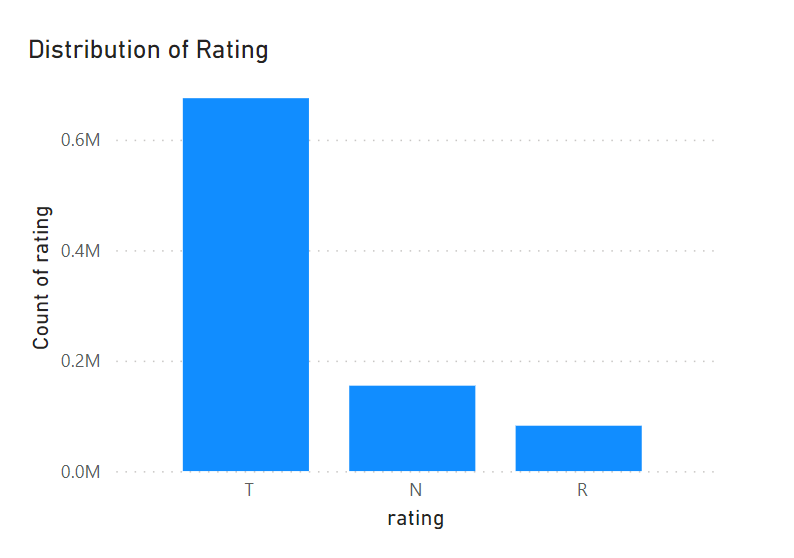
1.



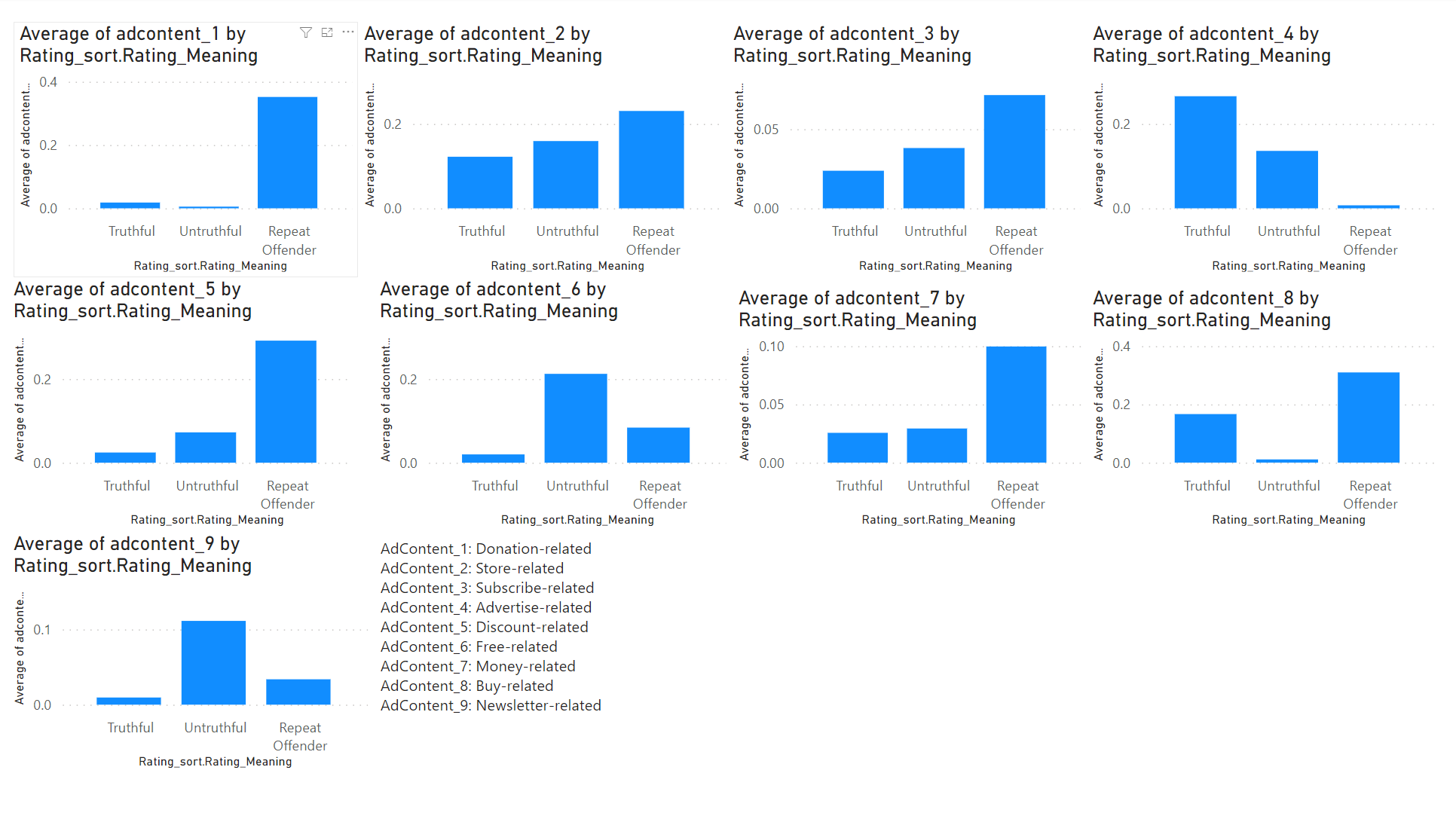
This graph shows how the number of news distributes across three categories of rating.The majority is news with truthful domains while news with untruthful domains ranks the second, and repeat offenders ranks the last. Because of the uneven distribution of rating, it is important to avoid metrics such as ‘count’ or ‘sum’ when comparing ratings against other features.

2.



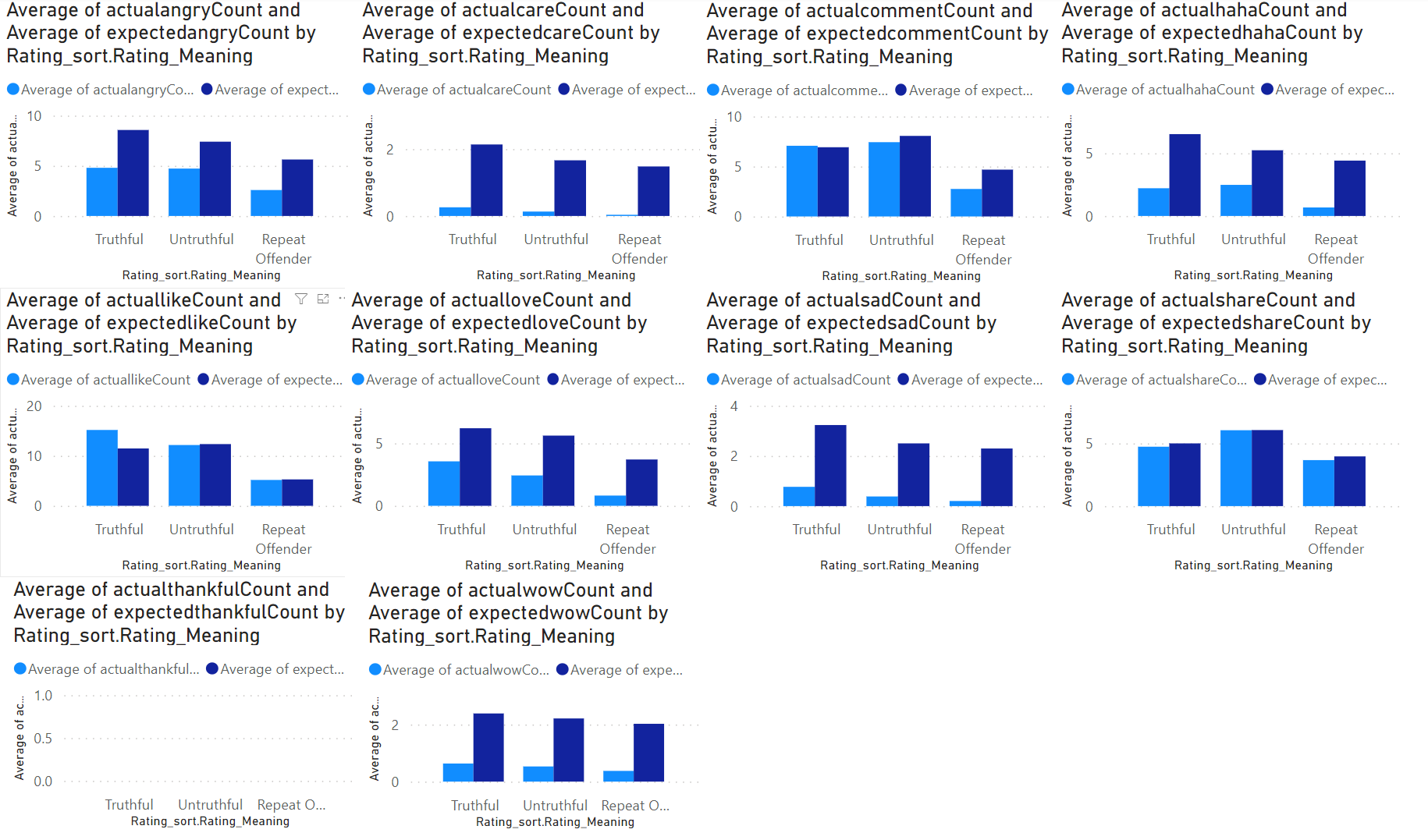
This graph displays the average count of news by rating for each topic in sublinks. For most of the topics, truthful domains tend to have higher average count while repeat offenders tend to have less average count.

3.



This graph shows the average count of news by rating for each topic in ad contents. Interestingly, the pattern changes when searching for ad contents. For topics like donation, store, subscribe, discount, and money-related ones, repeat offenders rank the highest and truthful domains rank the lowest. The difference between them is very significant for most of the topics with donation related one being the most significant.

4.



This graph shows the comparison between the average of actual emote(light blue) and the average of expected emote(dark blue) for each category of rating. For most of the emote, the expected average is larger than the actual average for all three categories of rating, with the exception of engagement metrics (count in the 5th). There is no significant difference across ratings in terms of the difference between actual and expected average for most emote.

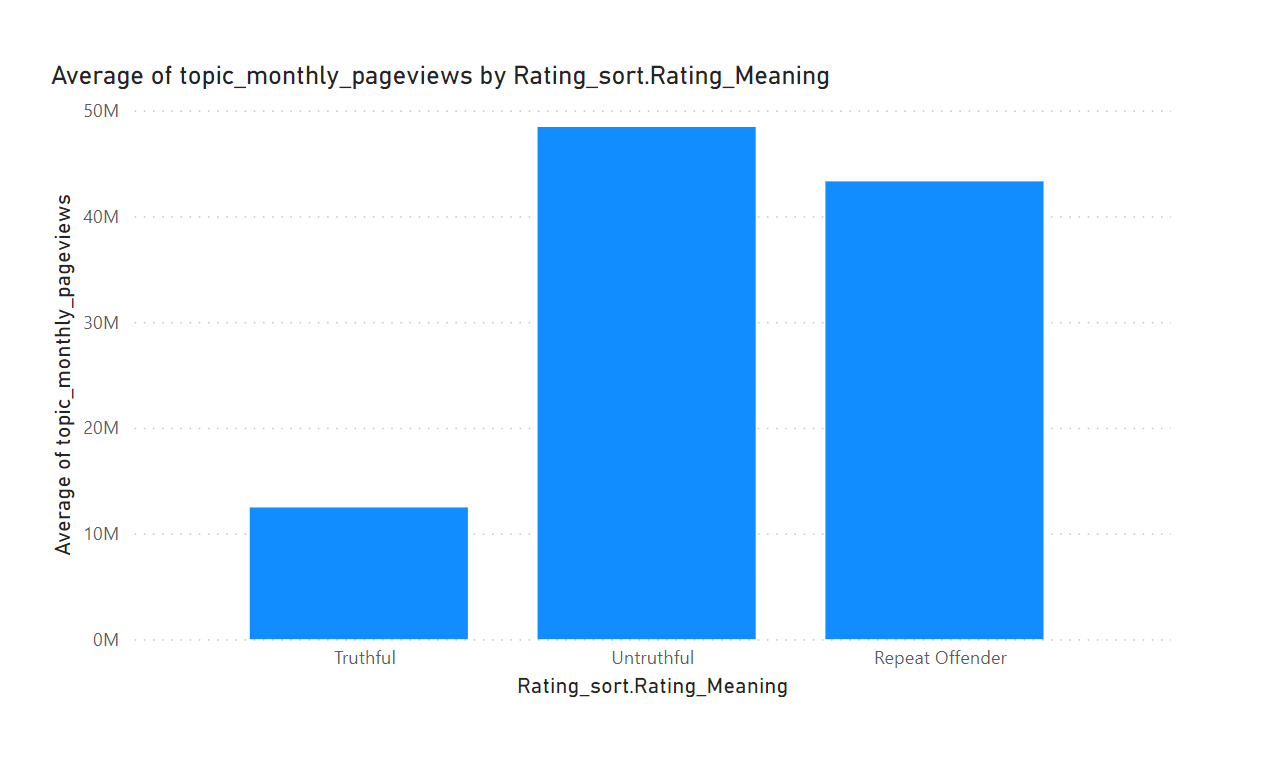
5.





The two graphs above show the average of 20 topics per category of rating. For some topics, there is a significant difference across the three categories of rating, such as climate denial, aliens, 5g, and anti-vaccine. The pattern of truthful domain having the lowest average while repeat offenders having the highest average is also observed on other topics, such as antisemtic, pseudoscience, antiblack, antimuslim, votinglaws, anti-immigrant, and anti-lgbt, although the significance can not be determined without running statistical tests.

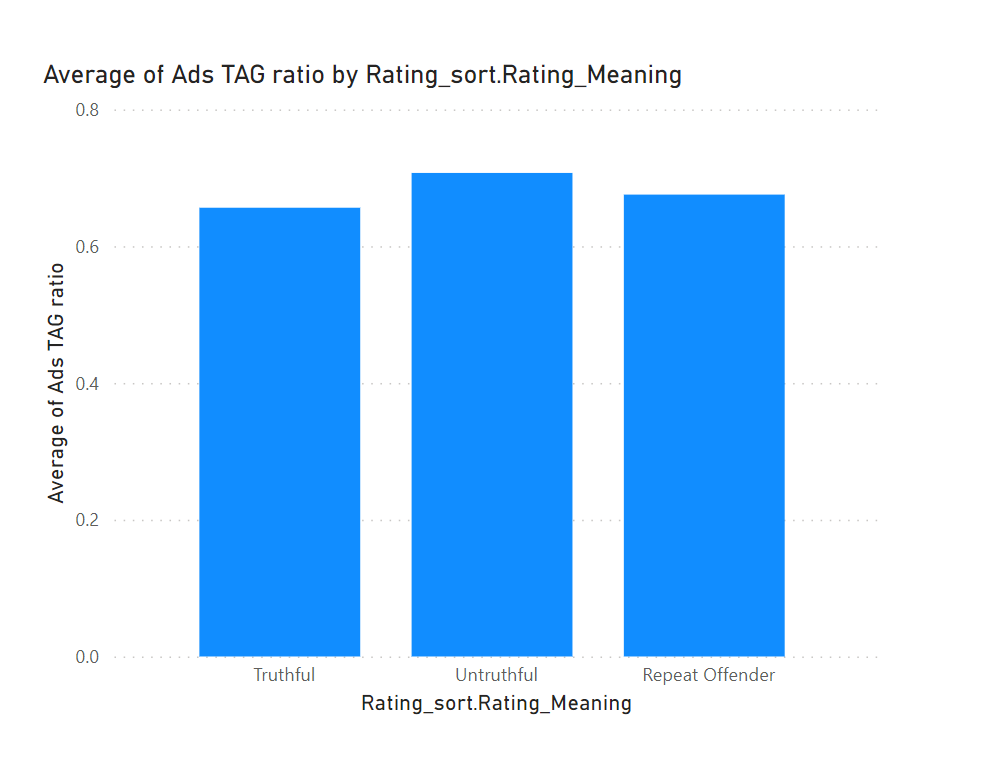
6.



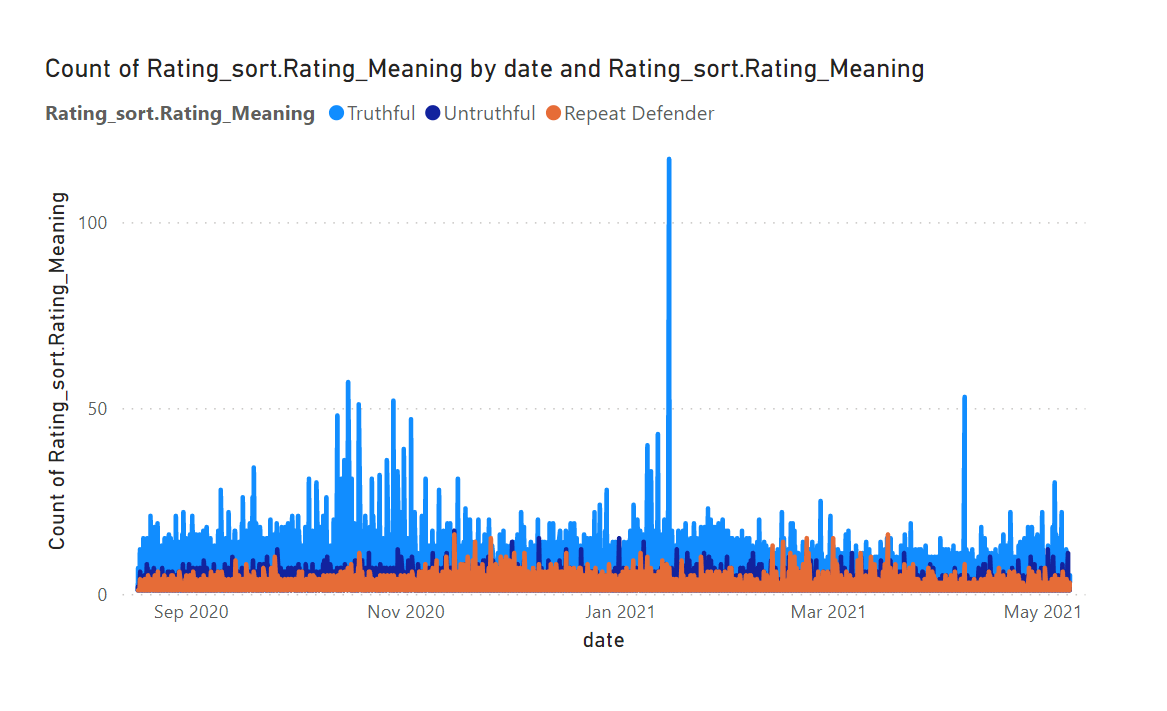
This graph shows the average monthly pageviews per category of rating. It demonstrates that compared to truthful domains, untruthful domains and repeat offenders tend to be associated with higher average monthly pageviews.

7.

The graph below shows the Ads TAG ratio per category of rating, where Ads TAG ratio is calculated as the number of Ads TAG count divided by the number of total Ads for each domain. We call tell there is no significant difference between each category of rating in terms of Ads TAG ratio.

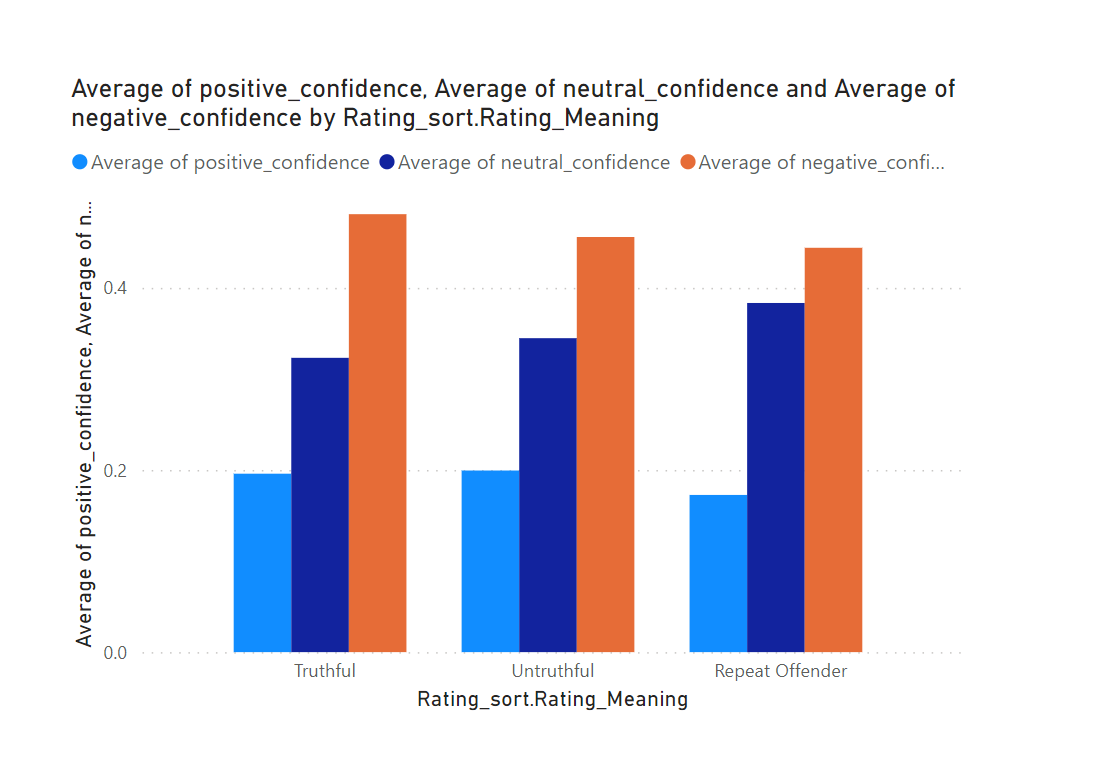


8.



This time-series graph indicates how the number of domains vary over time for each type of rating. There were some spikes about truthful domains in late 2020 and the highest happened on Jan 14th, 2021. No apparent spikes are observed for untruthful domains or repeat offenders.

9.

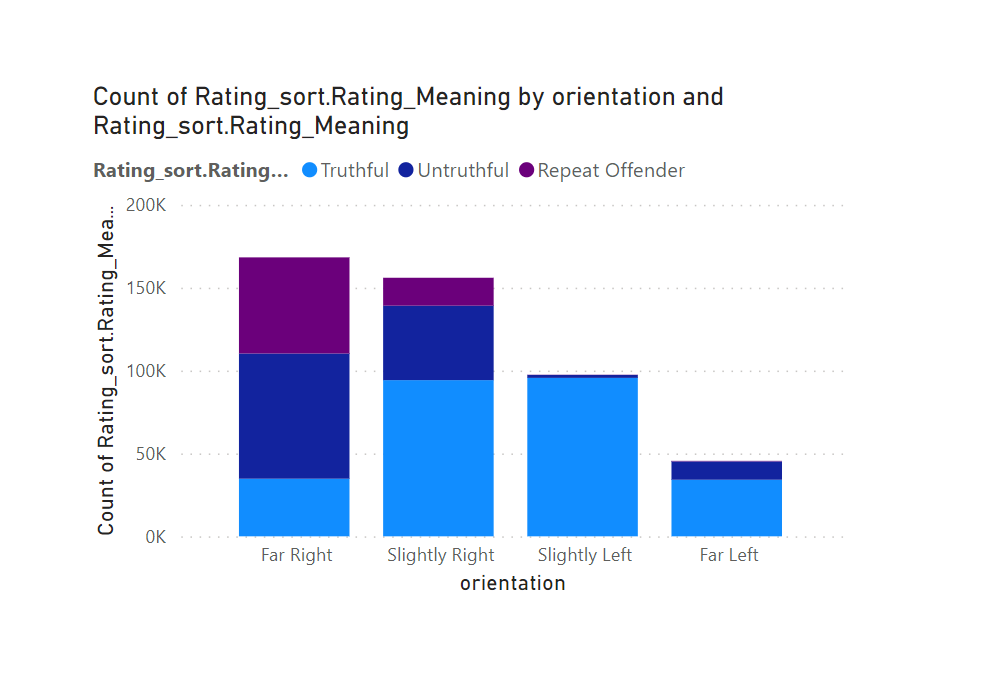


This graph summarizes the average of positive, neutral and negative confidence scores for domains with different ratings. There is no significant difference noticed between each type of ratings.

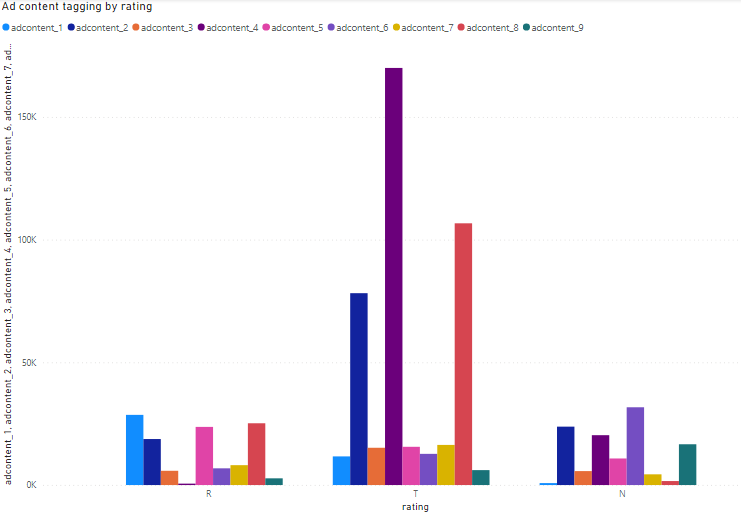
10.

The graph below shows the composition of ratings by orientation. It looks like most of the repeat offenders are far right or slightly right.

Repeat offenders are identified by NewGuard and are defined as domains that repeatedly spread misinformation after they have already been fact-checked. This means they are likely malicious actors instead of simply ignorant.

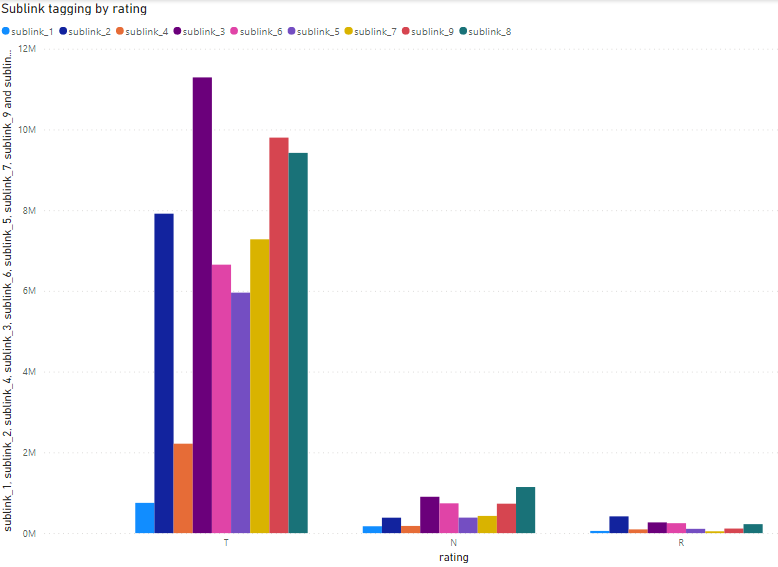


11.



Most of the ad content taggings are truthful, with the majority of the truthful ones being AdContent\_6(Free-related), AdContent\_8(Buy-related), and AdContent\_2(Store-related).

12



Most of the sublink taggings are truthful, with very few taggings being repeat-offenders.

13

AdContent\_1: Donation-related

AdContent\_2: Store-related

AdContent\_3: Subscribe-related

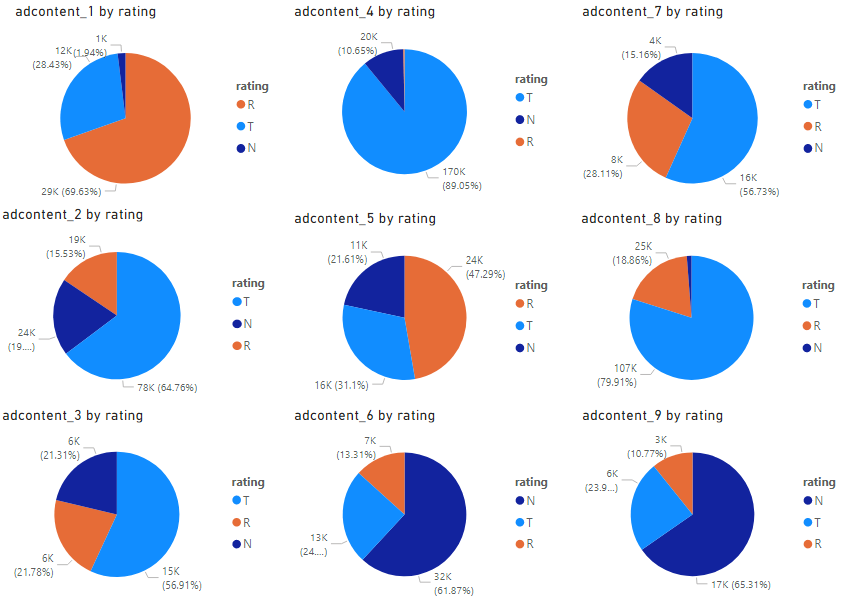
AdContent\_4: Advertise-related

AdContent\_5: Discount-related

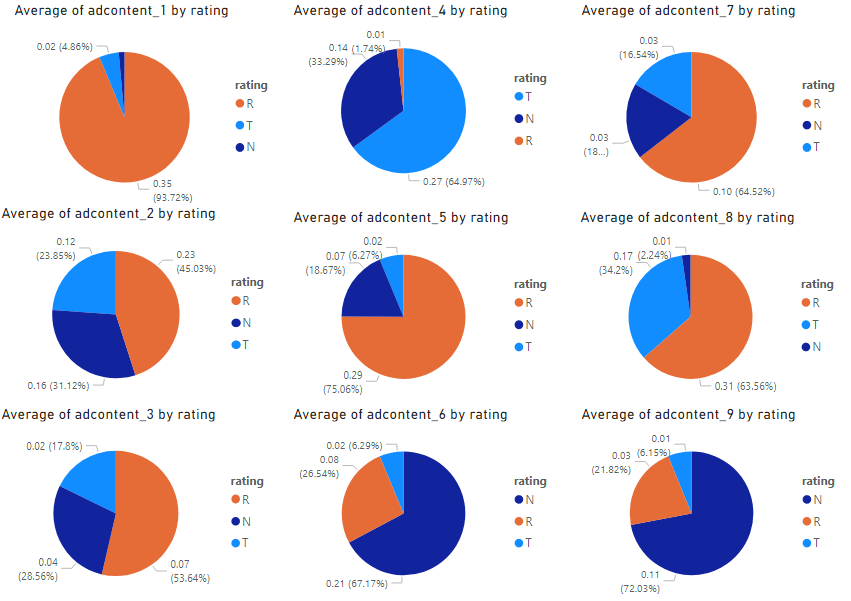
AdContent\_6: Free-related

AdContent\_7: Money-related

AdContent\_8: Buy-related

AdContent\_9: Newsletter-related

This graph shows the total number of “ad content” keywords which are truthful, non-truthful, or repeat offenders. For example, there are 12k donation-related ad content keywords that appeared in truthful news. The pie charts in this graph are not normalized, but show the same pattern as the normalized graph (see below).



This graph shows the average number of “ad content” keywords which are truthful, non-truthful, or repeat offenders. For example, on average there are 0.02 donation-related ad content keywords that appeared in truthful news.

AdContent\_1(Donation-related) and AdContent\_5(Discount-related) have the highest portions of repeat offenders. AdContent\_6(Free-related) and AdContent\_9(Newsletter-related) have the highest portions of non-truthful contents. AdContent\_7(Money-related) are not driving non-truthful contents. For ad content, the user bases are driving non-truthful content, such as newsletter-related contents and increasing the user follower number, instead of asking for money or donations.

14

Sublink\_1: Donation-related

Sublink\_2: Store-related

Sublink\_3: Subscribe-related

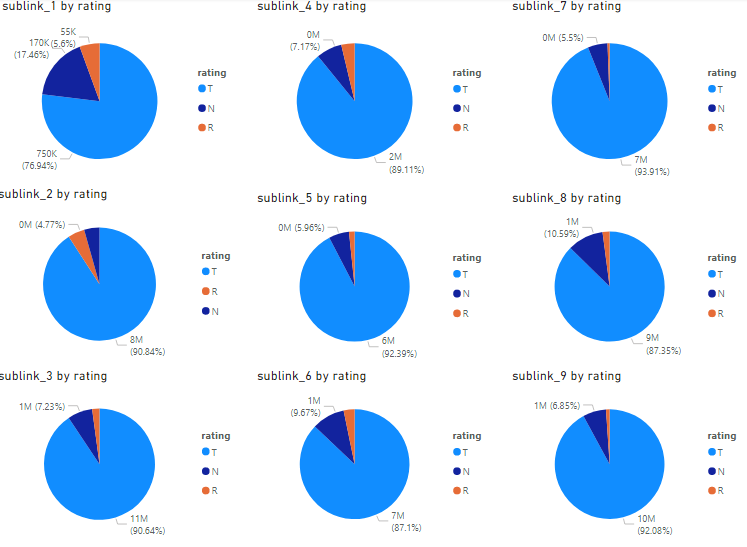
Sublink\_4: Advertise-related

Sublink\_5: Discount-related

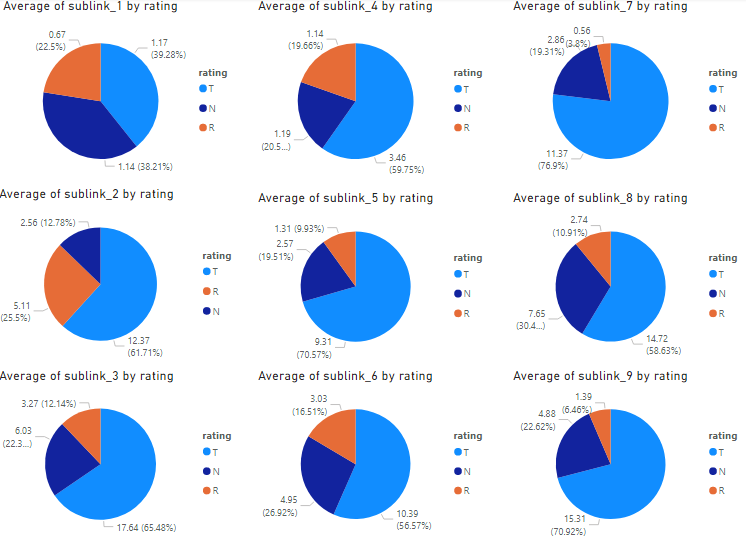
Sublink\_6: Free-related

Sublink\_7: Money-related

Sublink\_8: Buy-related

Sublink\_9: Newsletter-related

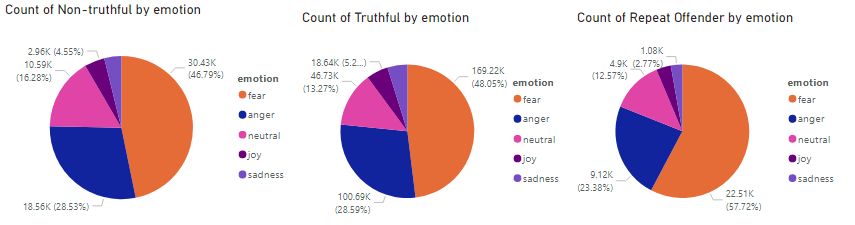
This graph shows the total number of “sublink” keywords which are truthful, non-truthful, or repeat offenders. For example, there are 750k donation-related sublink keywords that appeared in truthful news. The pie charts in this graph are not normalized, but show the same pattern as the normalized graph (see below).



This graph shows the average number of “sublink” keywords which are truthful, non-truthful, or repeat offenders. For example, on average there are 1.17 donation-related sublink keywords that appeared in truthful news.

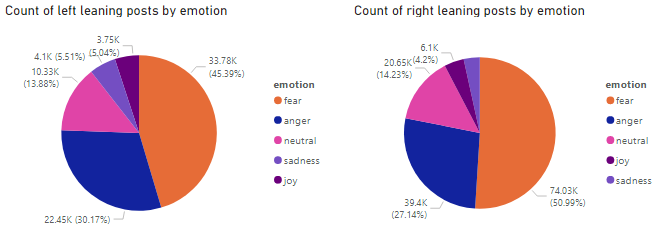
For sublink, most of the contents are truthful. Sublink\_1(Donation-related) has the highest percentage of non-truthful content

15



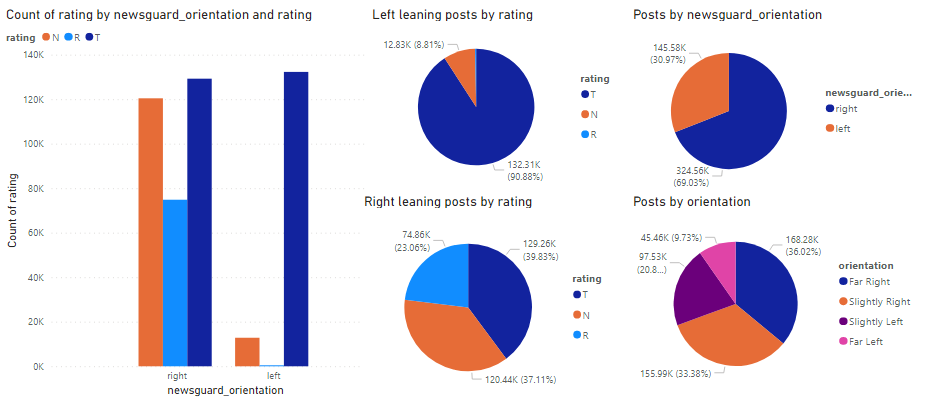
Fear is the major emotion that is propagating. There is a lot of sentiment, such as anger and fear, getting propagated by truthful news, comparing the non-truthful news

16



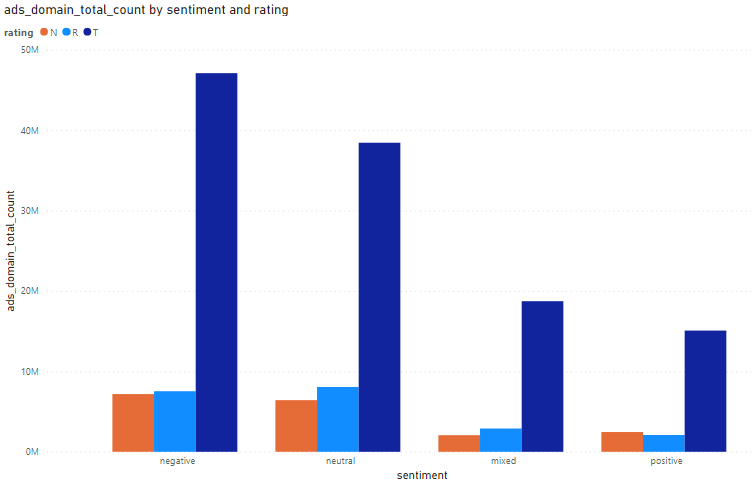
There is a small difference between the counts for posts showing anger and fear for the left leaning posts, whereas there is a big difference for the right leaning posts. People on the right leaning side are more motivated by fear than the people on the left leaning side.

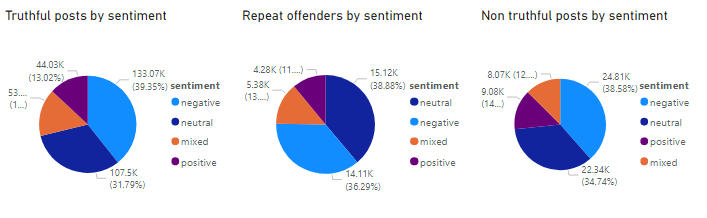
17



On the left leaning side, there are nearly no repeat offenders, but on the right leaning side, there are a lot of repeat offenders. On the left leaning side, there is more truthful news, and very few non-truthful news.

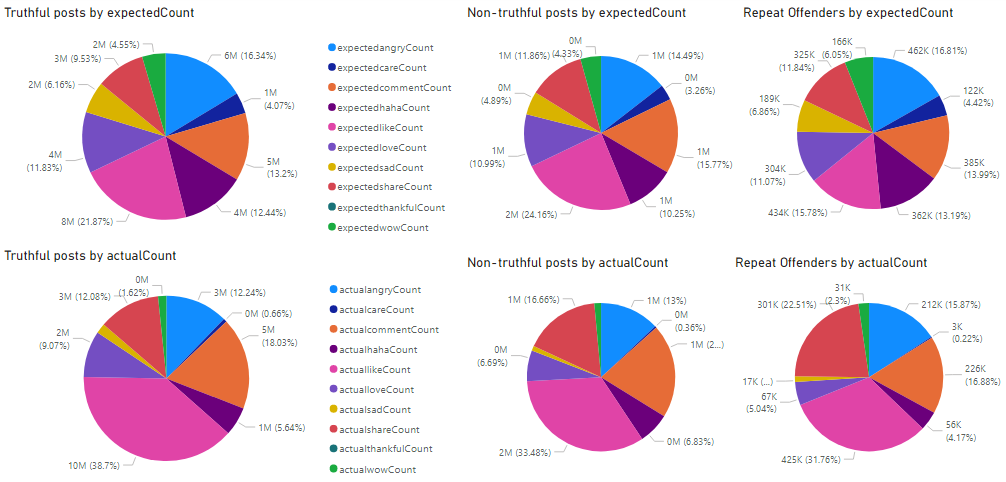
18

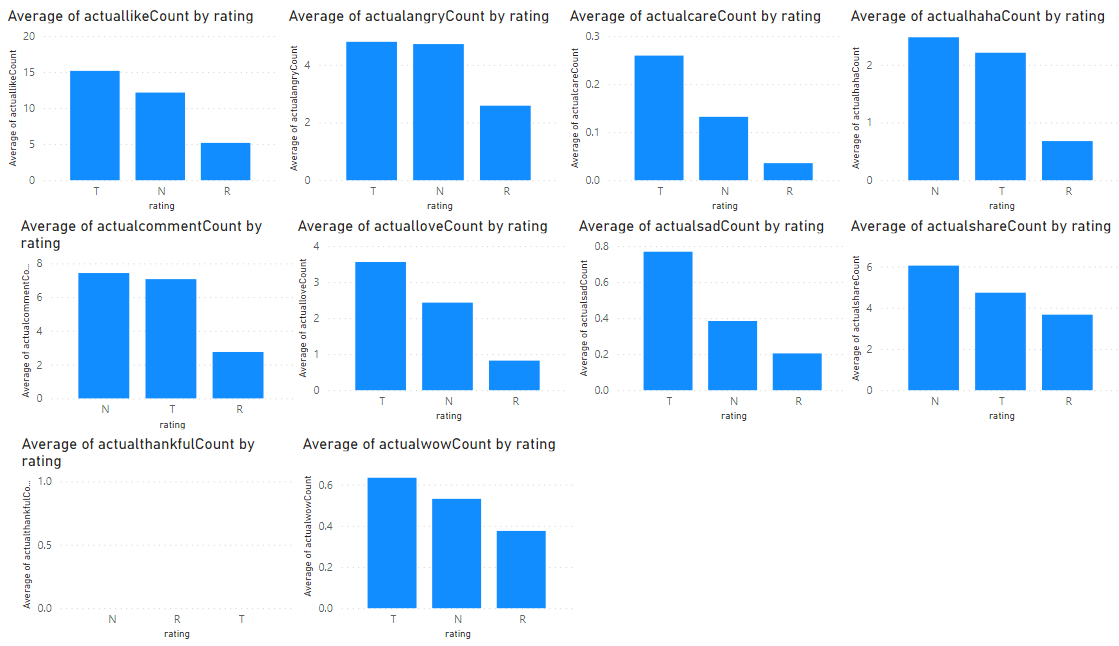




Truthful posts, non-truthful posts, and repeat offenders have basically the same composition of sentiments.

19.





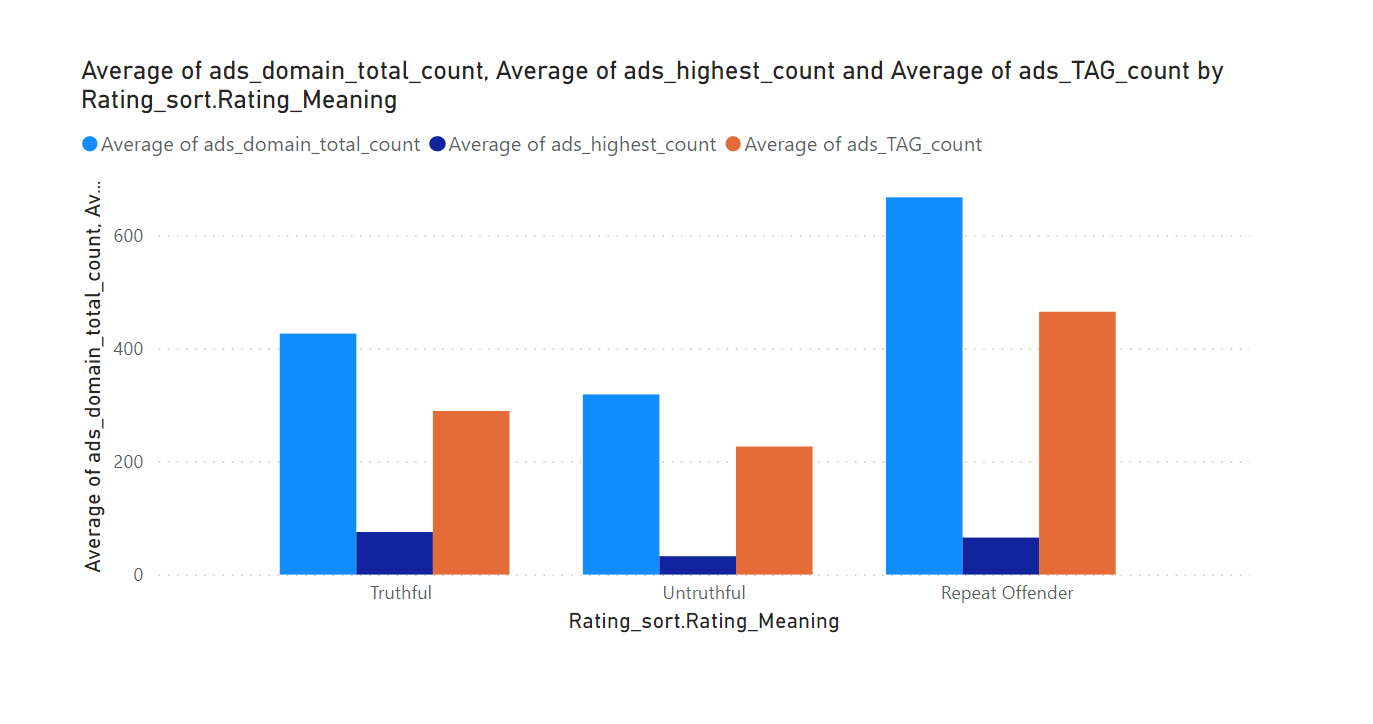
ExpectedCount: Number of expected engagements with the xxx emote based on internal crowdtangle model (<https://help.crowdtangle.com/en/articles/3213537-crowdtangle-codebook>). The expected values in the dataset are referred to as 'benchmark' in the Crowdtangle codebook (e.g. Benchmark Likes = Expected Likes).

ActualCount: Number of engagements with the xxx emote.

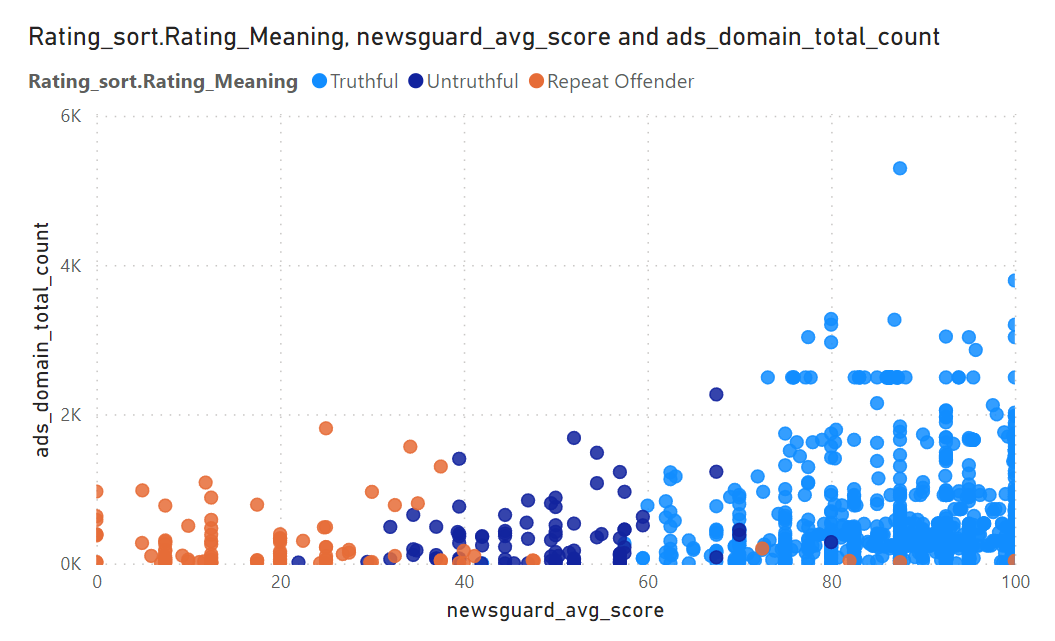
The actual count is lower than the expected count for angry, care, haha, love, sad, and wow emote. Repeat offenders get extremely low counts for all actions. There is no actual count nor expected count for the thankful emote.

20.

This graph shows how the average number of total ads for domains, the average highest count of ads for domains and average number of ads in TAG for domains vary across different categories of rating. Compared to truthful domains and untruthful domains, repeat offenders have a higher average of ads listed and higher average of ads with TAG.

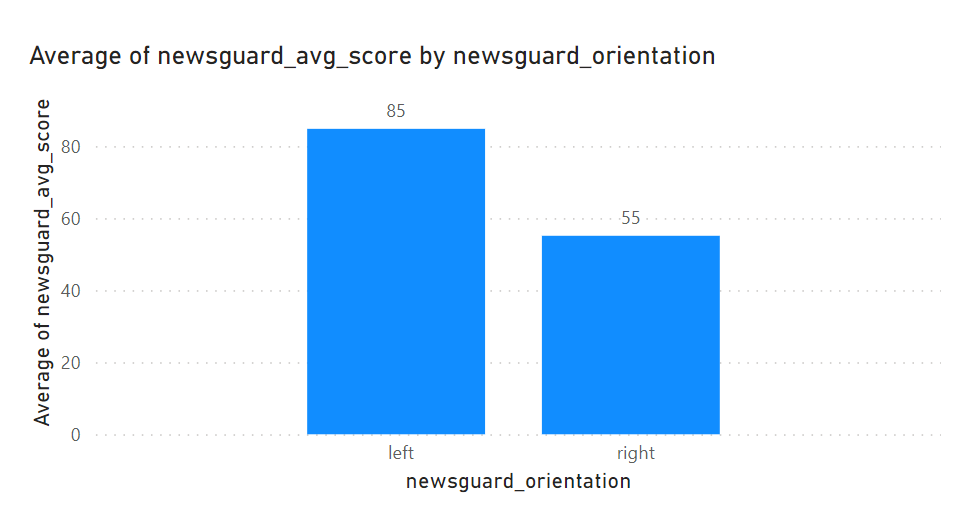


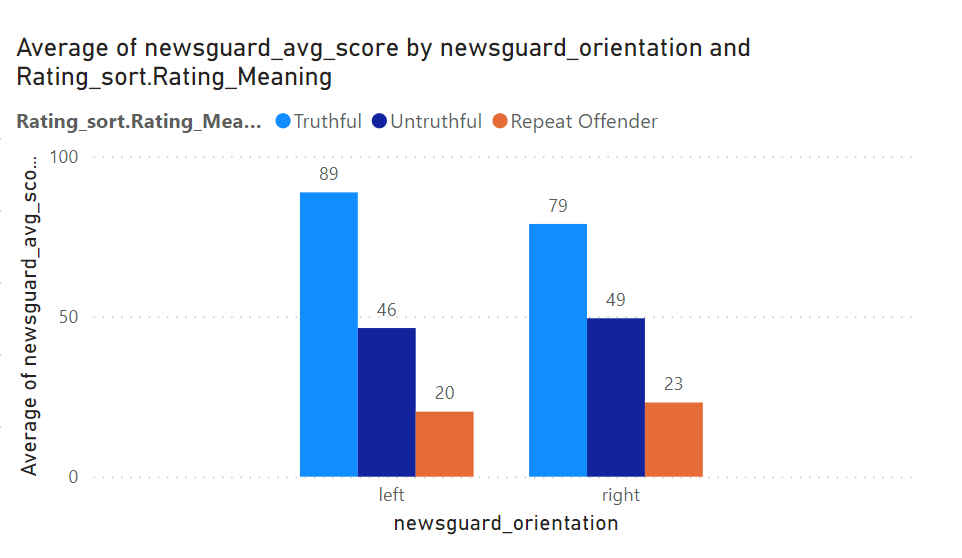
21.



This scatter plot shows how the number of ads varies with newsguard score at the domain level, with color encoded by each category of rating. Truthful, untruthful and repeat offenders clearly take different ranges of score and truth. Although the average number of ads for repeat offenders is larger (as suggested by the previous graph), this scatter plot demonstrates that the standard deviation of the number of ads at the domain level is larger for truthful news.

22.

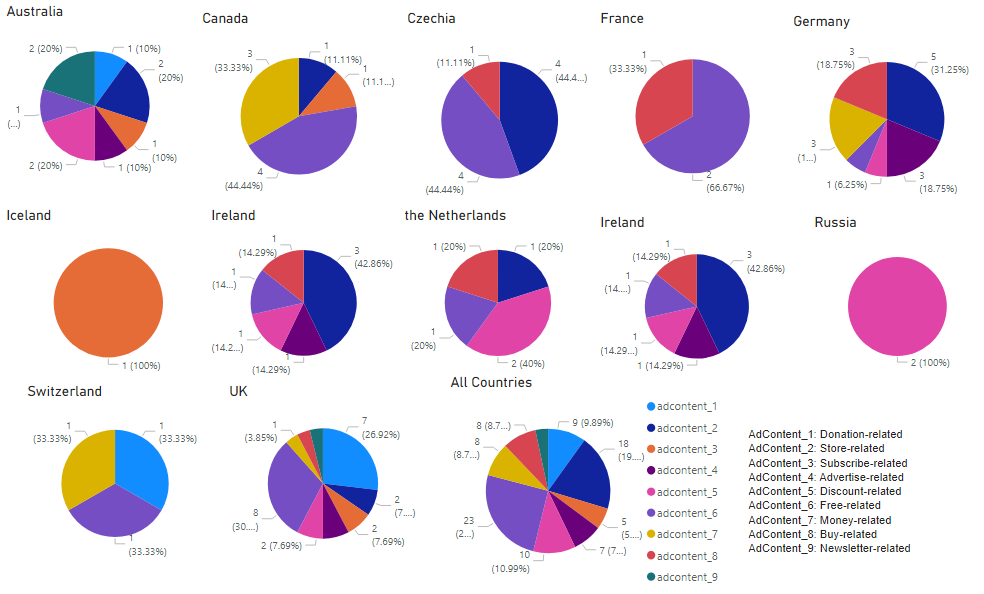




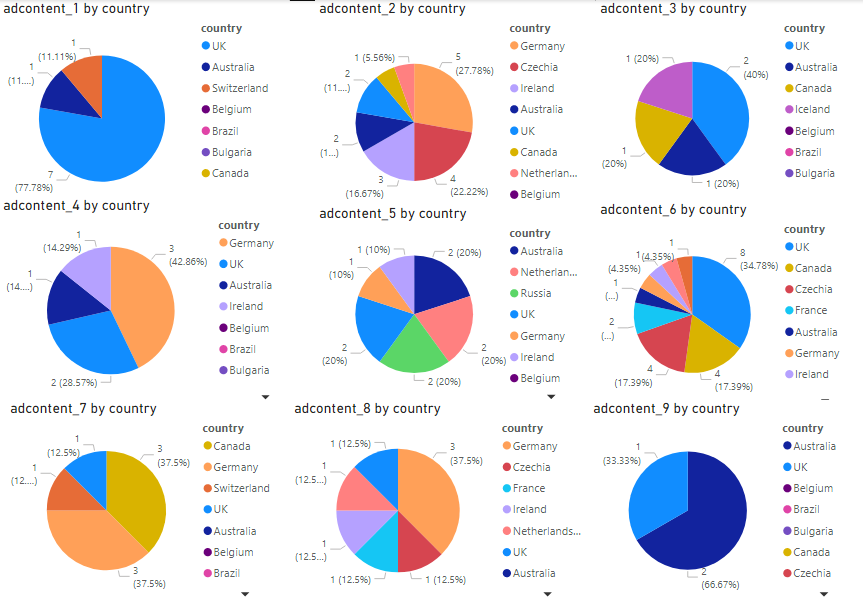
This first graph shows the average newsguard score for domains that are identified to be left or right, which indicates that right wing news is associated with a lower score. To identify why that happens, the second graph breaks down to each category of rating. We can tell that the newsgaurd rating is the same for untruthful and repeat offenders regardless of orientation, but the score is lower for truthful news for right wing domains. Along with the fact that right wing domains tend to be identified with more repeat offenders (shown in fig 10), these two factors (lower score for truthful news and more number of repeat offenders) lead to the result of right wing domains being associated with lower average newsguard score.

23.

Domains hosted outside US



Free-related content appears in the domains from most of the countries. For the data we have, Russia only had discount-related content, and Iceland only had subscribe-related content.



AdContent\_1: Donation-related

AdContent\_2: Store-related

AdContent\_3: Subscribe-related

AdContent\_4: Advertise-related

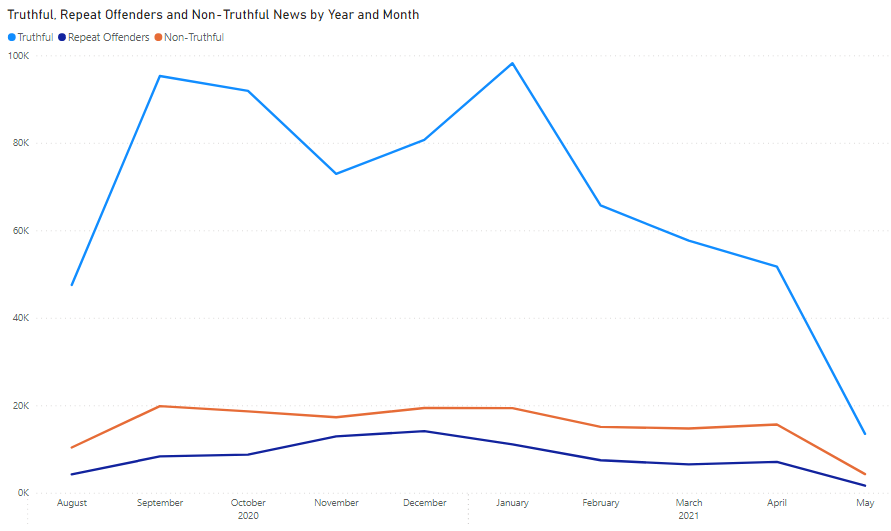
AdContent\_5: Discount-related

AdContent\_6: Free-related

AdContent\_7: Money-related

AdContent\_8: Buy-related

AdContent\_9: Newsletter-related



The number of news tagged as truthful, non-truthful, and repeat offenders. We can see that the number of truthful news decreased dramatically from the beginning of 2021, while the number of non-truthful news and repeat offenders stays roughly the same. All three counts decreased from April 2021 to May 2021, likely because of the amount of data we have decreased.