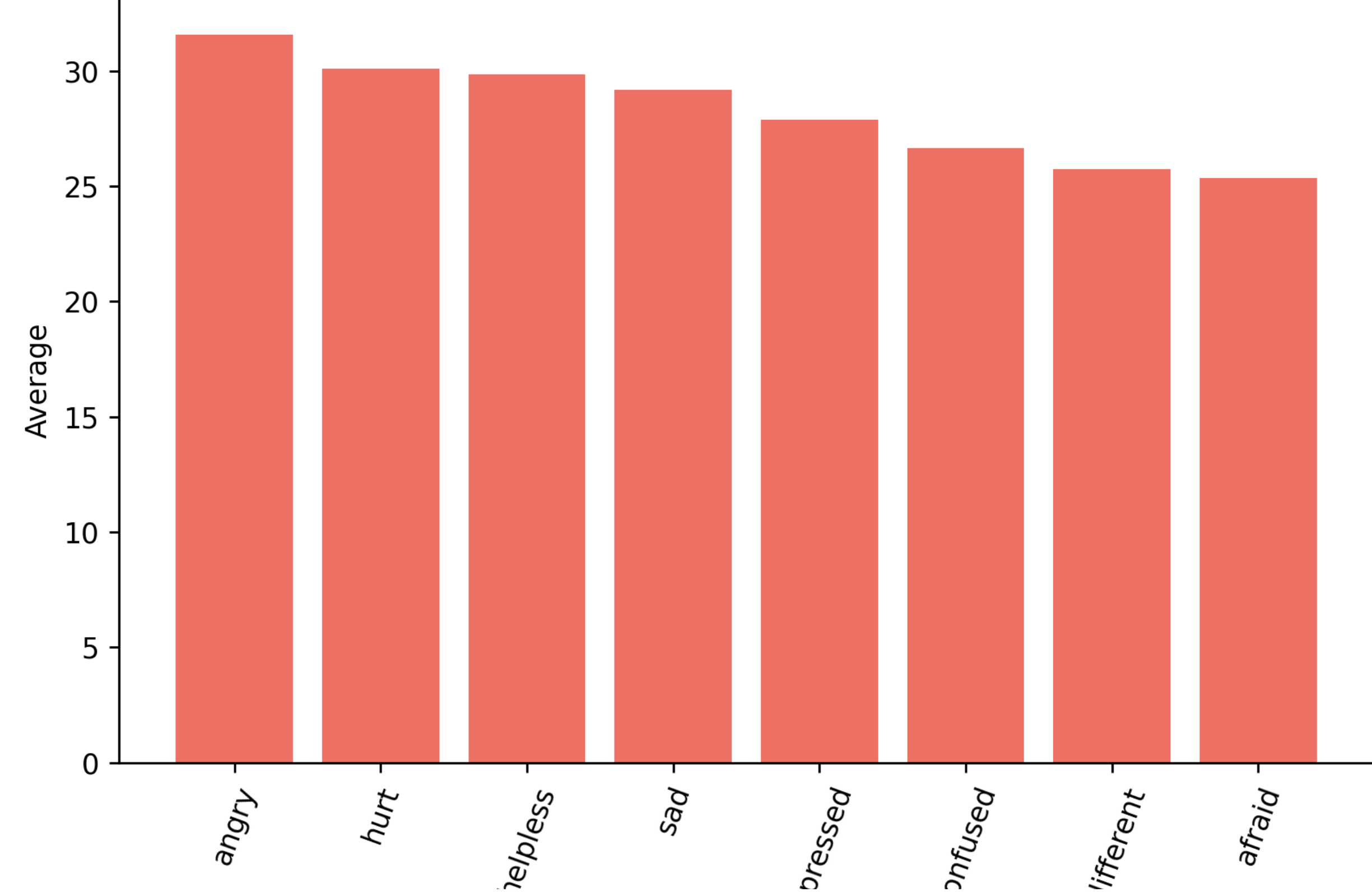
Average Word Count for Pleasant Sub Categories



**Top Three for Pleasant**

Interested: 32.5 | Strong: 28 | Good: 26.5

Average Word Count for Difficult Sub Categories



**Top Three for Difficult**

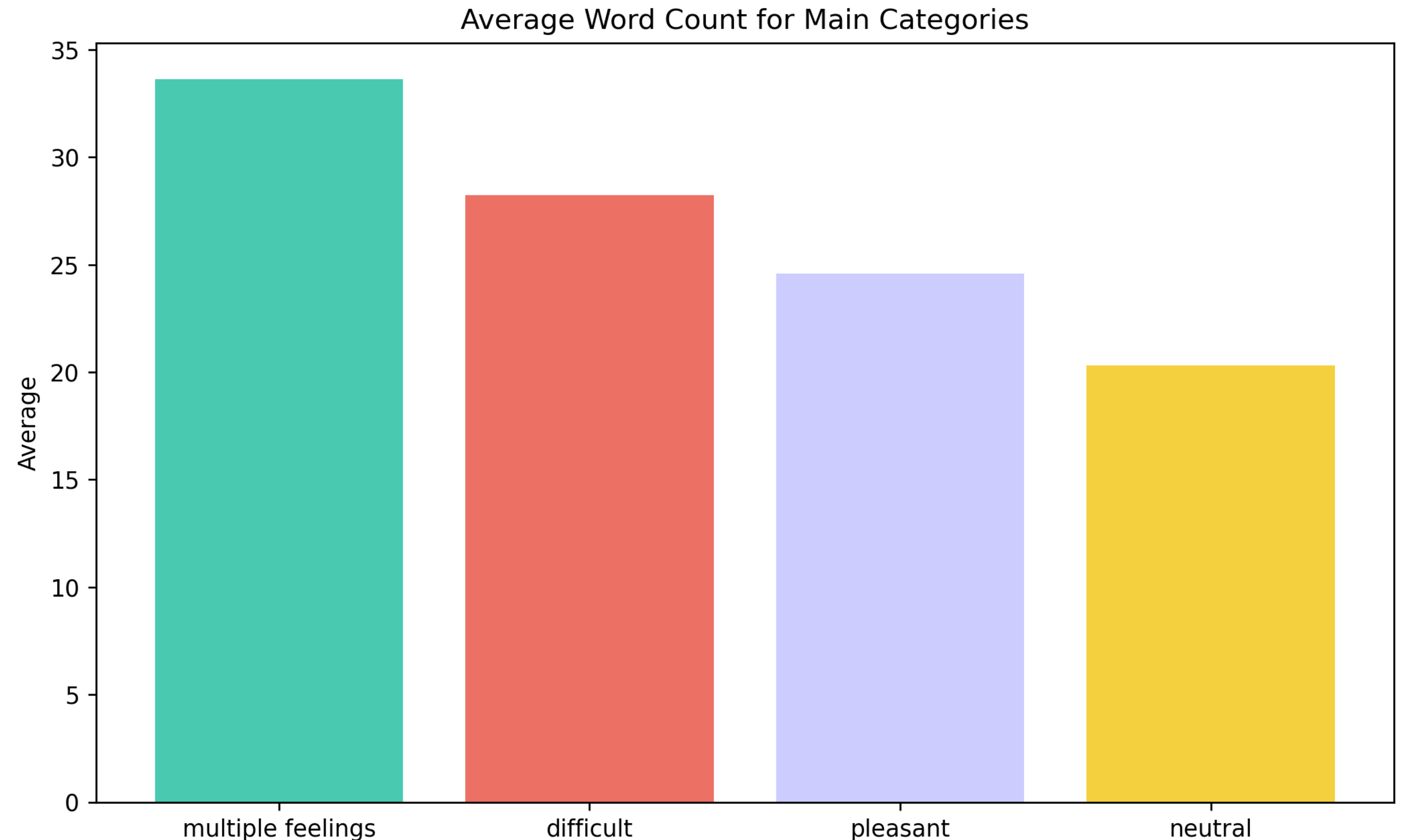
Angry: 31.5 | Hurt: 30 | Helpless: 29.8



# Tweet Length

## Main Categories

- Despite having only 2% of the overall tweets, the Multi-Feelings category has the highest average of 33.6 words.
- The Difficult category has the second highest average of 28 words per tweet.
- The Pleasant category is in third with an average of 24.5
- Surprisingly, the Neutral category that takes up 84% of tweets has an average of 20 words.



# Everything considered

- Twitter users often tweet relatively more pleasant messages than difficult ones.
- It is ambiguous if users have a wide emotional vocabulary for describing their feelings. There are 3,000 English words to express emotions, and only 240 words were used to analyze the tweets.
- Regarding the lengths of tweets, the type of emotional expression affecting the word count is questionable. However, the Difficult category did have more words per tweet on average than the Pleasant category.



Q&A