

Unmasking Emotions: Sentiment and Trends in Mental Health Forums

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Agenda

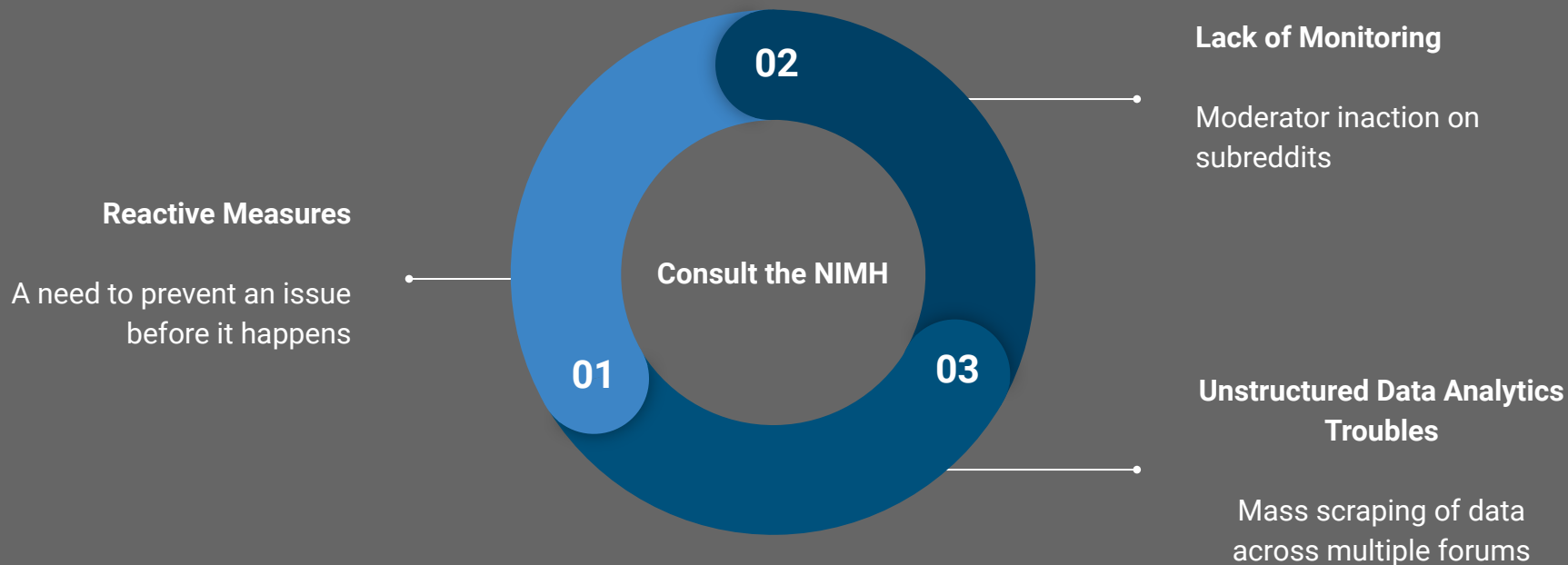
1. Current Problem and Goal
2. Data Source and Scraping
3. Data Analytics
4. Findings and Recommendations
5. Future Considerations

Trigger Warning

Discussion about Depression,
Suicide, and Mental Health issues
throughout

Current Problem & Goal

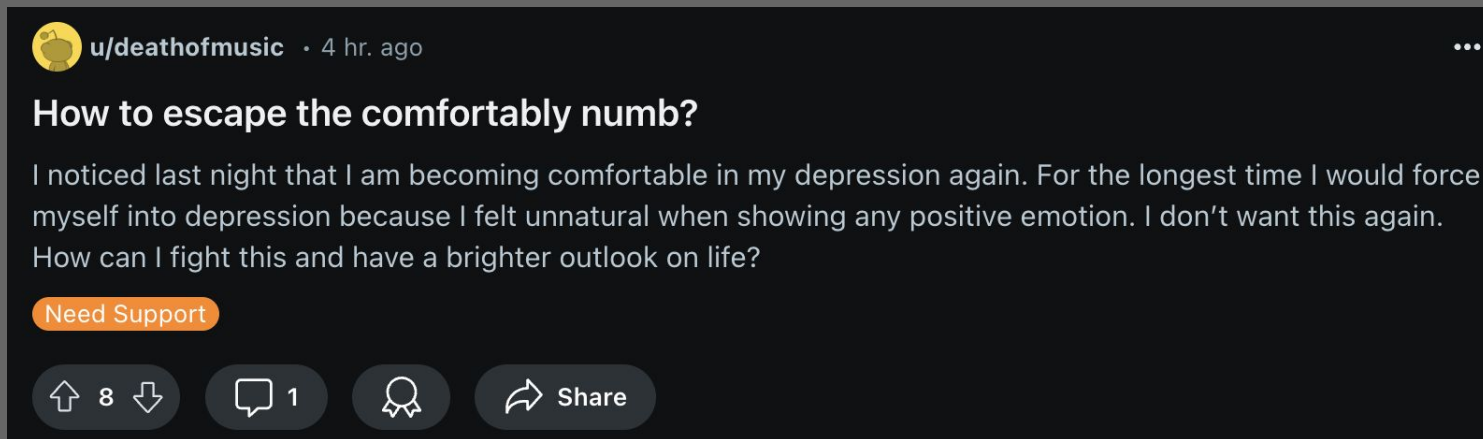
Current Problems and Goal



Data Source and Scraping Method

Data Source - Reddit

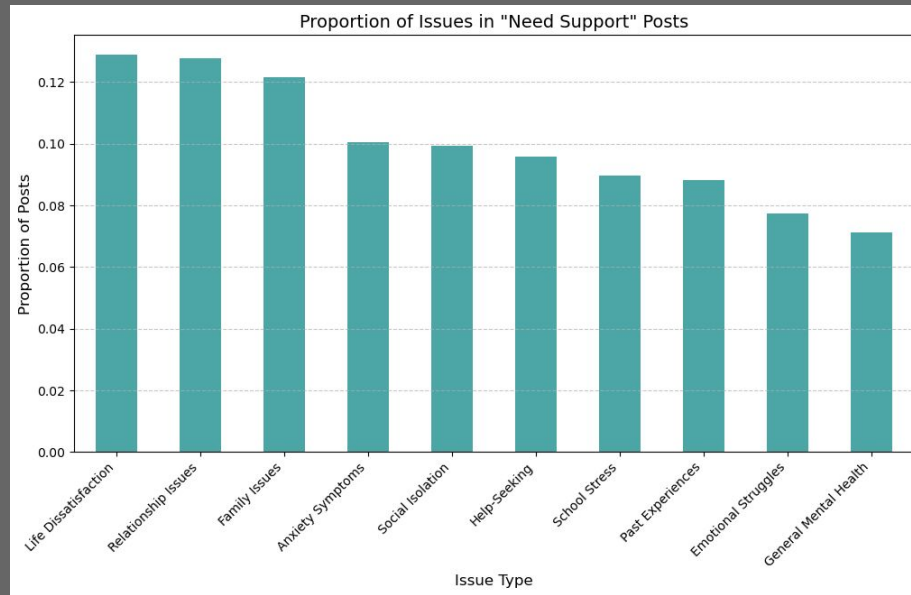
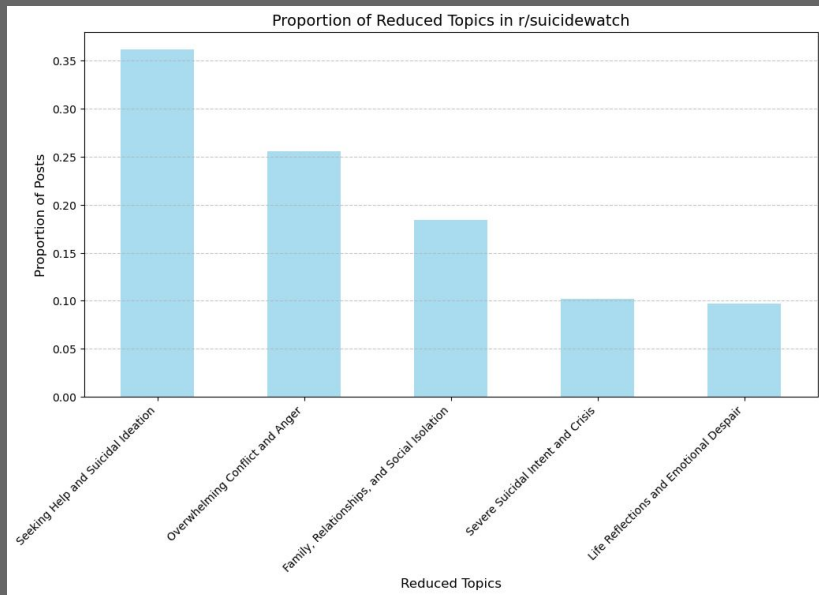
Subreddits specifically targeting mental health



- Sorted by flair - ("Need Support")
- Fetched across different sorting methods (new, rising, top, controversial)
- Filtered by time
- Duplicates were removed and date was converted to a human-readable form

Analytics

Topic Modeling



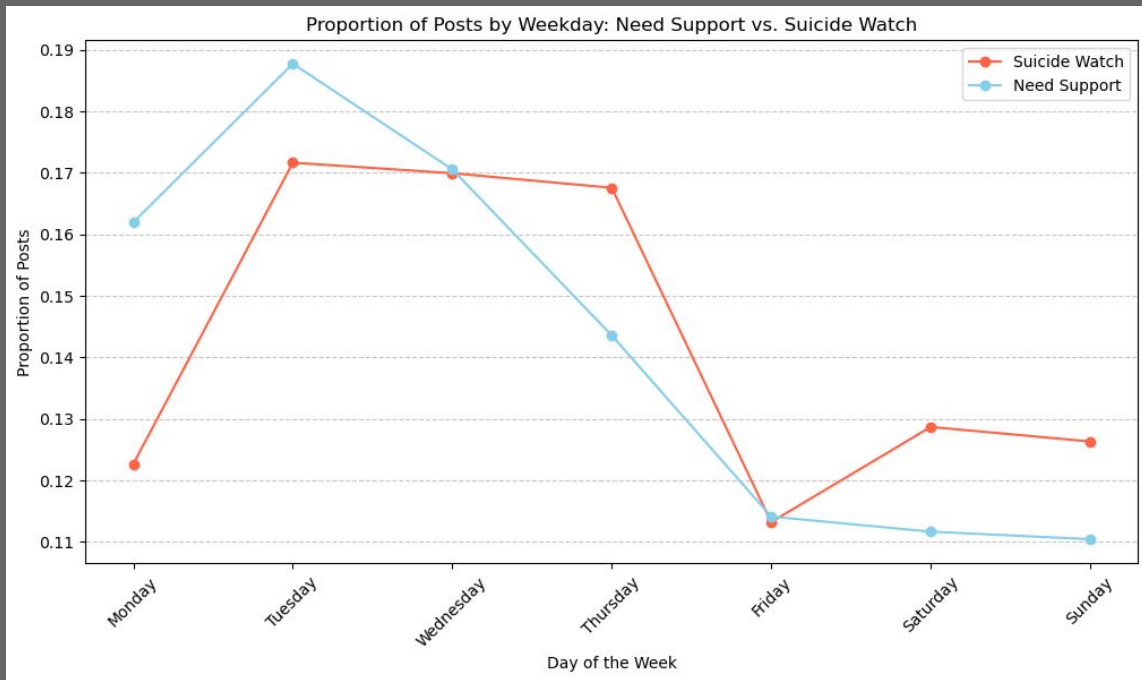
The top 3 concrete issues extracted from the data as a whole were:

Family related issues

Job related Issues

Social/Loneliness related issues

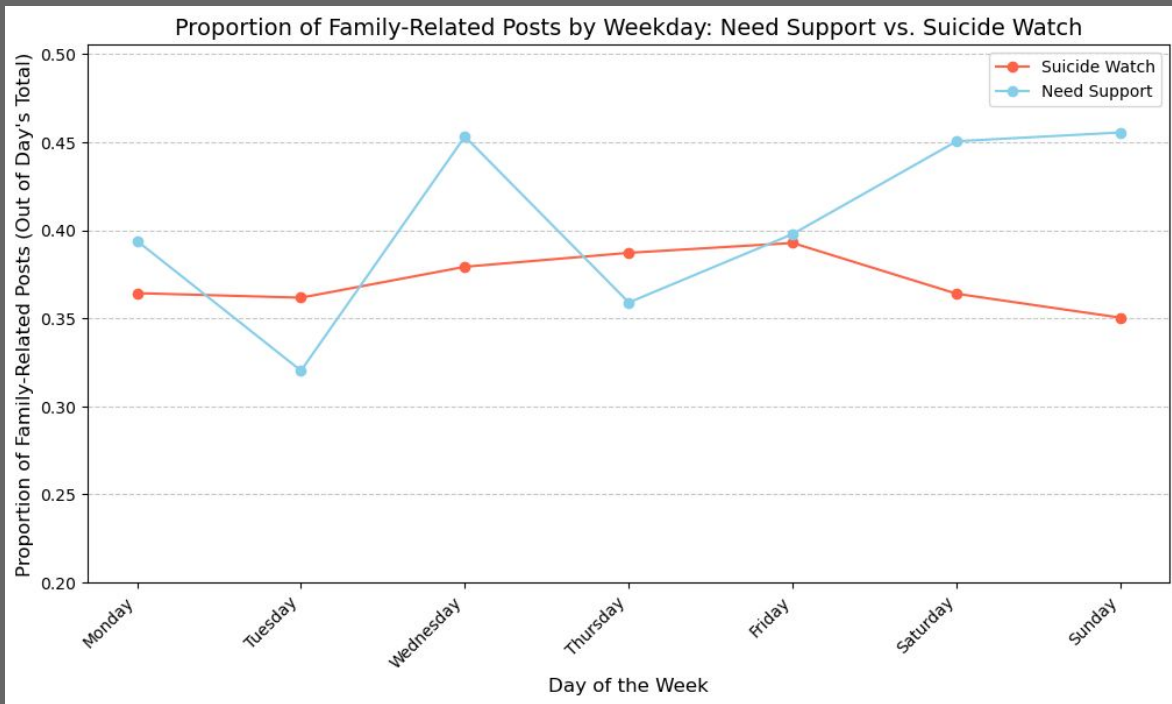
Day of Week Impact - Aggregate



Number of posts rise early in the week with a strong decline near the end

NOTE: Doesn't necessarily mean people are happier during the week

Day of Week Impact - Family



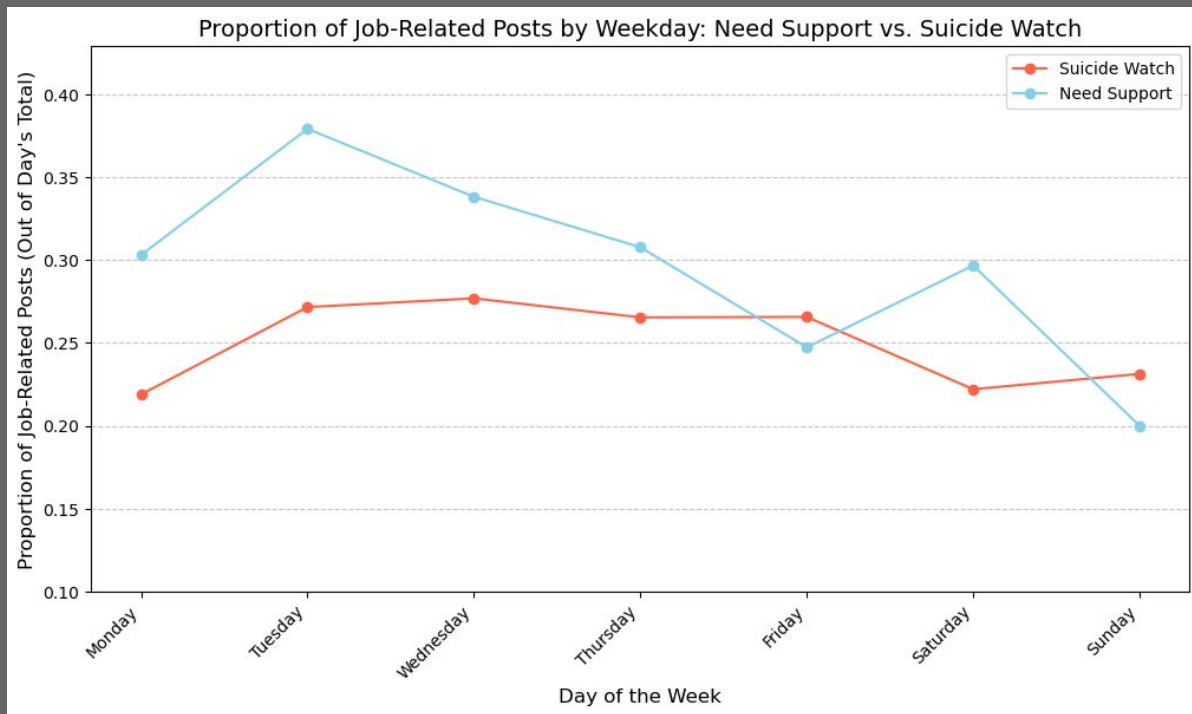
“Suicide watch” remains steady throughout the week

Notable increase from Thursday to Saturday for “Need Support” throughout the week

Median sentiment in r/needsupport: -0.74

Median sentiment in r/suicidewatch: -0.92

Day of Week Impact - Job



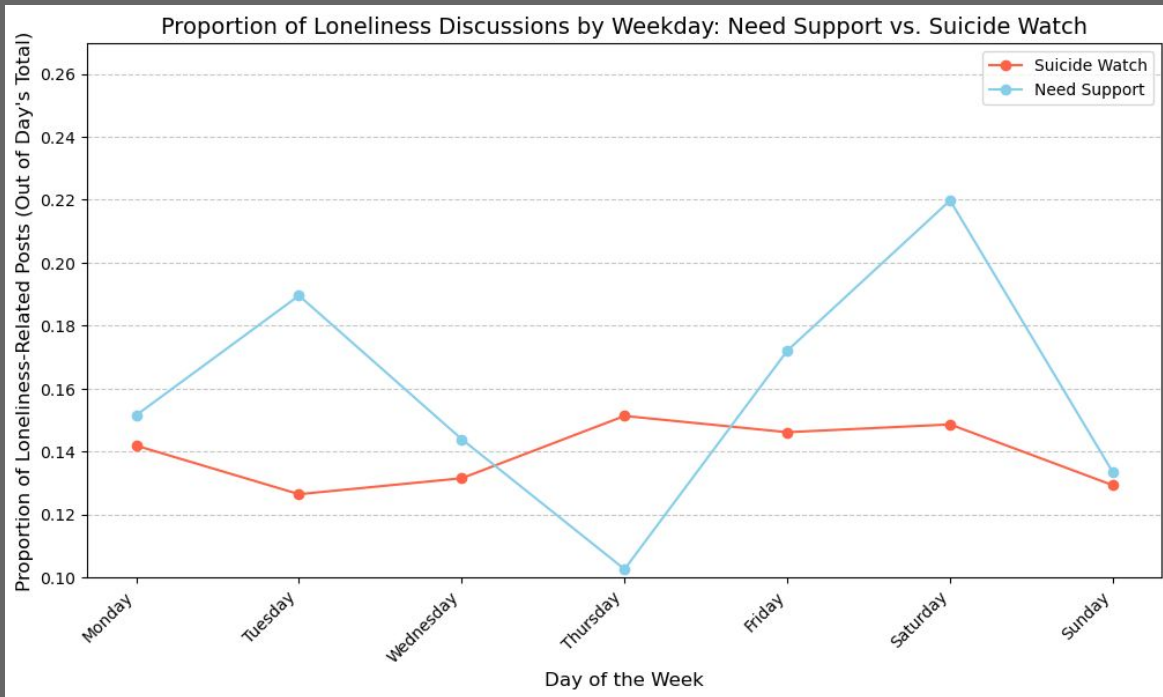
“Need support” decreased from Tuesday toward the end of week.

“Suicide Watch” stayed steady with a slight decrease during the weekend.

Median sentiment in r/needsupport -.72

Median sentiment in r/suicidewatch: -.92

Day of Week Impact - Loneliness



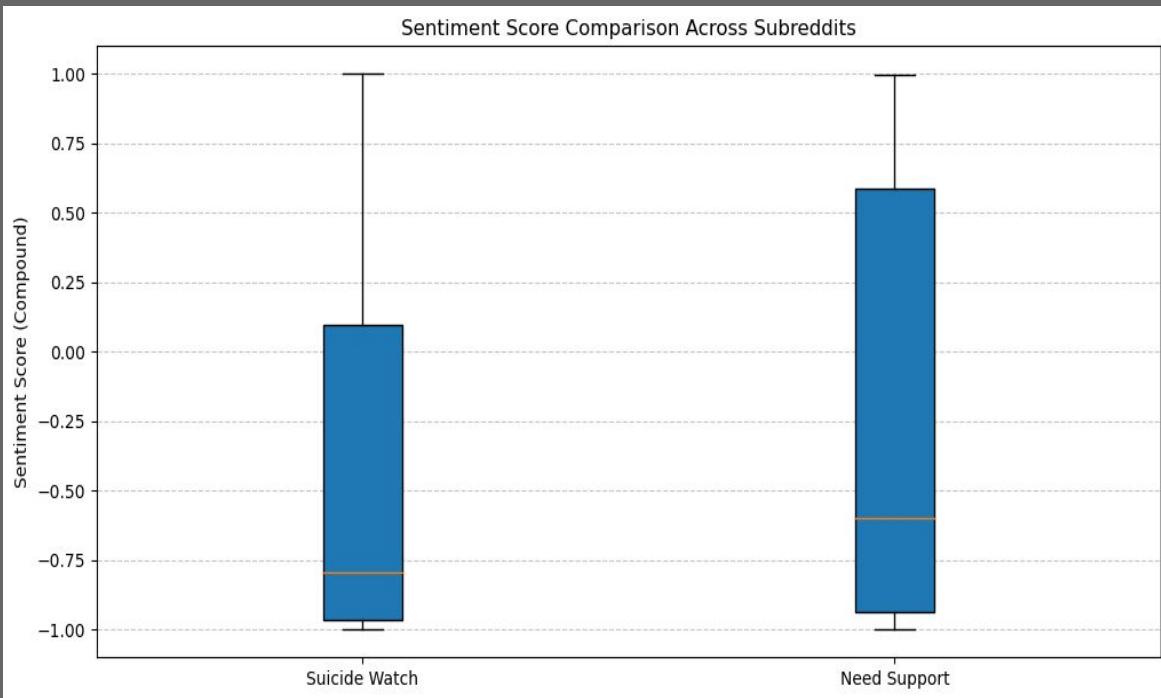
Need Support has two peaks on Tuesday and Saturday but reaches a low on Thursday

Suicide Watch still performed steady during the entire time.

Median sentiment in r/needsupport -.69

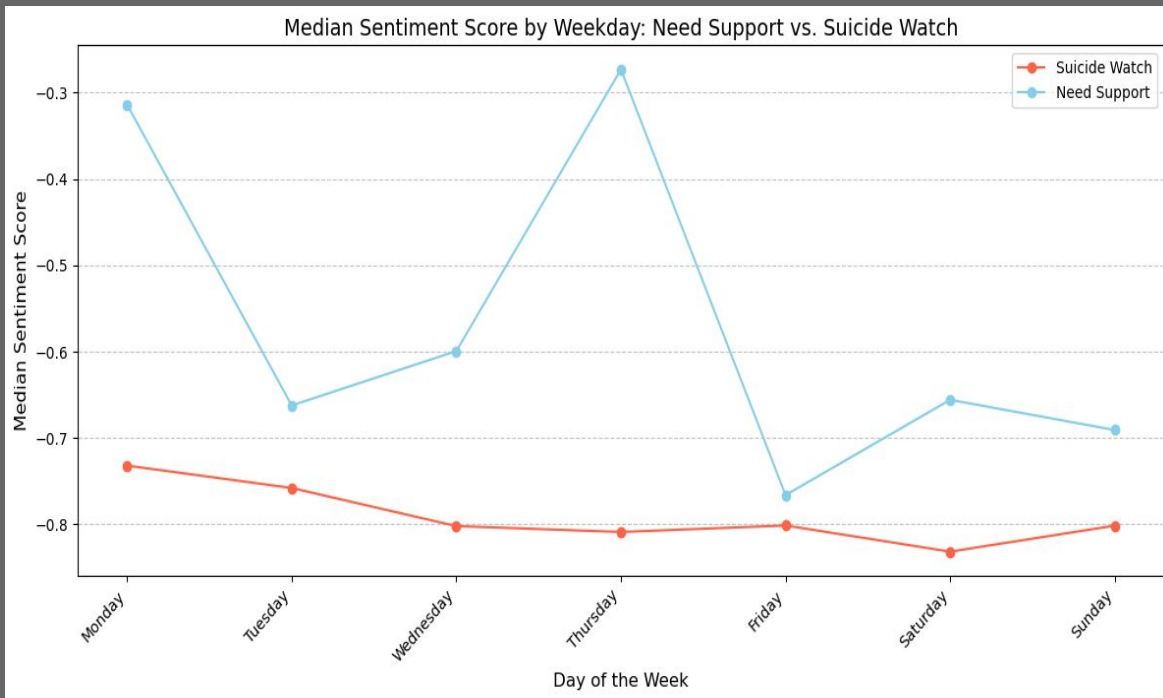
Median sentiment in r/suicidewatch: -.92

Sentiment Analysis



**r/suicidewatch was
more negative overall
than need_support**

Sentiment Analysis

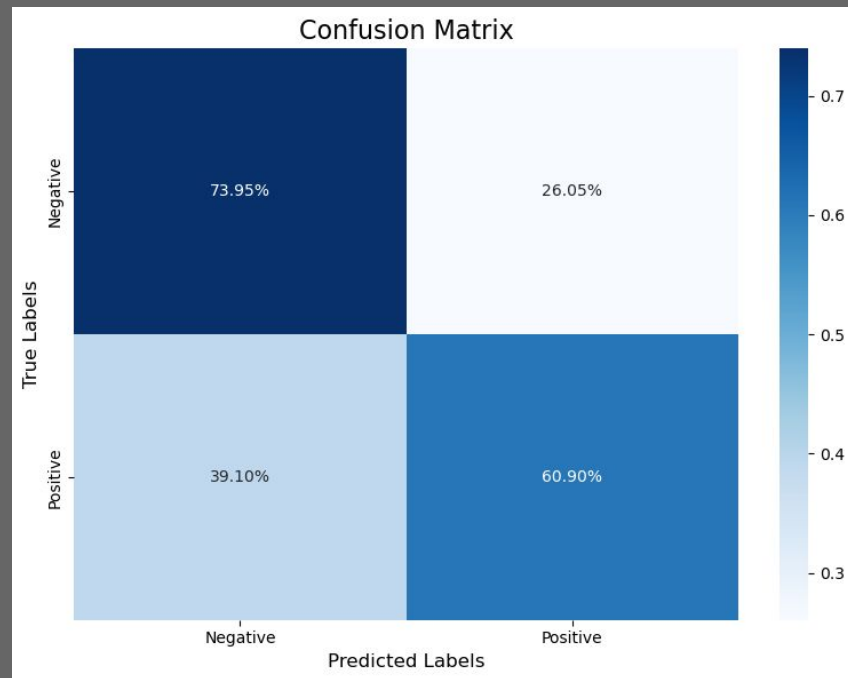


Need Support has two peaks on Monday and Thursday and reaches a low on Friday.

Suicide Watch is typically low sentiment for every day of the week

Data Classification - Crisis Identification

- Ran a logistic regression model to see if we could identify posts that require professional attention
 - Treated r/suicidewatch posts as positive class
- False negative rate is high, but shows potential



Findings and Recommendations

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Findings

01

Strong fluctuations in sentiment for the need_support data

02

Topic modeling offers avenue for resource distribution

03

“Suicide Watch” doesn’t fluctuate per day regarding sentiment for each topic

Solutions

- Develop nuanced dashboards and mitigation techniques
 - Offers granularity for classification models
- Ensure that staff trained in dealing with dynamic causes and specifically catered resources via dms or responses
- Seeing a post on this subreddit is a stronger cry for help - prioritize posts and comments immediately
- Spread awareness with companies/schools to have better policies for mental health and workload.

Future Considerations

Future Considerations

Interactive Dashboard

Create a dashboard that continuously updates keyword databases and adapts to evolving language trends, enabling the detection and monitoring of emerging mental health crises across the country

Data Security

Implement robust privacy safeguards and ethical guidelines crucial to protect user data

More Data

Scrape other online forums or more mental health subreddits for more accurate results



THANK YOU