

I'm out of breath from laughing! I think?

A dataset of COVID-19 Humor and its toxic variants

ABSTRACT

Humor is a cognitive construct which predominantly evokes the feeling of mirth. During COVID-19 pandemic, we observed people's ability to laugh and see the humor even amidst the growing distress and agony. The situations arose out of the pandemic were so unusual and dark that even factual statements were often humorous. In this paper, we present a dataset of 2604 posts, hand annotated with labels such as humor style, type, theme & target and even stereotypes formed or exploited while creating the humor in addition to 909 memes. Our dataset comprises Reddit posts, comments, Onion news headlines, real news headlines and tweets. We evaluate the task of humor detection and maladaptive humor detection on state of the art GPT-3 model where we obtain F1 score of 0.69 and 0.33 respectively. Even though GPT-3 is quite good at generating meaningful explanations, we observed that it fails to detect maladaptive humor due to the absence of overt targets and profanities. We believe that the presented dataset will be helpful in designing computational methods for topical humor processing and more importantly, in understanding human behavior during crisis.

CCS CONCEPTS

• Computing methodologies → Language resources.

KEYWORDS

Humor, Maladaptive Humor, Humor Style, Human Behavior, Hate Speech, COVID-19

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1 INTRODUCTION

Topical humor is defined as jokes 'framed around a specific topic related to current events or dealing with issues that are important or popular at the current time' [33]. An example of topical humor is, 'An Indian family went into self quarantine after eating lunch at their English friend's house as they couldn't taste anything.' Here, one needs to be aware of the symptom 'loss of taste' when one's infected with COVID-19 along with the cultural details that Indians prefer relatively spicy food. Another example is 'Albany funeral

home offers drive-thru services in wake of COVID-19 pandemic'. Here, the notion of *drive-thru* at funeral homes sounds absurd as funeral is about grieving together. However, such was the situation during COVID-19 when people avoided the dead bodies of their loved ones for the fear of infection. Topical humor including the jokes made during COVID-19 demands temporal knowledge of the event to figure out the humorous sense of the text.

When combined with the right style of argument and addressed to the right audience, topical humor acts as a tool for information sharing [25, 34]. Through this humor, one can understand the emerging worldviews, evolving beliefs, and changing dynamics of socio-cultural conventions. Researchers have extensively studied the role of humor in diffusing stress [13, 17], encouraging solidarity [3] and information sharing [12] during COVID-19. The cultural load in these humorous pieces is often a challenge when identifying *good* humor vs *bad* humor. In fact, COVID-19 humor was widely used to target certain ethnic communities and groups (e.g. vaccinated vs anti-vaxxers) using expressions that were never seen before [20, 26].

In this paper, we present a dataset¹ of COVID-19 humor annotated with labels namely humor style (such as *pun*, *sarcasm* etc.), humor type (i.e. adaptive vs maladaptive humor), the theme (such as *illness*, *family* etc.), the target of the humor (such as *women*, *elderly* etc.) and stereotypes. We evaluate the performance of GPT-3 model on our dataset for two tasks namely humor detection and maladaptive humor detection. We believe that this dataset can serve multiple research purposes. Firstly, it will be a useful resource to understand non-traditional, topical humor arising out of situations of significance around us. Secondly, the collected dataset is tagged for targets and themes which can help in understanding the signals of microaggression against a community or a group. Thirdly, the collected dataset underlines the relevance of evolving cultural information and connotations when dealing with topical humor. We discuss these points in detail in Sec. 5.

The rest of the paper is organized as follows. Sec. 2 discusses the prior work on humor during COVID-19. We describe our data collection process in Sec. 3. We evaluate the performance of GPT-3 for humor detection and maladaptive humor detection tasks in Sec. 4. We discuss our findings along with limitations of the present work in Sec. 5 and conclude our work in Sec. 6

2 RELATED WORK

Humor is a crucial ingredient when resolving feelings of anxiety [2] and improving overall well being of human society [27]. Hussein and Aljamili [13] found humorous content including caricatures and memes mocking the pandemic and unusual situations arising out it, helpful in relieving stress. Olah and Ford [25] discovered that individuals with self-enhancing humor style often engaged in protective behaviors such as *wearing a mask*, *washing hands* during COVID-19. Moreover, the meaning of 'good' COVID-19

¹link will be added upon acceptance

Table 1: An overview of collected data

Source	#posts	Example
<i>r/Jokes</i>	806	The World Health Organization has declared that dogs cannot transmit Coronavirus, and there is no reason to quarantine dogs anymore. W.H.O. let the dogs out.
<i>r/Onion</i>	103	Parents Can't Tell If Pandemic Inhibited Toddler's Social Skills Or If He's Just Taking After Dad
<i>r/NottheOnion</i>	543	Convict refuses parole, says jail safer than outside in pandemic
Reddit Comments	130	I'm out of breath from laughing! ...I think
Twitter	15	My son hasn't been able to go out since he was 13 because of the pandemic. He's a quaran-teen.
Total (Textual Humor)	1597	
<i>r/CoronavirusMemes</i>	909	Refer Fig. 1
Total (Textual + Memes)	2506	
Non Humorous	1563	Facing a COVID Crisis, Nepal Cries Out for Help
Total Samples	4069	

humor varies with demographic factors and personality traits [4]. Growing use of dark themes including *death* and *elderly people* lead to high aversion towards COVID-19 humor when compared to the usual humor. In fact, Vurayai [32] pointed increasing number of disparaging COVID-19 jokes targeting women.

Bruns and Burgess [6] emphasized the lack of research on the role of humor in information sharing regarding a crisis. Kuipers [15] named this specific type of humor as “disaster humor” as it appears soon after incidents and generally follows the media coverage of the facts. Dynel [12] analysed a set of 174 COVID-19 mask memes to track the evolving *voices* in the highly shared content on social media. Torres et al. [31] collected 107 COVID-19 humor scripts each for English and Tagalog. These scripts were coded with the humor type (e.g. *self-deprecating humor*, *malicious or sexual humor*, *aggressive etc.*), humor targets (e.g. *people*, *countries*, *biblical characters etc.*), humor subjects (e.g. *appearance*, *food*, *country*, *date etc.*) and humor style (e.g. *conversational*, *knock-knock*, *lyrical*, *narrative*, *one-liner*, *question and answer*). However, their analysis was qualitative and the size of sample is very small.

Even though there is an interesting collection of work on COVID-19 humor highlighting its varied purposes, the analysis is performed on a small sample. Through this work, we provide a rich, well-curated dataset for studying COVID-19 humor in English. We believe that this dataset will be helpful in developing computational methods for humor processing and more importantly, in understanding human behavior during a crisis.

3 HUMOR DURING COVID-19

3.1 Data Collection

The subreddits *r/Jokes*, *r/CoronavirusMemes*, *r/Onion* headlines and *r/NottheOnion* headlines were chosen to extract humorous posts. In order to extract only COVID-19 related jokes, keywords namely *pandemic*, *covid19*, *coronavirus*, *lockdown*, *quarantine*, *covid*, *corona*, *SARS* were used within the subreddit thread. We observed that the comments under humorous posts often tend to be humorous themselves. Therefore, we also extracted these comments. PRAW (Python Reddit API Wrapper) was used to extract the posts from

When you are laughing at all the corona memes but the laughing suddenly turns into coughing

**Figure 1: A meme on COVID-19 pandemic**

Reddit. A total of 67 humorous Twitter accounts [21] were queried using the above mentioned COVID-19 keywords to extract COVID-19 humorous tweets. A total of 1321 non-humorous yet COVID-19 related posts, were collected from subreddits namely *r/Coronavirus*, *r/COVID19*, *r/Chinaflu*, *r/Pandemic*. We provide these posts as negative samples for machine learning task. The overview of the posts collected from different subreddit threads is provided in Tab. 1. Kindly note that we collected 909 memes on COVID-19 however, the annotation was only performed for textual humor which will be discussed in rest of the paper.

3.1.1 Data Reliability. A text is considered humorous if the intent of the text is to be humorous. Since we only considered reddit threads known for their humorous content, it is safe to assume that the collected data is humorous. Internet memes are often humorous piece of culture [9] and we thus assume all collected memes to be humorous. To analyse the quality of the collected textual data, we asked a team of human annotators to manually tag randomly selected 30 posts from each thread that are, *r/Jokes*, *r/Onion*, *r/NottheOnion* and the comments.

Critchley [8] defined humor as jokes (spoken or written words) and actions which elicit laughter or generate mirth. Human annotators were asked to independently determine if a given post

Table 2: Example: Annotation Labels

Text: Due to lack of protective measures during the pandemic, retail cashiers and bank tellers are refusing to go to work . It's a counter strike
Humor style: Pun
Humor Type: Adaptive
Theme: Pandemic
Target: Working Class
Stereotype: Not Applicable

Text: The Pandemic Has Closed Public Restrooms, and Many Have Nowhere to Go
Humor style: Pun
Humor Type: Maladaptive
Theme: Pandemic
Target: Poor
Stereotype: Not Applicable

is humorous or not while keeping this definition in mind and the intent of the author. The inter-annotator agreement (Krippendorff's alpha) was found to be 0.932 for *r/Jokes*, 0.512 for *r/Onion*, 0.20 for *r/NottheOnion*, and 0.71 for *comments*.

Humor is a highly subjective and is often not appreciated by all [21]. Keeping this in mind, the thread *r/Jokes* has almost perfect agreement. The comments have the agreement of 0.71 which is reasonably good. The intent of *r/Onion* headlines is to be funny but it is presented as a news. We thus feel that annotators struggled to understand the covert humor. As expected, the thread *r/NottheOnion* has the lowest agreement. These headlines are real news however, the unusual human behavior during COVID-19 ascribed a humorous angle to these headlines. Please note, that these headlines were picked from Reddit thread discussing humorous situations. So these headlines were perceived as funny by few if not all. Nevertheless, we asked human annotators to annotate all posts in *r/NottheOnion* thread to ensure the quality of the dataset. 305 posts which were marked as non-humorous were filtered out from the *humorous* set. So a total of 1283 unique humorous posts were considered for further analysis.

3.2 Data Annotation

The online social discourse during the COVID-19 pandemic provided a unique opportunity to analyze the evolving themes, targets and the inherent stereotypes in COVID-19 humor. We have a total 1283 unique humorous posts out of 2604 posts which were annotated with the following labels:

- Humor Style,
- Humor Type that is, Maladaptive or Adaptive humor,
- Theme of humor,
- Target of humor,
- Stereotypes if any.

Please see Appendix A for annotation guidelines and definitions. The authors identified a total of 14 themes and 17 targets after analyzing a random set of humorous samples. We discovered themes (such as *groceries*, *illness*, *hospital*) and targets (such as *china*, *infected*, *elderly*) unique to COVID-19 period that wouldn't have been

Table 3: Top-5 labels for Adaptive and Maladaptive Humor

Adaptive Humor	Maladaptive Humor
<i>Humor Style (Top 5)</i>	
Pun (29.05%)	Dark (23.48%)
Exaggeration (13.15%)	Pun (10.98%)
Matter of fact (12.86%)	Irony (10.98%)
Irony (11.19%)	Matter of fact (9.47%)
Relief (8.73%)	Exaggeration (8.33%)
<i>Humor Theme (Top-5)</i>	
Pandemic (37.03%)	Pandemic (44.11%)
Illness (9.92%)	Illness (18.63%)
Life Change (9.33%)	Love/Sexual (8.36%)
Political and WHO (8.94%)	Life Change (7.22%)
Love/Sexual (6.38%)	Physical Appearance (5.32%)
<i>Humor Target (Top-5)</i>	
General (52.01%)	General (32.95%)
Authorities (11.58%)	Authorities (12.88%)
Anti-vaxxers (5.79%)	Infected (10.23%)
Working Class (4.32%)	Anti-vaxxers (6.82%)
Infected (3.83%)	Women (6.44%)

observed otherwise. If no clear target could be identified in a post, we asked the annotators to mark as *general*.

3.2.1 Annotated Dataset. A total of 264 (20.6%) posts were marked as maladaptive humor out of 1283 humorous posts. All posts were assigned a humor style and a theme. A target was identified for 670 humorous posts out of 1283 posts. The remaining posts had no clear target and was there marked as general. We provide the top-5 humor styles, themes and targets in Table 3. The complete distribution of key themes and targets for humorous samples is provided in Table A6.

Pun, *Exaggeration* and *Matter of fact* were the most common humor styles for adaptive humor whereas *Dark humor*, *Puns* and *irony* are the dominant humor styles for maladaptive humor. *Pandemic* and *Illness* were the top-2 themes for adaptive and maladaptive humor. However, maladaptive humor themes were more personal such as *Love/Sexual*, *Life Change* and *Physical Appearance* when compared with the adaptive humor. *Infected* and *Anti-maskers/vaxxers* were the more targeted groups for maladaptive humor in comparison to adaptive humor.

Stereotypes concerning certain targets and categories were also investigated in order to understand the prejudices and notions emerged during the pandemic. We identified 69 stereotypes from a sample of 700 posts. Race (31.9%), Chinese population (21.7%) and Nationality (20.3%) were the top-3 categories for stereotypes. See Table A5 for more details. It may be noted that identified stereotypes overlapped with annotated *targets* and *categories* such as Gender, Race, Sexuality, Social-class, (Dis)ability, Age, Politics, Religion, Occupation and the Chinese population. We discuss this in more detail in Sec 5.

Table 4: Responses by GPT-3

Task A - Humor Detection	
Input	Response by GPT-3
(1) China flight attendants advised to wear diapers for Covid protection – (<i>humorous</i>)	This post is not humorous, as it is a serious subject related to the covid-19 pandemic. The risk of infection is a real concern for flight attendants, and the suggestion of wearing diapers could be seen as an extreme measure to protect themselves. This post is highlighting the seriousness of the pandemic and the risks associated with it, and is not intended to be humorous.
(2) Whats the difference between the coronavirus and 737MAX?. The coronavirus is airborne. –(<i>humorous</i>)	This post is not humorous as it makes a comparison between the serious global health crisis caused by the coronavirus and the recent Boeing 737 MAX plane crashes. The comparison trivializes the severity of the coronavirus pandemic, making light of the situation, which is not humorous.
(3) Why are people buying out all the pasta/macaroni products?. Because when you are in lockdown.. A nice bowl can pasta time quicker. –(<i>humorous</i>)	This post is humorous because it is making light of the situation by suggesting that one way to pass the time in lockdown is to eat a bowl of pasta. The pun of "pasta time" is clever and likely to make people chuckle.
Task B - Maladaptive Humor Detection	
(1) I think Coranavirus waited until we were stupid enough to attack. Like it saw people eating tide pods and was like now's My chance.. –(<i>maladaptive</i>)	This post is considered offensive as it implies that the covid-19 pandemic is a consequence of people being stupid, which is generally considered an insensitive thing to say. Additionally, it implies that the virus is intelligent and has malicious intent, which is not the case.
(2) Coronavirus has been copying the Black Death. Plaguearism –(<i>adaptive</i>)	This post is not offensive. It is making a humorous comparison between the coronavirus pandemic and the Black Death, a devastating pandemic that occurred centuries ago. The post does not contain any offensive language or references to any particular group of people.
(3) My uncle stopped smoking because of coronavirus. RIP uncle Jim. –(<i>maladaptive</i>)	This post is not offensive. It is a tribute to someone who has passed away due to the consequences of COVID-19. It also serves as a reminder that smoking can be dangerous and can lead to serious health complications.
(4) When the 2020 lockdowns started, people bought all the toilet paper for their a**holes. Well, that's what the claimed. They actually bought it for they're a**holes. –(<i>adaptive</i>)	This post is offensive because it implies that people are lying about why they stocked up on toilet paper and implies that they are doing something inappropriate with the toilet paper. Additionally, it uses profane language.

4 HOW GOOD IS GPT-3 AT UNDERSTANDING COVID-19 HUMOR?

To demonstrate the complexity of tasks A) *humor detection* and B) *maladaptive humor detection*, we test the performance of GPT-3 [5] as the baseline model. The test set for task A was formed by randomly sampling a set of 100 posts comprising humorous and non-humorous posts. For task B, we created a random sample of 100 humorous posts comprising adaptive and maladaptive samples. For both tasks A and B, we tested GPT-3 for Zero Shot Learning setting. The prompts for the task of humor detection (Task A) and maladaptive humor detection (Task B) are as follows:

Task A-Prompt: Given the context of covid-19 pandemic, explain how a post is humorous or not.

Task B-Prompt: Given the context of covid-19 pandemic, explain how a post is offensive or not offensive.

The prompt is followed by a post in test set. We set engine to *text – davinci – 002*, Max tokens as 400, Temperature as 0, Top p as 1.0, Frequency penalty as 0.5 and Presence Penalty as 0.0. For Task-A, test set comprise 60 Humor and 40 Non Humor samples. For Task-B, test set has 67 adaptive humor and 33 maladaptive humor samples.

Table 5: Performance of GPT-3 (Zero-Shot Learning)

Task	A	P	R	F1
Task-A	0.70	0.894	0.566	0.693
Task-B	0.64	0.428	0.272	0.333

Here, **A**(ccuracy), **P**(recision), **R**(ecall) and F1 score have the standard interpretation.

4.1 Results

As humor is highly subjective, it is thus entirely not possible to have an objective definition of correctness when performing evaluation. In this study, we consider a prediction to be correct if it matches with the label assigned by human annotators. We provide few explanations as generated by GPT-3 in Table 4. The generated explanations are very thoughtful in some of the cases and really made us appreciate the performance of GPT-3. Two such examples are Task-A, Input-3 and Task-B, Input-1. However, there were also instances where GPT3 appeared to overly generalize its learning about COVID-19 to unseen use cases and often used the phrase '*trivializes the severity of the coronavirus pandemic*' without

clearly stating how. Task-A, Input-1 is one such case where even *diapers* were perceived to be a serious measure for protection against COVID-19. The explanation generated for Task A, Input-2 seems to be very apt at the first glance. However, it does not connect the 'airborne' concept which ascribed the humorous angle to the text. The absence of offensive words such as *stupid*, *idiot*, *obscenities* also lead to false prediction to adaptive class as in Task-B, Input-3. In fact, it was considered a tribute by GPT-3. And, the presence of profane or rude language has led to classification as maladaptive. Consider Task-B, Input-4 where the post is considered offensive due to the presence of profane language.

The performance evaluation for both the tasks is provided in Table 5. The F1 score for Task-A is 0.69 whereas it is merely 0.33 for Task-B. We specifically found GPT-3 failing for the cases without explicit offensive words or targets.

To evaluate the quality of explanations generated for Task A and Task B, we asked a team of three human annotators to label each explanation on a likert scale of 1 to 5. The label 1 stands for 'completely incorrect explanation' and 5 stands for 'perfectly correct explanation'. We considered the average of ratings by three human annotators for our analysis. For **Task-A**, 68 samples out of a 100 samples received a rating of more than 3 indicating reasonably good explanation. However, only 60% of humorous samples received a score of above 3 for explanations generated by GPT-3 whereas 80% of non-humorous samples received a score of above 3. For **Task-B**, 71 samples out of a 100 samples received a rating of more than 3. However, only 42.4% of maladaptive samples received a score of above 3 whereas 85% of adaptive samples had an explanation with score of more than 3.

5 DISCUSSION

During COVID-19, we witnessed the growing use of humor to target particular racial groups or communities. Consider the example, 'What's the difference between kung pao and the coronavirus?. One's Chinese take out, the other takes out Chinese.' The growing hate against Asians became a major concern with numerous reports of verbal abuse and even violent attacks².

Consider this political joke targeting Republicans, 'Why did so many Republicans vote for Joe Biden this year? . If you're red, and you fail to take care of your voters during a respiratory virus pandemic...they turn blue.'. This onion headline 'Trump Blames Nation's Susceptibility To Coronavirus Outbreak On Weakness Of America's Race-Muddled Gene Pool' clearly brings out the underlying issue of race discrimination.

In fact, introverts, k-pop fans, women and anti-vaxxers were also targeted. The post 'Introverts are really thriving during quarantine but eventually they'll go back to being sad weirdos.' is clearly a case of microaggression against introverts. Likewise, the text 'Your mom is so ugly... . That the world faked a pandemic just so she has to wear a mask' is explicitly offensive. We also discovered many posts with passive aggression against anti-vaxxers such as 'COVID-19's primarily killing the unvaccinated. The vast majority of which are idiots.'

Cultural/Nationality based stereotypes also became prominent. In our dataset, majority of the stereotypes were around one's nationality whether it's American, Indian, Korean or any other. Over 21.7% of identified stereotypes belong to race category followed by Chinese Population (20.3%) and nationality (20.3%). For instance, the intelligence of US citizens was made fun of through jokes such as 'If there's one thing Americans can look forward to when the pandemic ends . Is that the average IQ of the population will increase.' Another post on nationality based stereotypes, 'As end to pandemic mask-wearing nears, South Koreans scramble to arrange cosmetic surgery'. Stereotypical beliefs such as poor hygiene practised by a race was seen in jokes. One such example is 'Ohio lawmaker asks if "colored population" is hit hard by coronavirus because they don't wash their hands as well'. Religion based stereotypes were also used in jokes. For instance, 'What do Muslims do during the coronavirus outbreak ?. They stay in Quran-tine.' Interestingly, old political policies were also recalled. One such example is 'What do they call the Coronavirus in China?. The One Grandparent Policy' taking a jibe at One Child policy of China. It may be noted that the presence of stereotypes is not an indicator of maladaptive joke.

We also found humorous pieces indirectly regulating or condoning people's behavior. Consider the text, 'In the quarantine, I see you.. Without the quarantine, ICU'. This humorous piece acts as a social behavior regulator, conveying a masked warning about future hospital visit if one does not follow the quarantine rules. Another interesting humor piece to indirectly regulate people's behavior is 'Covid loves two things . 1: A dense population . 2: A dense population.' which is a jibe at people behavior during COVID-19. Below text highlights the hoarding behavior in the beginning of the pandemic:

'BREAKING NEWS! CORONAVIRUS!. Breaking News!* - Apparently the first person in Melbourne has died because of the Coronavirus. In his house they found 1000 cans of food, 50 kilos of pasta, 80 kilos of rice, 300 toilet rolls and 50L of hand sanitiser which he had panic purchased from the supermarket and stock piled "just in case". - The whole lot collapsed and buried him.'

We also saw humorous pieces expressing hopelessness and ground reality. Consider the text 'Me: "Hi Reddit, where is the best sub discussing when the pandemic will end?" . Replies: "R/fantasy"' conveying the world's frustration with never ending lockdowns and travel restrictions with no cure in sight. Another point which was noteworthy is the evolving meaning along with social equations. One such example is, 'Deprived of work by COVID, prison escapee turns himself in after 30 years of beach life on the lam'. This text becomes humorous only when you realize the absurdity of returning to prison and the harsh reality of lack of jobs during the COVID-19. Another such piece is, 'Two held in Delhi for selling fire extinguishers as oxygen cylinders to covid patients.' It becomes funny only when one realizes the plight of people looking for oxygen cylinders and the sheer scale of frauds which happened due to lack of oxygen cylinders. These humorous pieces are reflections of the state of society during COVID-19 indicating the lack of hope, resources as well as evolving social norms.

²COVID-19 Has Driven Racism And Violence Against Asian Americans: Perspectives From 12 National Polls', Health Affairs Forefront, April 12, 2022.

5.1 Limitations

Humor is a complex creative construct with high subjectivity. The expressed comic content within a humorous text may evoke the feelings of mirth or confusion in some and repulsion in some. Moreover, the use of certain words such as sh*t, fu*k that are used to express surprise, shock or disbelief may be offensive to some as they are considered to be a part of 'rude language'. For example, in the text *TX Woman Dies Of COVID After Posting Facebook Rant: "You Don't Need Sanitizer, You Need Faith And Guns"*, the humor could be perceived by some as the irony in the situation and the dialogue, whereas others may find it insensitive and offensive since the text deals with the death of a person. Humor annotation thus becomes a huge challenge due to an annotator's own belief system and the awareness of the world around them. We openly acknowledge that the difference in opinion may occur in the annotated posts.

5.2 Ethical Concern and Broader Impact

Human annotators were college graduates, all 5 of whom identify as female. Keeping this in mind, the annotation may have a slight bias in terms of gender, age or geographical and cultural representation.

The data obtained from Reddit social media platform via the API are guaranteed to be anonymized. This ensures that the privacy of the authors of the humorous and non-humorous posts is respected and not revealed. As this work studies the different maladaptive humor styles in the posts obtained, there may be offensive or potentially harmful content such as racist, sexist, ageist, trans/homophobic comments, comments insensitive to religious views, political views present in the dataset, which are essential to demarcate these offensive jokes from the adaptive ones. We believe that this study will highlight the offensive speech masked under humor and encourage more research in this direction.

6 CONCLUSION AND FUTURE SCOPE

Creating a reliable yet diverse dataset of humor in any language is a challenge. In this paper, we presented a well-curated dataset of COVID-19 humor tagged with a variety of relevant labels. We believe that this dataset will enable research on the topical humor generated during the pandemic and its role in *information sharing* or even as a *behavior regulator*. The GPT-3 has generated promising explanations and is able to identify the pun and word-play style of humor. However, there is significant scope of improvement for maladaptive humor detection and identification of covert toxicity in syntactically non-toxic speech. Online moderation is a highly sensitive zone and moderation shall be done with caution. The profanities in text and the use of rude language is one such dilemma. We believe that the theme and the target labels can help us better understand when it's acceptable to be offensive.

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A ANNOTATION GUIDELINES AND DEFINITIONS

In this section, we provide the annotation guidelines and definitions followed during the data annotation.

A.1 Guidelines

The annotators were asked to follow the below steps to determine if a text is humorous:

- Read the entire text-discourse to establish a general understanding of the meaning.
- Determine if the text has implicit/explicit meanings of incongruous / conflicting / ambiguous / unexpected or strong emotions that make text humorous in the given context.
- Determine whether the text invokes a humorous reaction from you.

A.1.1 Hygiene Test. To ensure that the annotators understand the task and definitions, a sample of pre-labelled 30 posts (hygiene sample) was provided for annotation initially. Annotators were given the unlabelled posts for annotation only when they demonstrate clear understanding of the task over the hygiene sample.

A.1.2 Annotator's profile. A team of five annotators were recruited for this task. All were pursuing undergraduate degree, with ages in the range of 18-21. All 5 of whom identify as female. All were highly proficient in English. No monetary incentive was provided for annotation.

A.2 Definitions

Table A1: Key Terms in Annotation

Term	Definition
<i>Humor Style</i>	As provided in Table A4
<i>Theme of humor</i>	Key concept or idea on which the humor is based
<i>Target of humor</i>	a community/individual being targeted in the joke (who are being made fun of)
<i>Stereotype</i>	a generalized belief about a particular category of people

Table A2: Adaptive vs Maladaptive Humor

Type	Definition
Adaptive Humor (1)	When someone uses humor that's affiliative or self-enhancing in nature, it's called adaptive humor. [10]
<i>Affiliative Humor</i>	Benign humor that is used to enhance relationships with others.
<i>Self-enhancing Humor</i>	Benign humor that is used to enhance the self
Maladaptive Humor (0)	When someone uses aggressive or self-defeating humor, it's called maladaptive humor. [10]
<i>Aggressive Humor</i>	Injurious humor that is used to enhance the self
<i>Self-defeating Humor</i>	Injurious humor that is used to enhance relationships with others

Table A3: Sub-Categories for Maladaptive Humor

Category	Definition
Teasing (T)	the act of persistently annoying someone, especially playfully and with silly jokes about them.(Buxman [7])
Insulting (I)	consists of offensive insults directed to a person or a group.(Ahuja et al. [1])
Sexist (X)	suggesting that the members of one sex are less able, intelligent, etc. than the members of the other sex, or referring to that sex's bodies, behaviour, or feelings in a negative way.
Racist (R)	having the belief that some races of people are better than others or having general beliefs about other people based only on their race.
Age-ism (A)	comprises of jokes that stereotype, prejudice, and discriminate against people on the basis of their age.

Table A4: Humor Styles

Type	Definition
Satire (S)	a way of criticizing people or ideas in a humorous way, especially in order to make a political point, or a piece of writing that uses this style.
Self-defeating (SD)	excessive self-disparaging humor; amusing others at one's own expense to facilitate integration or gain approval; allowing oneself to be the focus of others' humor. (Martin et al. [19])
Dark humor (D)	a gruesome or a tragic theme such as death/illness is mixed with an innocuous topic which creates shock and inappropriateness.(Ahuja et al. [1])
Pun (P)	Puns are usage of certain words in speech to suggest two or more meanings or different associations of a word, or using two or more words with different meanings that sound the same or nearly the same in order to produce humor.
Sarcasm (SR)	is often used to convey thinly veiled disapproval humorously. It is something that mocks or ridicules, usually by saying the opposite of what is actually meant.
Irony (IR)	humor that involves incongruity and disagreement between what is said and what is understood or what is said and what actually happened.
Exaggeration (E)	a statement that represents something as better or worse than it really is, i.e. an overstatement of the truth.
Relief (RE)	when the main purpose of the joke is to act as an outlet for built-up tension by finding humor in morally problematic, dehumanizing conjectures.(Revi et al. [28])
Superiority (SU)	where the joke expresses feelings of superiority or dominance over other people/communities or over a former state of ourselves.(Morreall [24])
Matter of-fact (M)	to introduce a statement in an unemotional and practical way, that gives more details about what has just been said, an explanation of it, or something that contrasts with it.

Table A5: Stereotypes

Stereotype	Definition
Gender (G)	A gender stereotype is a generalized view or preconception about attributes or characteristics, or the roles that are or ought to be possessed by, or performed by, women and men.
Race (R)	Racial categorization reflects the process of placing people into distinct groups based on variation in phenotypic physical features of the face and body such as skin color, hair color and texture, eye shape, nose width, and lip fullness. (Maddox [18])
Sexual (S)	Stereotypes of gender, sexuality, and a group's status in society combine to influence societal views of sexual orientation groups (Mize and Manago [23])
Social-class (SO)	Stereotyping people based on their differential access to material, social, and cultural resources, which shapes their lives in important ways is social class stereotyping. (Durante and Fiske [11])
(Dis)ability (D)	People with physical disabilities face generally negative stereotypes toward them; society tends to view physical disability as an inferior state and as a personal misfortune. (Meyer and Asbrock [22])
Age (A)	Age stereotypes are ambivalent. For example, young individuals stereotypically perceive the older generation as warm but incompetent, while older individuals perceive the young generation as open-minded but foolish. (Kranz et al. [14])
Nationality (N)	Perceivers tend to agree on stereotypes of different nationalities, due to their reliance on certain features of the nation, ranging from politics and economics, to religion, to geography, and relational status, cooperating or conflicting, between one's ingroup and the outgroup. (Lee and Fiske [16])
Political (P)	Stereotypes to interpret and understand social issues, inform political beliefs, and form impressions of political candidates. (Spencer [29])
Religious (RE)	Stereotypical views characterizing a person solely based on their faith, the religion they practice or the entity they believe in.
Occupational (O)	Stereotypes resulting in preferential/detrimental treatment based on the social status of the occupation, the type of job and job tasks. (Strinić et al. [30])
Chinese population (C)	Stereotypes specific to the Asian community of the Chinese population, especially during the pandemic based on baseless evidence/claims.

Table A6: Distribution for Theme and Target

Theme (#posts)	Example	Target (#posts)	Example
Pandemic (493)	Coronavirus ruining your plans for 2020? Save them for 2022!. Cause 2022 is 2020 too.	General/None (617)	Why can't ants get coronavirus. Because they have little anty-bodies
Illness (150)	In a year, we're all going to remember this pandemic and laugh about it... ..at least the ones left...	Authority (152)	Trump wasn't lying about the coronavirus disappearing in April. He simply forgot to say 2021.
Life Changes (114)	It all started with a bat. Then toilet paper. Now we're going nuts in quarantine.. We really have gone bat, shit, crazy.	Anti-maskers/vaxxers (77)	It's primarily killing the unvaccinated. The vast majority of which are idiots.
Political & WHO (104)	Coronavirus isn't Trumps Fault. Ebola wasn't Obama's Fault. Sars wasn't Brush's fault..... And only a handful of cases of herpes were Clinton's fault.	Infected (66)	Don't worry, there are experts who are trained to deal with the coronavirus.. We call them coroners.
Love/sex (87)	I really hope coronavirus can't spread through sex. It would be so lonely being the last man on Earth.	Working Class (50)	Coronavirus. I bet the guy who invented hand sanitizer is rubbing his hands together now.
Pop culture (56)	Why did Princess Leia contract coronavirus?. Because she went to woo Han.	Couples (47)	This quarantine thing is not working out.. My wife and I are becoming friends and I almost told her about my girlfriend.
Boredom (56)	I finished 5 books during the quarantine. That's a lot of coloring.	Celebrities (38)	what do you call an artist during a global pandemic? . Vincent Van Cough
Groceries (48)	I went for an interview, they asked me where do I see myself in five years. Apparently, still using the toilet rolls I stockpiled during the Coronavirus outbreak is not the right answer	China (35)	What's the difference between kung pao and the coronavirus?. One's Chinese take out, the other takes out Chinese.
Physical Appearance (49)	Covid lockdown has me gaining weight so I started a new diet. Its called Two weeks to flatten Your curves	Women (34)	Japanese mayor says men should grocery shop during pandemic as women 'take a longer time
Hospital & Doctor (40)	"Raincoat" stolen by drunk man from hospital turns out to be PPE kit; tests COVID-19 positive	'Children (28)	This pandemic has given me a lot of time to get to know my kids better..or worse..
Work/Jobs (30)	My boss says he can't afford to pay me during this pandemic... . But luckily he says I can work for exposure.	Criminals (27)	2020 is a weird year. 5 years ago i entered a bank in a mask and i got forced to quarantine for years, today i got praised for it.. weird times to be alive
Media (30)	Fox News Limits Pandemic Coverage To Avoid Giving Coronavirus Notoriety It Craves	Family (24)	What's the difference between Coronavirus and my dad?. Coronavirus only takes five days to appear.
Education (16)	OHSAA coronavirus rules: Students can wrestle, but can't shake hands	Religion (22)	Why are Muslim youth the best at dealing with pandemics? . Because as a Quran-Teen, you always keep Allah by your self.
Work from home (10)	When the lockdown started, all I did was masturbate and watch TV all day.. After 3 weeks it got awkward and my coworkers decided to tell me how to turn my camera off on Zoom.	Men (20)	There's a Pandemic Sperm Shortage, and Sperm King. Megadonors Are in High Demand
		Health Workers (16)	Thankful for all the health care workers during this pandemic. Without dem, it would be a panic.
		Fans (12)	Why did everyone have Covid-19 at the KPop concert?. Because a symptom of Coronavirus is lack of taste.
		Poor (9)	This is the first year that we didn't go to Hawaii because of coronavirus.... Every other year we don't go because we can't afford it.
		Elderly (9)	Why did the Coronavirus cross the road?. Cuz it likes to walk old people to the other side.