



Sentiment Analysis of Twitter Posts About the War in Ukraine

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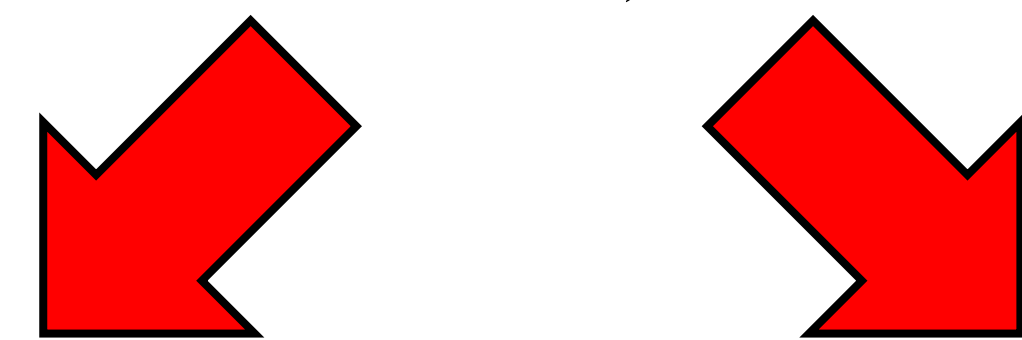
INTRODUCTION

- Researchers suggest that the conflict in Ukraine, and the way it is portrayed in the media, has had an impact on teens' mental health worldwide.
- Mental health issues such as depression and excessive stress in teens have increased with the recent pandemic and war crisis.
- It is important to know the emotional tone used by news outlets specifically targeting adolescents.
- Gap: The recent war in Ukraine on the heels of a COVID pandemic has prevented scientists from adequately exploring the effects of the war's news coverage on teen mental health.

The purpose of this study was to determine the differences in the coverage of the War on Ukraine between a teen-focused news outlet and an adult news outlet.

METHODS

- Study Design: Content and Sentiment Analysis
- Subjects: N = 196 Twitter posts (from Teen Vogue and Rolling Stone) and the content/variables from them. These posts were posted between the Feb 24 and March 7, 2022.
- Posts both about the war in Ukraine as well as other non-related posts were recorded alongside their demographic data (comments, retweets, likes).



Compare the demographic data from posts about Ukraine and posts not about Ukraine.

Run the posts about Ukraine through LIWC, (Linguistic Inquiry Word Count) a tool which measures the words with emotional tone.

LIWC Variables	Examples
Anxiety	worried, fearful, scared of
Anger	hate, annoying, stupid, kill
Sadness	crying, grief, sad, lonely
Affective Processes	happy, cried, sobbing, dying
Tentative	maybe, perhaps, I don't know
Causation	because, this caused

- T-test was used to compare the averages of scores across outlets.

RESULTS

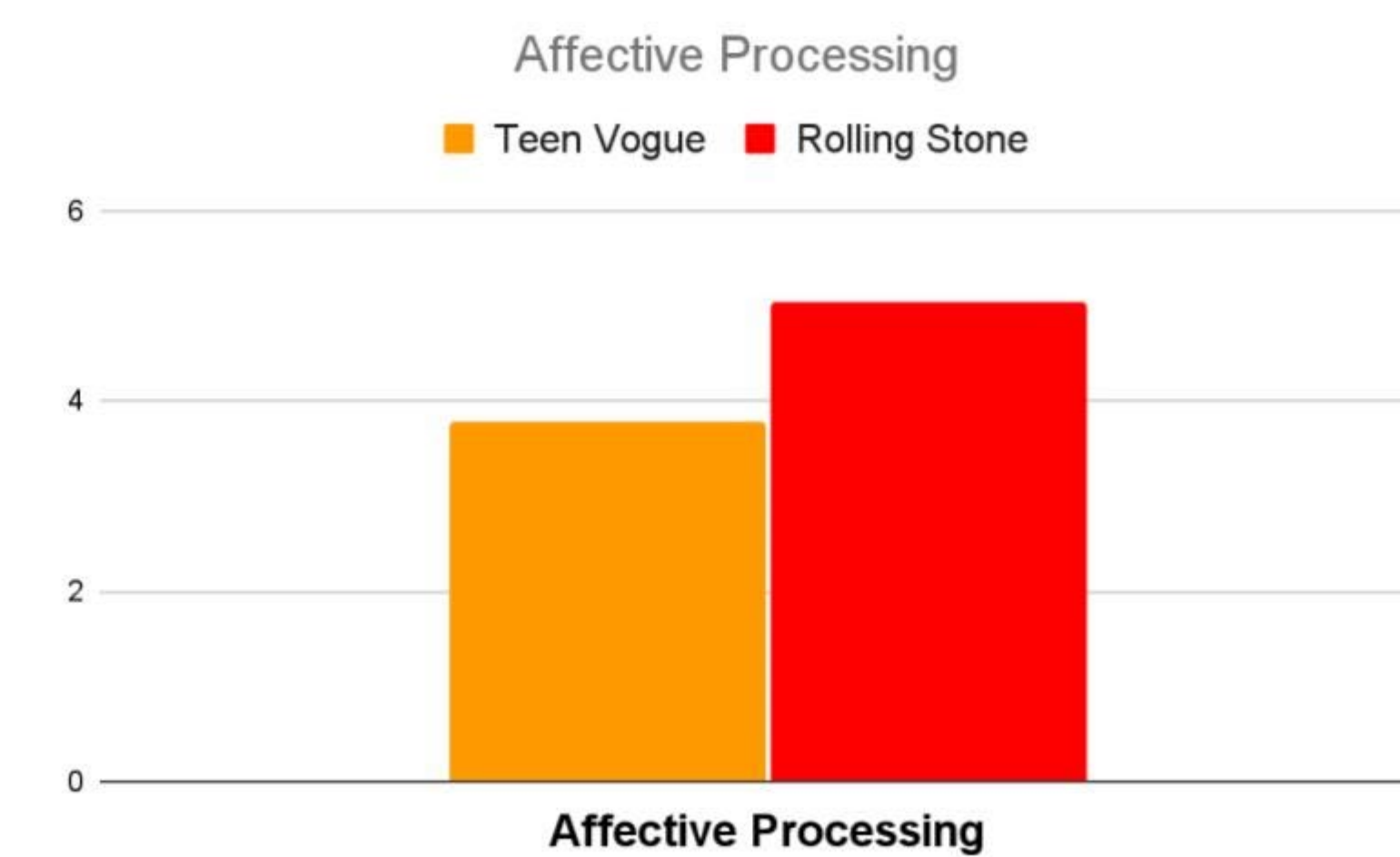
Demographics

Posts regarding Ukraine

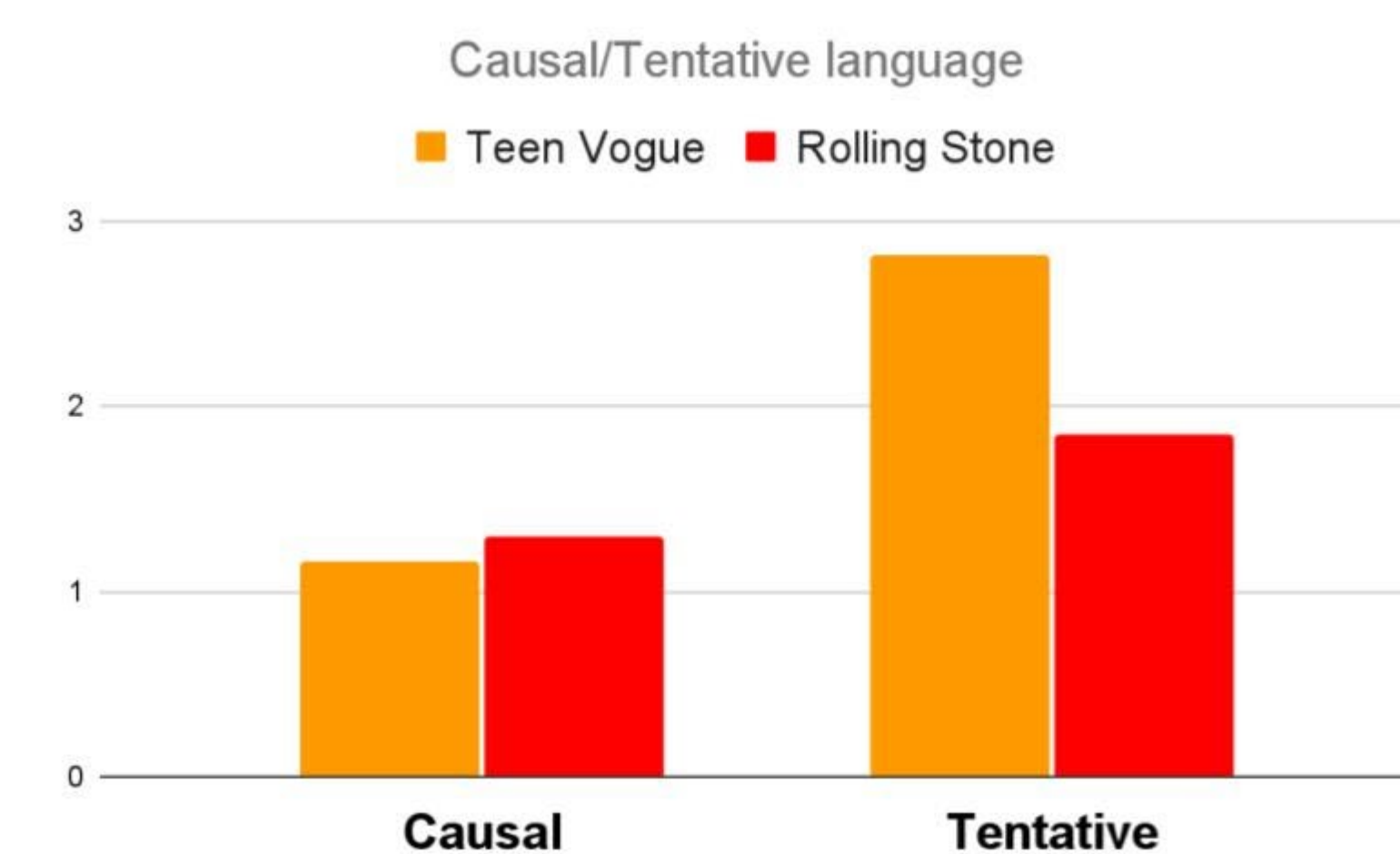
News outlet	N	Likes	Comments	Retweets	% of posts
Teen Vogue	3	34.00	0.5	8.25	3.12%
Rolling Stone	8	180.38	34.88	64.25	8.0%

Posts not regarding Ukraine

News outlet	N	Likes	Comments	Retweets	% of posts
Teen Vogue	93	43.10	0.83	7.75	96.88%
Rolling Stone	92	128.74	11.23	36.12	92.0%

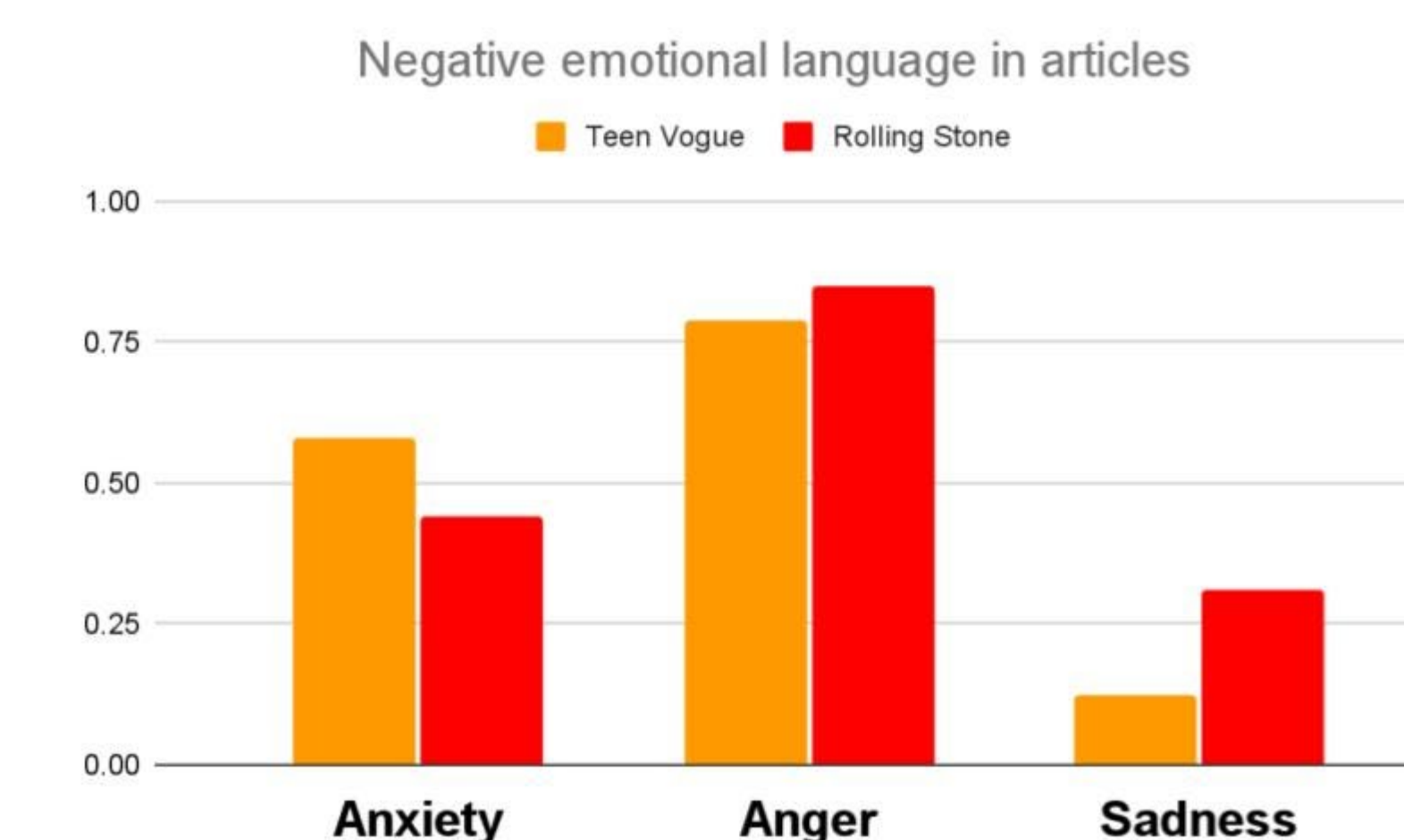
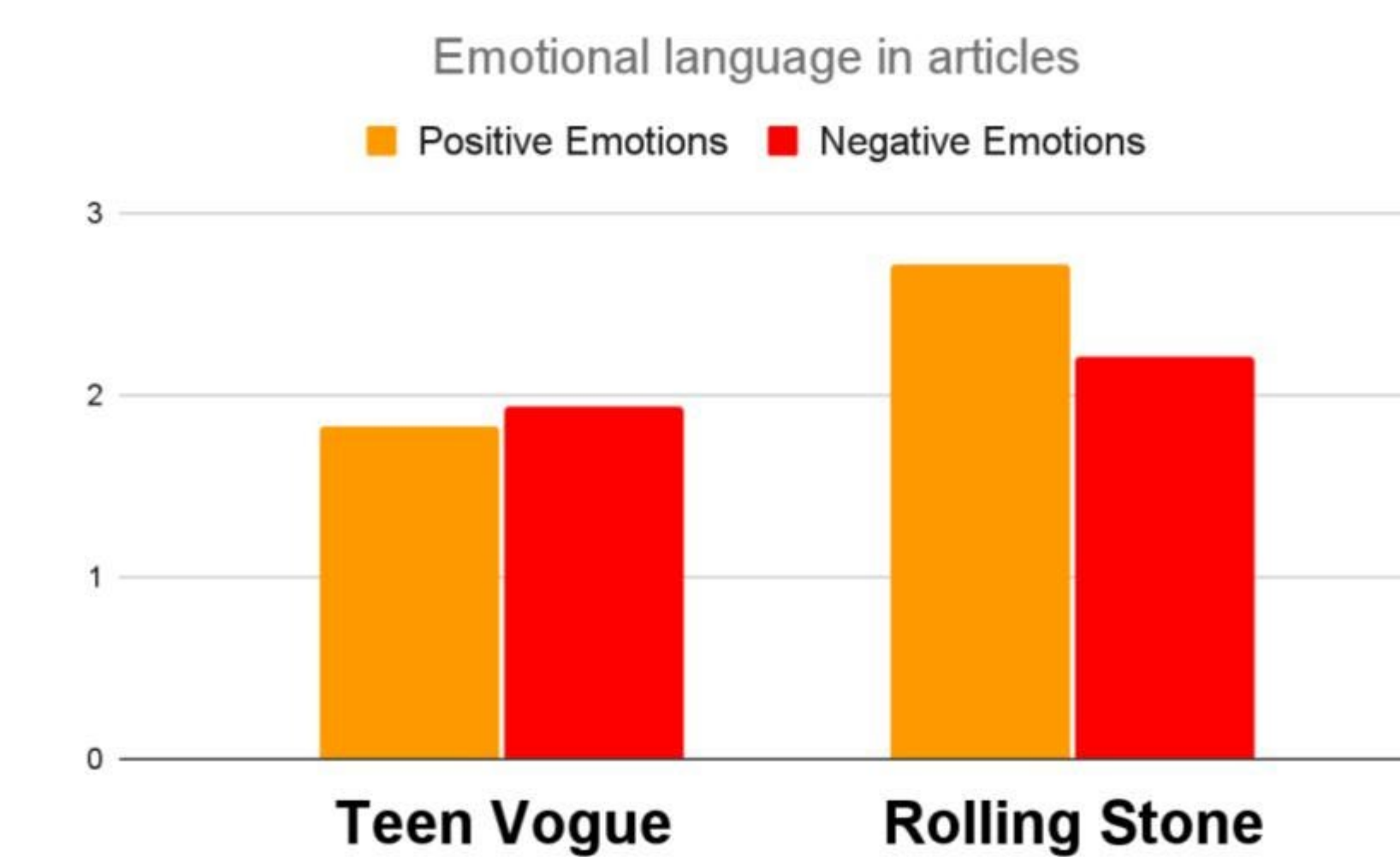


- Teen Vogue articles reported an average affective processes score of 3.77. Rolling Stone articles reported an average affective processing score of 5.03. These two are not significantly different ($t(6.98) = -2.21, p = 0.06$).



- The causal and tentative language scores of Teen Vogue and Rolling Stone do not significantly differ from each other. Causal: $t(2.87) = 2.23, p = 0.12$
Tentative: $t(5.70) = -0.72, p = 0.50$.

- Teen Vogue articles reported an average positive mood score of 1.82 and an average negative mood score of 1.93. These scores were not significantly different ($t(3.09) = -0.28, p = 0.80$).
- Rolling Stone articles reported an average positive mood score of 2.72 and an average negative mood score of 2.21. These scores were not significantly different ($t(9.32) = 0.86, p = 0.41$).



- Teen Vogue articles reported an average tentative score of 2.81. Rolling Stone reported an average tentative score of 1.85.
- Teen Vogue articles reported an average causation score of 1.16. Rolling Stone articles reported an average causation score of 1.30.
- Teen Vogue articles reported an average anxiety score of 0.58, an average anger score of 0.79, and an average sadness score of 0.12.
- Rolling Stone articles reported an average anxiety score of 0.44, an average anger score of 0.79, and an average sadness score of 0.12.
- The anger and anxiety scores were higher than sadness scores in articles written by both Teen Vogue and Rolling Stone.

CONCLUSIONS

Main Findings

- Rolling Stone had more content regarding the War in Ukraine than Teen Vogue did.
- The Positive and Negative Emotions were similar in articles written by Teen Vogue and Rolling Stone.
- Although Teen Vogue covered less material on emotional topics such as the War in Ukraine, the Negative emotional language in their articles was still defined mostly by anger and anxiety.
- The articles about the War in Ukraine had greater anger and anxiety scores than sadness scores for both Teen Vogue and Rolling Stone.

Future Action

- Future research projects to include comparison of emotional tone and sentiment analyses in other mainstream U.S and Ukrainian teen-focused news outlets.

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