Exploring Social Media Trends to Get Insights on the Sentiments of the people of Bangladesh in the Time of COVID-19

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Abstract

Studying Social Media to understand human psychology has been actively researched throughout the past decade. It is perceptible that analyzing social media data has the potential to provide valuable information about the public. When COVID-19 hit Bangladesh, a densely populated developing country in South Asia, there was about an immediate lockdown and people were more addicted to social media to express their opinion, views, and thoughts. This brought an opportunity to study the change in the psychology of the people during the pandemic through these social media data. But the availability of proper social media data has always been a challenge. In a country like Bangladesh, where people extensively use 'Facebook' as social media, the challenge is even more evident as collecting data from 'Facebook' is not easy as other social media that provides free APIs. In this extensive thematic study, we have addressed this issue by collecting posts of 40 regular Facebook users from March 15 (the surge of COVID-19 in Bangladesh) to May 30 taking their consent, and identified some temporal trends using the Bag of Words algorithm (a tool from NLP). We further conducted online interviews with the participants about the identified trends and how that affected their psychology. With both quantitative and qualitative analysis, we found some psychological trends (being more religious, mental health issues) among the people throughout the course of the pandemic.

Keywords: Social Media Psychology, Aftershock of Covid-19 on social media, Social Media Analytics and Societal Behavior, Bangladesh.

1 Introduction

At the beginning of 2020, the world witnessed the rise of a pandemic commonly known as COVID-19 (SARS-Cov-2). Due to the lack of instantaneous medical resolutions, the officials had to submit to other means to mitigate the spread of this pandemic. By the end of March, around one-third of the world population was in some form of lockdown [1]. Moreover, on March 8^{th} , Bangladesh, a lower-middle-income economy with one of the world's densest populations, reported its first cases of COVID-19 and the number of cases gradually increased as March advanced on (Fig. 1) [2]. Consequently, the government shut down all the educational institutions on March 17 and imposed a nationwide lockdown on March 24 [3]. Due to the lockdown, people all over the world suddenly had an unprecedented amount of free time on their hands and little means to spend it. Understandably, this had increased the social media consumption of the people who had access to the internet [4].

Social media is important because it helps people to communicate with each other and it is one of the main channels updating the COVID-19 information [5]. As a result, social media have become an inseparable part of the lives of its users. This has led to a greater number of various trends generating on social media, and people are now more likely to interact with them. Social media trends can be considered as the backdoor to the minds of a community. Analyzing social media trends can tell a lot about what people gravitate towards in the time of a crisis, what they fear and where do they seek hope; in general, the mindset of people amid a global pandemic. Various studies have shown that public health

emergencies can cause public health problems, such a Wenchuan and Lushan earthquakes [6], 2014 Ebola Outbreak [7] [8], and SARS [9] [10]. The outbreak of COVID-19 in China has caused mental health problems among the public in China [5] and Japan [11] and medical workers in Wuhan [12] [10]. Furthermore, many studies have shown the correlation between Social Media Exposure(SME) of adolescents and the symptoms of depression and anxiety [13]; however, whether higher SME causes depression and anxiety is still unclear [13] [14]. On the other hand, Nicole Valtorta et al. suggest that loneliness can lead to depression and anxiety [15]. In conclusion, COVID-19 has all the ingredients to cause a public mental health crisis. However, in the context of Bangladesh, a third world country located in South Asia, there is no concrete evidence to support the prevalence of mental health problems among its citizens. As a result, government officials are unable to make any resolutions to mitigate this crisis.

It has been well established that analyzing social media data can provide insights into the psychology of a community and the people in it. In February of 2020, a King's College London research team published a paper on Scientific Reports that found days with particularly high volumes of depression and schizophrenia-related tweets also saw higher numbers of crisis episodes at mental health service providers in London [16]. Furthermore, on an individual level, [17] found that the language of people's tweets can provide early hints that they would develop PTSD. In 2018, a group of researchers used "language predictive of depression" on Facebook to predict whether a user was depressed or not [18]. In some cases, their model could predict depression among users a full three months before the user received a formal diagnosis. P. Singh et al. showed a higher prevalence of negative emotions compared to positive emotions on Twitter during COVID-19, thus highlighted the psychological fear among the users caused by COVID-19 [19]. However, no such studies have been conducted on Bangladesh during the COVID-19 pandemic.

There is a lack of knowledge about the sentiments and emotions of the people of Bangladesh during the quarantine. Our study analyzes social media trends to provide insights into the state of mind of people during COVID-19. Our objectives for the research are to implement a computational approach to determining Facebook trends and to conduct interviews to get insights about the public sentiment during COVID-19. To do so, firstly, we collected approximately 300 Facebook posts from 40 users with their consent. Later, we performed the Bag of Words algorithm on those data to determine trends. Lastly, we formulated and conducted a semi-structured interview relating to the aforementioned trends.

2 Related Works

From the beginning of the 21^{st} century, social media has become one of the essential sources of social communication. Social media users share a vast amount of personal data on social media sites. As a result, analyzing social media is a lucrative opportunity for researchers to get insights on various social contracts. Social media data has been used for population-level influenza surveillance [20] [21] [22], monitoring mass gatherings [23] [24], understanding public sentiment towards vaccination [25], building pharmacovigilance applications (e.g. post-market surveillance of adverse drug events) [26] [27], understanding public attitudes towards new and emerging tobacco products and e-cigarette marketing [28] [29], and investigating prescription drug abuse [30].

By the emergence of the Novel Coronavirus, it became more important for researchers to analyze social media to get insights on public sentiments in the times of a global pandemic. Kleinberg et al. analyzed 5000 text messages (SMS) from the UK to show public concerns about their families and economic situations during COVID-19 [31]. Gao et al. viewed emotions and sentiments on social media as indicators of mental health issues, which resulted from self-quarantining and social isolation [10]. Many studies are now being conducted to analyze the spread of misinformation on social media [32] [33]. Furthermore, analyzing social media data to understand public emotions have been previously used to predict real-world outcomes such as economic trends [34], stock market [35], influenza outbreak [36], and political events [37].

Xiaoya Li et al. gave a thorough analysis of the emotional trajectories during COVID-19 of American and Chinese citizens by analyzing Twitter and Weibo posts between January 20th, 2020, and May 11th 2020 [38]. To do so, firstly, they collected COVID-19 related Twitter and Weibo posts. Then, they identified fine-grained emotions such as anger, disgust, fear, happiness, sadness, surprise, etc. Later,

they implemented NLP taggers to extract the triggers of different emotions, e.g., why people were angry or surprised, what were they worried about, etc. They compared the emotions between the two countries and highlighted a sharp difference in public reaction towards COVID-19 related issues. However, a study that analyzes social media data to get insights on public sentiment has not yet been conducted in the context of Bangladesh. This can be attributed to the fact that people of Bangladesh do not usually use Twitter; they primarily use Facebook. However, due to the Cambridge Analytica scandal, Facebook limited data available through APIs for the public [39]. Furthermore, Twitter has a 280 character limit, and its users generally post in English. Which cannot be said for Facebook in Bangladesh. People post in different languages and in different forms(e.g, photos, videos, and texts). Which poses a major obstacle for researchers who wants to implement a computational method to determine psychology from Facebook posts in Bangladesh. As a result, we had to submit to using interviews to determine public psychology.

Thus, we wanted to determine only the social media trends that occurred during the first few weeks of the Quarantine using a semi-computational method and answer why people choose to interact with these trends by conducting interviews.

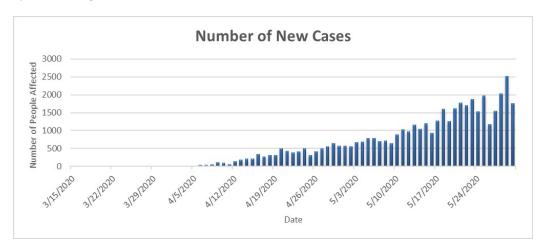


Figure 1: Number of People affected in between March 15 to May 30

3 Methodology

The primary aim of this research is to analyze social media trends in Bangladesh to understand the public sentiment in the times of a global pandemic. To conduct this research, we needed a vast amount of data from Facebook. However, Facebook does not share its users' private data through any APIs. The Facebook APIs were free for all till 2 July 2018 [40]. Due to the Cambridge Analytica scandal and the discovery of a Facebook app that had been leaking data on 120 million users, Facebook faced a major backlash. As a result, they decided not to disclose any of its users' data to the public without the permission of the Facebook authority [40].

We randomly selected 40 people to conduct our research. Later, we informed them about the objectives of our research and asked for their permission to collect their Facebook posts dating from March 15 to May 30. Fortunately, all of the potential participants agreed to share their data for our research. Upon obtaining their consent, we manually collected approximately 300 text-based Facebook posts from their profiles. We deliberately avoided image and video posts, as they are difficult to represent with texts. Bangladesh reported its first case of COVID-19 on March 8th. The number of people affected gradually increased as it approached the month of May (Fig. 1). To mitigate this crisis, the government shut down all the educational institutions on March 17 and imposed a nationwide lockdown on March 23. In the beginning, the citizens were keen to obey the imposed lockdown as they feared for the safety of themselves and their families. However, as Eid-ul-Fitr (May 25th) approached, the citizens became more agitated from the lockdown and started to turn a deaf ear towards the imminent threat of COVID-19. We believe, the quarantine was at its strictest between March 17 to May 30. Thus, we are taking this

interim under consideration.

Furthermore, we devised a computational model that is heavily influenced by the bag of words algorithm. Bag of words is a simplifying representation used in natural language processing and information retrieval (IR). In this model, a text (such as a sentence or a document) is represented as the bag (multiset) of its words, disregarding grammar and even word order but keeping multiplicity [41]. This model is commonly used in methods of document classification where the frequency of each word is used as a feature for training a classifier[3]. However, we could not implement the bag-of-words thoroughly due to the language difference. Consequently, we calculated the frequency of each word every week under consideration. Later, we had to manually determine how many times should a word appear in a week to be considered as frequent (Cut off threshold). (Fig. 2) shows the number of words under consideration on different cut off thresholds. If we selected a very small cut off threshold, there would have been a large number of words including redundant words such as "and", "or", etc. under consideration. However, if the cut off threshold was too high, it ignored important words. Upon testing different cut off threshold values, we concluded that 7 provided us with the lowest number of redundant words while still keeping the number of words under consideration to a manageable degree. Subsequently, we eliminated the redundant words manually and related those words with certain events that happened on that particular week. Thus, we were left with 6 major trends. While collecting Facebook posts from our participants' profiles, we noticed that the participants were posting more frequently during the quarantine than they were posting before. A large number of posts were about Coronavirus, concerns for the well-being of their family members, concerns for their livelihood, agitation generated from being stuck home all day, etc. Furthermore, we also noticed a significant increase in religion-oriented posts. However, Such trends did not appear in the result we got from our computational model(Fig. 3).

Moreover, [10] showed the relation between SME and mental health issues, and [42] depicted the relation between trauma and religious beliefs. As a result, we wanted to validify whether our observations were correct or not. If they were correct it would also comply with the findings from [10] and [42]. Thus, we formulated a semi-structured interview consisting of questions about online trends, mental health, and religious beliefs. The questions of the interview are attached to the appendix. Since we too were stuck in quarantine, we could not conduct the interviews in person. We met our potential participants on Google Meet. Upon meeting them, we sent them the consent form via email. The consent form is attached to the appendix. If they gave us their informed consent, we conducted the interview. Each interview was approximately 15 minutes long. However, upon learning about our interview policy 3 participants opted-out.

We stored all the answers from the interview on an excel sheet. The interviewer kept track of the important things said by the interviewee. Later, we manually checked the excel sheet to find meaningful information.

4 Data Analysis & Results

After running the Bag of words algorithm [43] and setting the cut-off threshold to 7, we had 48 words under consideration (Fig. 3). However, in some of the weeks, we found that there is a lack of words that appear 7 times. As a result, in some weeks we had to consider words that had appeared less frequently. Then, we manually eliminated some of the redundant words such as 'he', 'no', and 'was'. Thus, we were left with 6 major trends. The trends under consideration are as follows "Videos of Raihan Bhai", "Indian pennywort", "Quarantine Day", "Dalgona coffee", "Don't rush challenge" and "Online class" (Fig. 4). Moreover, while collecting posts from the participants' profiles, we noticed that when the quarantine started people started posting more frequently on Facebook and sharing more religious centric posts. Thus, we chose to include questions related to Facebook usage and religious views on our interviews.

People interact with trends to entertain themselves and to reduce boredom

Upon asking our interviewees about the trends, 78% were familiar with at least four out of six trends and 100% were familiar with at least two trends. However, this number drastically reduced when asked how many they have interacted with; on average each interviewee only interacted with 2.5 trends. Upon asking them why did they avoid these trends, the majority of participants said the trends were "annoying", "cheap entertainment", "uninteresting" or "pointless". One of the participants said,

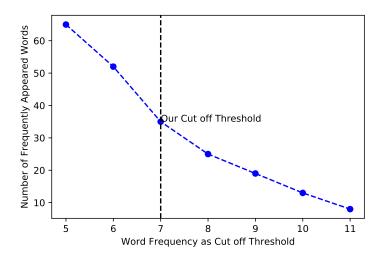


Figure 2: Number of words per Cut off Threshold(Cut off threshold - Number of times a word has to appear on a certain week to be under consideration. Figure 2 portrays the number of words under consideration on different cut off threshold.)

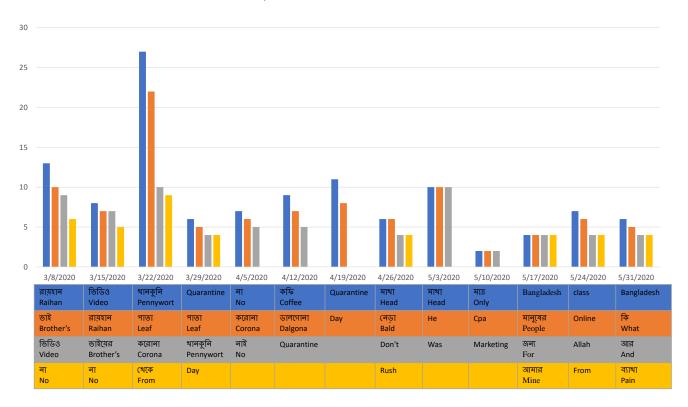


Figure 3: Most frequently appeared words

"these trends ('Videos of Rihan Bhai' and 'Indian pennywort') are an absolute eyesore. Quarantine is really boring everyone to death. This is the reason why these things are trending".

When asked why they choose to interact with the trends, the majority of the participants replied with either they were bored or it was a form of entertainment. One participant said,

"I was mindlessly scrolling through Facebook for hours; movies and TV-shows can keep my mind occupied for so long; after a while, even they bore me".

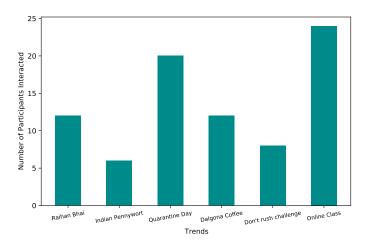


Figure 4: A bar graph showing number of people interacting with specific trends. The trend with which the participants most interacted was 'online class', followed by 'Quarantine Day'.

This is one of the reasons why Facebook usage drastically increased during the first few months of quarantine.

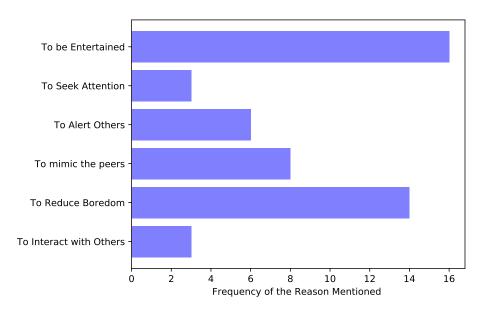


Figure 5: Reasons of interacting with the common trends due to COVID-19(Showing the reasons for interacting with trends and the number of people were interacting with a trend for a particular reason during covid-19.)

There was a surge in mental health problems amongst people who increased Facebook consumption during the Quarantine

Almost 95% of our participants said that they increased the usage of Facebook during that time and the usage was increased by on average 3 hours. Upon asking why did they increase Facebook usage, they mostly replied with "I was bored", "For entertainment" and "For social interaction". 52% of them said that the increased usage of Facebook did not cause them any mental illness. Almost 44% said that they were facing mental health problems during the quarantine due to the increased Facebook usage. One

participant said,

"My Facebook wall was filled with horrible COVID-19 related news and posts about peoples' dreadful experiences, and every time I would log onto Facebook these are all that I saw".

6 out of 19 men (31.57%) and 11 out of 18 women (61.11%) said they were facing mental health problems due to the increased usage of Facebook. It was observed that the mental health problems percentage for women was higher than men. Though this difference may not be statistically significant due to fewer samples, this can be an interesting direction to explore. How gender may create a difference between mental health problems during COVID-19 is not still evident. It can be the case that women are facing more mental health problems in general or during the time of quarantine, they faced some issues that made them more prone to mental health problems. This requires further investigation which we kept as our future works.

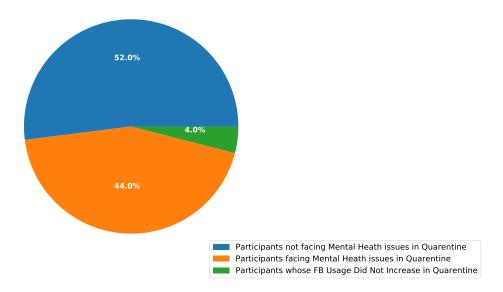


Figure 6: Opinion of people regarding Facebook usage and mental health problems (Showing the percentages of participants felt mental health problems due to excessive Facebook uses, participants did not felt any mental health problems due to excessive Facebook uses, and participants whose Facebook usages did not change in the time of lockdown.)

People diverted towards religion during the Quarantine

Moreover, 47% of the participants said they became more religious during the quarantine. However, we predicted that due to a pandemic looming over everyone's shoulder, people would turn to religion for hope. Contradictory to our theory, the majority of the participants said they became more religious just because they had more time to practice religion. Only a handful of them (four people) said it was due to a life-threatening pandemic. Furthermore, only 22% expressed their religious views on Facebook. In a few instances, the participants decreased the usage of Facebook because they became more religious. We can definitively say a large number of people became more religious during the quarantine.

7 out of 19 men and 10 out of 18 women said they turned religious during the Quarantine. Which translates to 36.84% of men and 55.56% of women. It seems women were more likely to become religious during the quarantine. As we have seen women being prone to more mental health issues too, there can be a causal relation between facing mental health issues and being religious. It can be interesting to see whether this relationship has been strengthened by the quarantine and is an interesting research direction that we want to explore further.

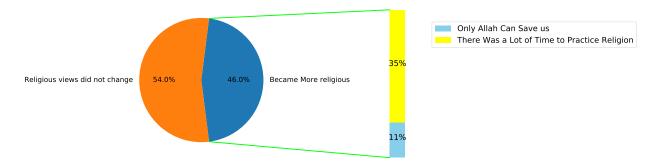


Figure 7: Opinion of people regarding being religious (Showing the percentages of people being more religious and not being more religious in the time of quarantine. Additionally, those who became more religious raise two major opinions ("Only Allah (God) can save us", "We have lot's of time to practice religion") about why they became more religious in the time of quarantine)

Interdependence between mental health problems, being more religious, Facebook usage increase, and interactions with COVID-19 related posts:

We conducted further analysis with these four nominal variables in our dataset where the values were exclusively yes or no. We conducted independence analysis using Chi-Square test between some of these variables and could observe interesting results. For our analysis, we used Pearson Chi-square [44] value and Cramer's Phi [45] value. The experiments were done using researchPy [46] package. We are considering 0.1 as the effect size of Cramer's Phicit value and anything above this value were considered to be statistically dependent. When mental health problems and being more religious were compared together, the Cramer's Phi value is 0.2899, and Pearson Chi-square value is 3.1105. This indicates that they are statistically dependent on each other.

For Facebook usage increase and mental health problems, Cramer's Phi value is 0.2087 and Pearson Chi-square value is 1.6109, indicating that they are statistically dependent and there exists a relation between these two variables. There exists a weak relationship between Interactions with COVID-19 related posts and being more religious, though they may be considered statistically dependent (Cramer's Phi value is 0.1602 and Pearson Chi-square value is 0.9493).

Interestingly, interactions with COVID-19 related posts and mental health problems seems to be statistically independent there does not exist a relationship between these two events (Cramer's Phi value is 0.0061 and Pearson Chi-square value is 0.0014). For Facebook usage increase and interactions with COVID-19 related posts, the Cramer's Phi value is 0.0599 and Pearson Chi-square value is 0.1330. This indicates that they are statistically independent and there does not exist a relationship between these two variables.

It can be implied from the data that people with mental health problems tend to seek religious help. Furthermore, an increase in Facebook usage may cause mental health problems. However, interacting with COVID-19 related posts does not necessarily cause mental health problems as it was inferred by some of our participants. But, if they were already facing mental health problems, interacting with COVID-19 related posts may worsen the problem. Since the number of participants in our study was small, it cannot be said that these results would always hold in real-life scenarios. This test is able to substantiate our empirical knowledge about the variables. If we had more participants, our hypothesis could have been substantiated with more certainty.

Relation of Trends with Mental Health Problems and Being Religious:

We are considering 0.1 as the effect size of Cramer's Phi value for this test. The aforementioned trends in fig— and Mental health problems and being religious do not usually yield any statistically significant dependencies. However, Indian Pennywort and being religious yield Pearson Chi-square value of 0.4587

and Cramer's phi of 0.1113. This indicates that there exists a weak relationship between these two variables. This is maybe due to the fact that some of the religious people in Bangladesh are superstitious and gullible. Lastly, mental health problems and the trend Quarantine Day yields Pearson Chi-square value of 0.8097 and Cramer's phi value of 0.1479. This indicates a weak statistical dependency among these two variables. This can be attributed to the fact that people were posting about Quarantine Day because they were unhappy with staying home all day.

5 Data and Code Availability

All the collected and processed data (Social media analysis, Interview Recordings and script(CSV)) are available in google drive link here. The codes for trend detection and statistical analysis can be obtained upon request to the corresponding author.

6 Discussion

Interacting with trends is one of the few forms of inclusive entertainment on the internet i.e. every participant can feel like they are a part of a large community. It is understandable why it was a popular form of entertainment at the beginning of the quarantine when everyone was detached from their communities. We assumed that one of the reasons why people interacted with trends during the quarantine is to feel included in a community, and by extension, interact with others. However, only three participants said they interacted with trends for social interactions. Furthermore, our results do comply with Facebook's business model. Back in 2011, Mark Zuckerberg announced that they were planning to turn Facebook into an entertainment hub [47]. As our result shows, people increased the usage of Facebook during the quarantine to entertain themselves and to interact with others. [48] [49] found that fear, worry, nervousness, anxiety, etc. expressed on social media are contagious and can affect the sentiments of the viewer. Junling Gao et al. conducted a survey in China with 5,851 participants to show the prevalence of mental health issues in people who had a higher SME [10]. As a result, we predicted that the quarantine would create a massive mental health crisis among the people who increased the usage of Facebook in Bangladesh. Our results co-relates with all of these studies. 44% of our participants attributed their mental health problems to the increase in Facebook usage. However, we cannot definitively say what aspect of Facebook caused it. According to Darius Leo et al., traumatic events can bring significant changes in religious beliefs among small proportions of people [42]. The people of Bangladesh are incredibly religious; thus, we predicted that with a pandemic looming over everyone's shoulder, people would turn to religion for hope. However, the majority of our participants said that they turned more religious just because they had more time to practice religion. Thus, we were proven wrong in this aspect. Only 11% of the participants said they turned religious because they felt powerless during the pandemic. This is maybe due to the reason that the threat of COVID-19 affected the people of Bangladesh in a far more trivial and ignorable way rather than in a visceral way like it did in Italy or Spain.

7 Conclusion

Our paper analyzes social media trends to determine the public sentiment during the start of the COVID-19 pandemic. Our study provides a semi-computational approach to determining social media trends. By analyzing the trends, we got insights into why people interact with trends, the prevalence of mental health problems, and the shift in religious views. However, we had to face some limitations while conducting this research. Firstly, currently, Facebook does not have any APIs, thus, we had to collect Facebook posts manually. Furthermore, due to the ongoing quarantine, we could not meet our interviewees in person, which drastically reduced our ability to conduct interviews. As a result, we could not conduct this research thoroughly. Our sample size is minuscule and cannot be used to represent the entire population of Facebook users in Bangladesh. However, we were still able to provide deep insights into the sentiments of people in Bangladesh during the COVID-19 pandemic. Moreover, why there was a change in religious views during the first few months of the quarantine and why there was a surge in mental health problems among Facebook users are two very important questions that need to be answered. It has the potential

to provide significant insights into public sentiment. Understanding human behavior during a pandemic from social media data is challenging as well as an interesting field of research. This was even more challenging in the context of Bangladesh due to the low availability of social media data. Hence we come up with a novel and hybrid methodology of quantitatively identifying social media trends and figuring out how the trends are affecting the behavior and psychology of the mass public. To the best of our knowledge, our study is the first of its kind and it added a new dimension to such kind of research. With an extensive thematic study, we figured some interesting trends and psychological issues among the participants at the time of the pandemic. We would like to further investigate these issues on a larger scale and our research can be reproduced in different situations and phenomena too.

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Informed Consent form:

Researchers:

- <Name of the researchers>
- <Name of the institution>

We are asking for your voluntary participation in our mini project-based research about determining peoples' sentiments by analyzing Facebook trends during COVID-19. Please read the following information about the project. If you are willing to participate, please sign in the appropriate space below. If you have any further questions about this study, please feel free to contact the researcher.

Information about the research

The purpose of this study is to determine public sentiment during COVID-19 in Bangladesh

The analysis will be based on an interview taken by <Name of the researchers> **Participating in the study**

If you participate, you will be asked to: Provide answers to questions in the interview regarding your experience with social media trends.

Time required for participation: Approximately 10 - 15 minutes.

Potential risks of this study: There is no expected risk or discomfort for those who are willing to contribute to this study, so risk for the participants is negligible.

Benefits: You may not be personally benefited from taking part in this study. However, you may receive a copy of the final report upon request.

How confidentiality will be maintained: Your records will be kept confidential and will not be released without your consent except as required by law. Your signed consent form will be stored separately from the data.

The interview will be recorded (only if you allow) for our further analysis.

Voluntary Participation

Participation in this study is completely voluntary. If you decide not to participate there will not be any negative consequences. Please be aware that if you decide to participate, you may stop participating at any time and you may decide not to answer any specific question.

By signing this form, I am attesting that I have read and understood the information above and I freely give my consent to participate.

Name of Participant	13	Date and Signature

Interview Questions

- 1. Which one of these trends are you familiar with?
 - 1. Raihan Bhai
 - 2. Indian Pennywort
 - 3. Quarantine Day #
 - 4. Dalgona Coffee
 - 5. Don't rush challenge
 - 6. Online Class
 - 7. Others
- Which one of these trends have you actively participated with? As in, liked, commented and shared.
 - 1. Raihan Bhai
 - 2. Indian Pennywort
 - 3. Quarantine Day #
 - 4. Dalgona Coffee
 - 5. Don't rush challenge
 - 6. Online Class
 - 2.1. Why did you choose to interact with these trends?
 - 1. To interact with others
 - 2. To seek Attention
 - 3. To alert others
 - 4. My peers were doing it
 - 5. To reduce boredom
 - 6. To be entertained
 - 7. Any other reason?
 - 2.2. Why did you not interact with the trends that you were familiar with?
 - 1. These trends are annoying
 - 2. These trends are pointless
 - 3. These trends are cheap entertainment
 - 4. These trends are not interesting
 - 5. Any other reason?
- 3. Did you increase the usage of Facebook on the start of the Quarantine?

If Yes,

- 3.1. Why did you use to spend more time?
 - 1. To reduce boredom
 - 2. To reduce loneliness
 - 3. For social interaction
 - 4. For entertainment
 - 5. Any other reason
- 3.2 Did the increase in Facebook usage cause you any mental health problems?
 - 1. Yes
 - 2. No

If no,

- 3.3. Why did you use to spend less time of Facebook?
 - 1. To spend time with family
 - 2. Social media used to hurt your mental health
 - 3. There is no good thing on social media
 - 4. Any other reason
- 4. Did you use to interact with Coronavirus related posts on Facebook?

If Yes,

- 4.1 Why did you interact with coronavirus related posts on Facebook?
 - 1. To inform others
 - 2. To express fear
 - 3. Because you were feeling hopeless
 - 4. To express disappointment
 - 5. To be entertained
 - 6. For advice
 - 7. Any other reason
- 5. Did you become more religious during this quarantine?
 - 1. Yes
 - 2. No

If yes,

- 5.1 Why did you become more religious?
 - Open ended question
- 6. If you did become more religious, did it change the way you use Facebook?
- Open ended question

A brief description of the trends

Raihan Bhai's Video:

There was a Facebook page named "Raihan Bhai", where a boy aged around 25-27 was coming to Facebook live daily night and performing some awkward dance move. As people were bored in quarantine and had literally nothing to do, they were seeing Raihan Bhai's Facebook live for entertainment purpose and made him viral overnight. At that time, People were posting about his live video and make the word "Raihan Bhai" trendy.

Indian pennywort

Bangladesh saw a spike in the sale of Indian pennywort (locally known as Thankuni pata). One morning people went nuts looking for it because rumors suggested it really work for preventing Corona Virus. Basically, it has medicinal properties against certain skin diseases, diarrhea, and a few others but nothing has been tested to be effective against Covid-19. Especially rural people of Bangladesh made these rumors and it has gone viral through social media posts.

<u>Dalgona Coffee</u>

The dalgona coffee challenge has roots in a South Korean street treat popular in the 70s and 80s. The new craze started in January when Korean actor Jung II-woo showed how to make the drink. All over social media people are taking the dalgona coffee challenge and posting their creations. It became so trendy in Bangladesh also at that time as people were taking Dalgona Coffee making challenges and posting it on social media.

Quarantine Day

People were literally gone mad in home quarantine days. Here's a good way to show off how you're spending all your Quarantine days indoors. Whether you're trying out a new recipe, sharing Netflix tips, or have figured out how to use a brush and such things. That's how people make the Quarantine day hashtag so trendy.

Head Bald

Because of closing all the salons, barbershops, and beauty parlors indefinitely made people took the globe's hairy situation into their own hands and shaving it all off. As people could not go out to any salons or barbershop, most of them bald their head and make themselves tension free. Also, they were posting their bald head's picture on Facebook. That's how it went viral.

Online class

With the coronavirus spreading rapidly across the world, countries have taken rapid and decisive actions to shut down schools, colleges, and universities to contain the virus and ease the spread of the pandemic. As the situation was like a Paradigm shift for Bangladeshi students, they started to post about it on social media. A huge amount of students posted using the hashtag "Online Class" and made this tag trendy.