

# PROJECT REPORT

IMT2017003-Amogh Johri

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## Introduction

For the following project I have collected and analyzed the WhatsApp group chats for three groups (initially I had done the same for four however, one of the group's members withdrew their consents at a later phase of the study). The study aims to find the relations between information patterns that emerge on the platform to the ongoing pandemic.

A brief description for the processes involved have been provided below:

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## Consent

Members of Group-1 and Group-2 agreed to participate in the study while demanding that their names shall not be explicitly used. Hence, for this purpose all the members of the groups are referred to as "UserX". The interpersonal relations of the members have been shown to provide a better context for the data and analysis. The members of Group-3 also wanted their relationship with the Author to not be mentioned in any way, along with the audio-visual content on the group to be excluded from the study. Another condition that a few individual members demanded was for their employment details to not be explicitly mentioned. The relevant conditions have been taken care of to the utmost care of the Author.

## Methods

The data was collected by the author, and all the analysis tools utilized were also built by the author. There were singular instances where online tools were used (for editing images, etc) and they have been mentioned in the report below (wherever they were used).

## Verification Process

The information verification process adopted by the author was the following:

1. The author tried to look for information regarding the content under question at other credible sources (as discussed through the present course).
2. Whenever the news was concerned with a particular nation, a third-party source was given preference.
3. If a credible source was not found, the author looked at multiple other sources or tried to trace back to the origin of the report/content in question.
4. Upon no significant result from the above three steps, the content/information's legitimacy was marked as "Unknown".

The above steps refer to a general flow of steps which were followed. Several content which only conveyed partial information was hard to verify using these. Such content was usually marked "Unknown" unless explicitly being proven "Legitimate" or "Fake".

## Miscellaneous Information

1. None of the group-members which were a part of the study used any news-aggregator applications. Hence, this column was omitted from the final data to avoid clutter.
2. None of the discussions resulted in an off-line interaction hence, this column was also excluded from the data.
3. Only content falling under the Post Type = Information, has been verified for legitimacy.
4. Since the average reaction of the groups varied widely, an absolute scale of activity has been used with the following 4 bins:
  - a. None: If there was no reaction at all

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- b. Small-scale: If the reaction involved a few emojis/ texts (for the sake of acknowledgement)
  - c. Medium-scale: If the reaction involved a few comments on the post.
  - d. Large-scale: If the post generated a long-insightful discussion.
5. Other fields which are tied to a group-member (like poster's activity level, etc) have been provided separately in the data-sheet itself, but the column has been omitted to avoid clutter.

## Group-1

**Group Type** - Family Group

**Number of Members** - 4

**Group was formed on** - August 2017

**Who initiated the group** - User1

**Gender Ratio** - 2:2 (F/M) (Pink/Blue with respect to the Family Chart below)

**Oldest Member** - 55 (User3)

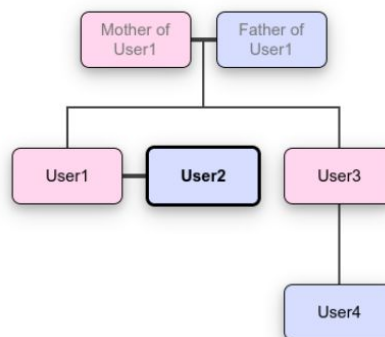
**Youngest Member** - 21 (User4)

**Average Age** - 42.5

**Highest Education** - Postdoctoral (User3 and User2)

**Lowest Education** - Masters (pursuing) (User4)

**Number of people with formal employment** - 3



The above figure represents the family-relations among the group members.

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The group consists of family-members who have relatively closer ties among each other in comparison to those with other family-members. The group was formed when User4 moved to another city for pursuing college-education. The motif was to be connected and informed regarding the daily-lives of each other. In everyday interaction, the group members shared information centric to their lives. Apart from that, 2 of the group members are college professors, and as one is pursuing their master's degree. All three of these members have their educational background in the broad domain of science and specifically aligned towards research. Hence, a majority of content which goes on the group is centred around online courses, new research topics, educational videos, etc. Third-party content does not usually find its way on the group as the discussions are centred around personal-lives of the group members. The kind of information and news which gets shared is either of scientific/educational background, or of something closely related to one-or-more group members. Before the pandemic the journalistic content which found its way on the group would usually be based on scientific studies, however, sometimes it also consisted of general news regarding the city, state, etc of one of the group members. Since scientific studies are by nature very susceptible to inaccuracies and misleading content, the same was often the case for the group. This also stems from the fact that group-members would not give much thought before sharing something as the close interpersonal ties combined with the semi-formal nature of relations provided a 'safe-guard' against being explicitly pointed out for unauthentic content.

News regarding the current pandemic was prevalent during the initial days for India (around the first week of March). This was primarily due to the fact that it fell in both the categories of having personal relevance and a scientific connection. As the discussions were now very closely entangled to the daily-lives of the members, conflicts and pointing out of mis-information also took place (which was often avoided earlier). This can be attributed to mis-information now having a personal significance for the members with the pandemic being closely intertwined to their (and everybody's) daily-lives. This, along with the emotional toll of the pandemic and lockdown initially saw the 'semi-formal' nature of the interpersonal relations being shaken to a more frank/open one on several occasions. Since the pandemic's influence only increased, the events corresponding the same also saw an increase. The sudden jerks caused a stark change in interpersonal relations between the group members which had a clear impact on our study. The volume of content and especially reactions were reduced significantly.

The content sharing patterns changed in the following manner:

1. Only what could be deemed as essential was shared.
2. Content susceptible to not being received in good taste by the other members was minimized.
3. The discussions were being avoided to a much larger extent than before.

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## Statistics

### General Statistics:

**Total Number of Messages:** 1521

**Average Activity:** 13.625 messages/day

**Most Active:** User3

**Least Active:** User2

#### Distribution of Messages:

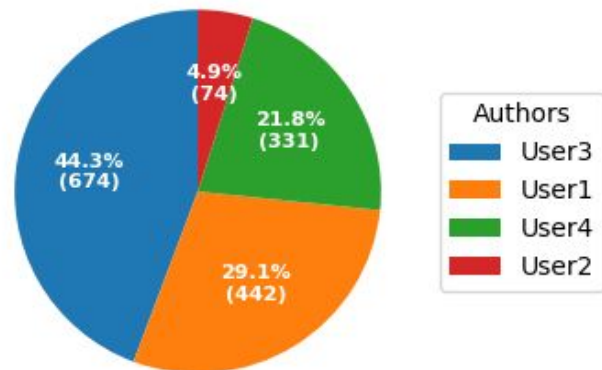
##### User Based Distribution:

**User1** = 442, **User2** = 74, **User3** = 674,  
**User4** = 331

##### Content Based Distribution:

**Media** = 316, **Non-Media** = 1205, **Only Emojis** = 121

Distribution of Messages



### Pandemic Related Statistics:

**Total Number of Messages:** 48

**Most Active:** User3

**Least Active:** User2

#### Distribution of Messages:

##### Content Type Based Distribution:

1. **Informative:** 30
2. **Humor:** 13
3. **Suggestion:** 3
4. **Speculative:** 2

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### Content Character Based Distribution:

1. **Journalistic:** 13
2. **Non-Journalistic:** 35

### Authenticity Based Distribution:

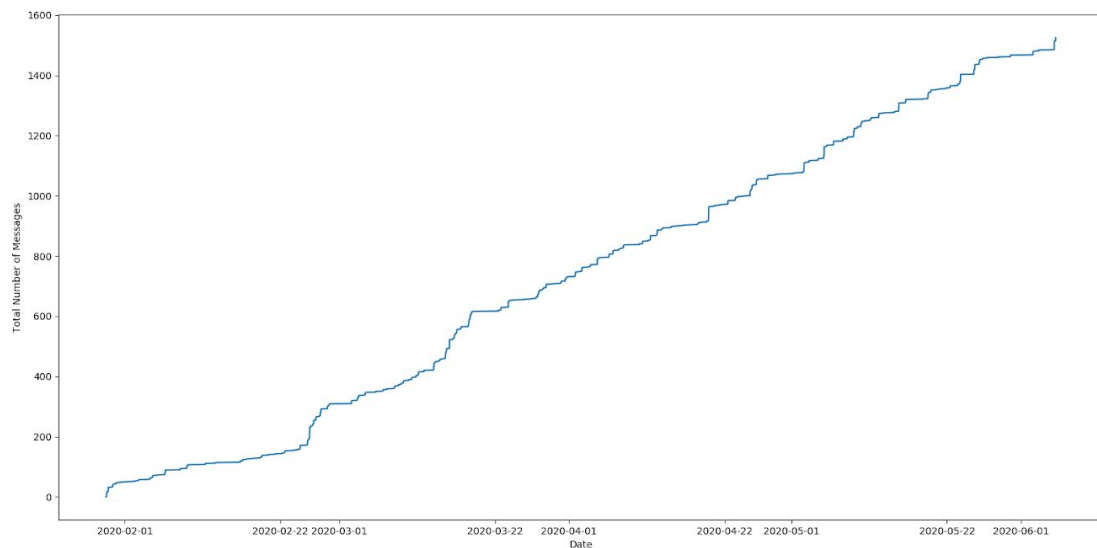
1. **Authentic:** 26
2. **Fake:** 3
3. **Unknown:** 1

### Origin Based Distribution:

1. **Generated By Poster:** 24
2. **Forwarded:** 8
3. **Shared:** 8
4. **Directly Shared Link:** 6

### Content Feature Based Distribution:

1. **Text:** 19
2. **Image:** 13
3. **Link:** 12
4. **Video:** 2

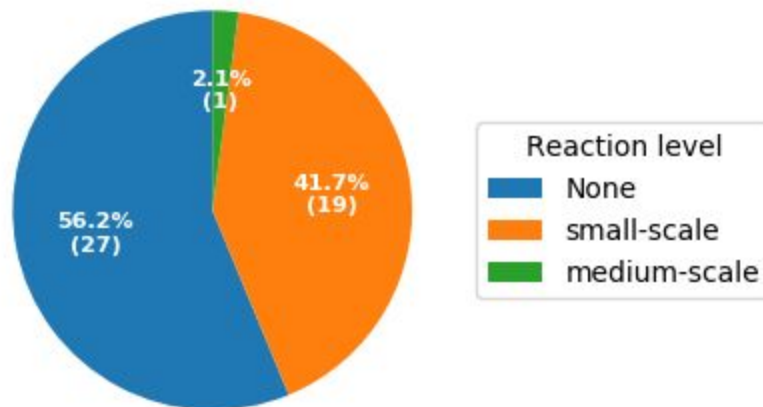


Time Series Depicting the Group-Activity from 29-Jan-2020 to 31-May-2020

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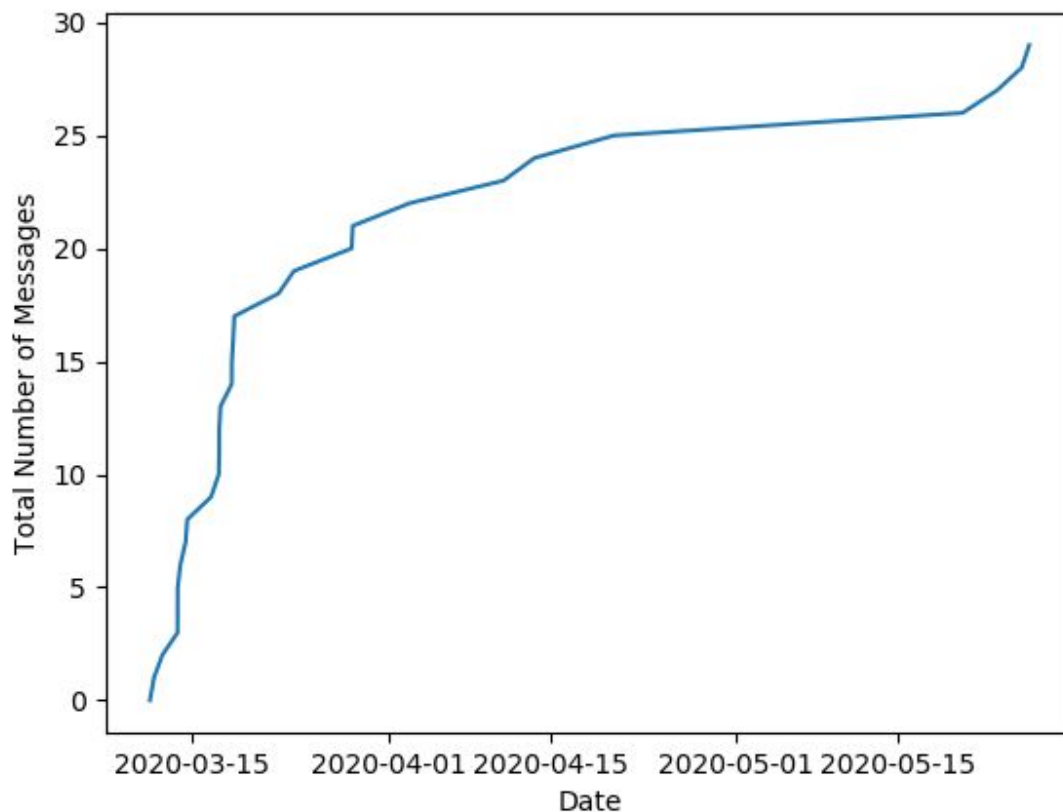
The time-series shows a sudden rise at two locations, both falling around the 4-week span starting from 20th Feb. This is around the duration when the pandemic wreaked havoc in Italy, and measures started to concretize in India (government advisories, closing down of gyms, etc).

Distribution of Messages



#### Reaction To Pandemic Related Content

The reaction to the content was very low. Most of the content saw no reaction, or a very small-scale reaction (which was done for the sake of safe-guarding oneself as to not be accused of ignoring the sender, rather than giving a meaningful reaction to the content). The single medium-scale reaction came off the first image sent with respect to the pandemic, which was a screenshot of an email from the user's institute, specifying an institute level lockdown. These were amongst the first concrete steps taken by institutes against the pandemic. Since 3 of the 4 group members are closely related to educational institutes at the current point in their careers, this sort of announcement overlapped amongst their institutes. This being of great personal value, became a point of discussion for the group members. This again ascertains that the kind of information which found its way on the group had personal significance to the group members. This trend remained relatively unchanged throughout (in terms of its nature).



Trend of "Informative" Content

The above figure bolsters the previous conclusions. Most of the informative content came during the two-week period from 15-March to 1-April. This was when most major decisions were taken by the educational institutes, government, announcement of the first lockdown, etc. Apart from these, User4 had to travel from Bangalore to Varanasi on 18-March. This also caused a sudden rise in information, as content concerning how to remain safe while travelling, how long to quarantine post travel, etc, now had direct personal relevance.

Apart from these the group did not suffer heavily from fake news, communal news, etc during the period of our data-collection. The reasons for this have been discussed above. Most of the informative content which found its way to the group were direct-links and/or images from largely credible sources. Conflicts were largely avoided, and there were few points for them originating in the first place. Communal content had never been a part of the group's information flow, and that continued to be the case.



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## Group-2

**Group Type** - Friends Group (College Friends)

**Number of Members** - 4

**Group was formed on** - September 2018

**Who initiated the group** - User1

**Gender Ratio** - 1:3 (F/M)

**Oldest Member** - 22 (User2)

**Youngest Member** - 20 (User3)

**Average Age** - 21

**Education** -Masters (pursuing) (All)

**Number of people with formal employment** - 0

The group consists of four batchmates, all of them pursuing Integrated Master's in Computer Science and Engineering at the International Institute of Information Technology Bangalore. All the members are in their third-year of college. The group mates have been close friends since their first-year in college. While on campus, all the members reside at the same location (college hostels) but otherwise they all hail from different states. User1 hails from Uttar Pradesh, User2 from Maharashtra, User3 from Karnataka and User4 from Rajasthan. The interpersonal relations between the members are strong and the usual nature of the interaction is very open/frank. Since all the members are students, the majority of information shared is either academic in nature or of academic/career importance (example: information regarding scholarships, educational institutes, work-laws in other countries, etc). Apart from these a large amount of personal conversations also finds its way in the group, such conversations revolve around the college life, daily life of members, etc. All the members are to some extent fitness enthusiasts, hence information regarding fitness, nutrition, etc is also prevalent.

The pandemic had shaken every institute and sector, however there are a couple of distinctive features to note regarding students pursuing a domain in Information Technology. Since most of the course-work/internship-work is technical in nature, a laptop and an internet connection (something which is usual for a modern-day IT-student) is sufficient to maintain the same. Hence, most IT students found their course-structures and/or summer-internships roughly intact. Two of the group-members are also working in collaboration with European organizations, where the flow of pandemic is very different to that in India. The other two members are also involved in summer-internships with Indian

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organizations. Hence, the discussions/information pattern on the groups were significantly biased towards work-stress, re-opening of institutes, discovering a working-space amidst the pandemic, etc. As there are only four group members, all of whom share a close bond, the reaction levels in the group were naturally high. Content shared would rarely pass unacknowledged, and fake-news/mis-informations, etc were pointed out whenever possible. Most discussions would also involve all four members. This was also strengthened by the fact that two of the members were enrolled in the present course(News Literacies in the Digital Society)., hence, discussions/debates would often be insightful and counter-points were mostly backed by factual references. This nature can also be seen to be adopted by the other group members. One important point to consider is, as the group members have a rather dark sense of humor, several important informative /empathetic content would sometimes get received as humor.

Since the pandemic interferes directly into the information habitat of the group, the patterns can be seen to have a significant change along with an increase in the volume. The uncertainties around the decisions for educational institutes, possibilities of travelling abroad (as all the members had initially planned for summer-internship at different educational institutes in Germany), all the way to changes in fitness lifestyle and hobbies due to the lockdown, saw an immense increase in the content, as these areas were regularly discussed. Clusters were also formed around important UGC announcements, IIT-B announcements, etc. Other factors which lead to a small regional shift in patterns include, dates of project submissions, assignment submissions, online quizzes, etc.

## Statistics

### General Statistics:

**Total Number of Messages:** 10,629

**Average Activity:** 109.6 messages/day

**Most Active:** User1

**Least Active:** User3

### Distribution of Messages:

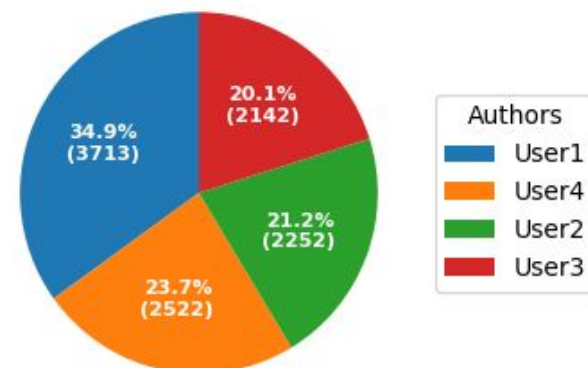
#### User Based Distribution:

**User1** = 3,713, **User2** = 2,252, **User3** = 2,142, **User4** = 2,522

#### Content Based Distribution:

**Media** = 431, **Non-Media** = 10,198, **Only Emojis** = 1,673

Distribution of Messages



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## **Pandemic Related Statistics:**

**Total Number of Messages: 104**

**Most Active: User1**

**Least Active: User3**

**Distribution of Messages:**

### **Content Type Based Distribution:**

1. **Informative:** 62
2. **Personal Remark:** 18
3. **Humor:** 16
4. **Speculative:** 5
5. **Suggestion:** 1
6. **Government Announcement:** 1

### **Content Character Based Distribution:**

1. **Journalistic:** 45
2. **Non-Journalistic:** 59

### **Authenticity Based Distribution:**

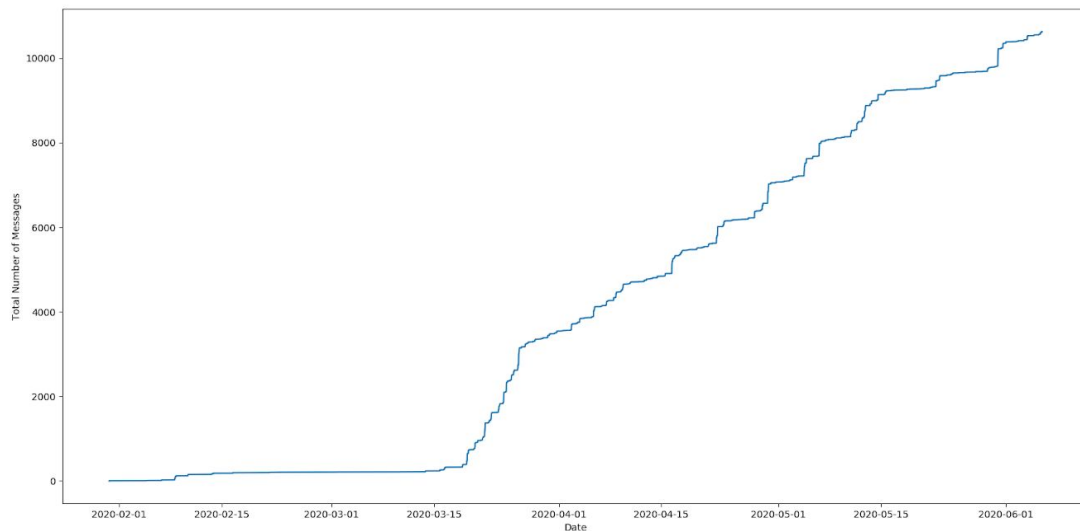
1. **Authentic:** 52
2. **Fake:** 7
3. **Unknown:** 4

### **Origin Based Distribution:**

1. **Generated By Poster:** 73
2. **Forwarded:** 9
3. **Shared:** 7
4. **Directly Shared Link:** 14

### **Content Feature Based Distribution:**

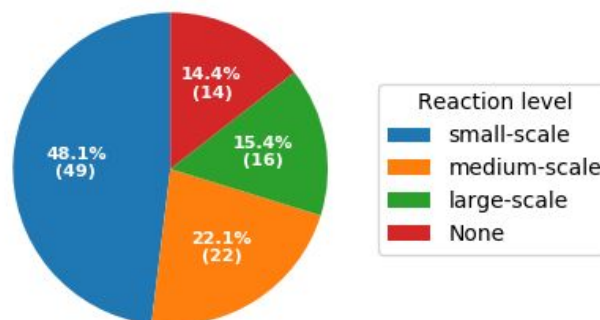
1. **Text:** 54
2. **Image:** 31
3. **Link:** 14
4. **Video:** 5



Time Series Depicting the Group-Activity from 29-Jan-2020 to 31-May-2020

The time-series depicts the rise in the volume of content as the pandemic reached our daily-lives. The rise began from 15-March, which had the first major pandemic-centric decisions being announced by the institute. This involved cancellation of an on-going fest midway, lockdown at a college level, and was shortly followed by an announcement to vacate the hostels until further notice. The rise continued for the next two-weeks as there were a number of uncertainties regarding the next-steps of the institute, along with a sudden change in group member's personal lives. Since the members were spread over different states, often content related to these states found its way in the group. This would then be compared and contrasted with the conditions in other states.

Distribution of Messages



Reaction To Pandemic Related Content

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The reactions were relatively higher, in comparison to those in other groups. The reasons for this have been discussed above. The reason for small-scale reactions being larger was receiving content, often meant as information (or to incite a serious conversation /discussion) as humor by the other group members. The type of reception of the content would largely depend upon the instantaneous tone in the group. An interesting observation on this is the lack-of-sensitivity which seemed to increase through the course of the pandemic. With the mental imbalances and grim-nature of content that got introduced through our daily-lives, soon the receptivity to it began to decrease. In instances, cases of increasing patients, unplanned decisions leading to hardships towards a particular group (ex: migrant workers), news regarding riots, etc, began to be received in an insensitive manner (precisely as humor).

A few peaks towards the end of the data-collection period can be accounted to the increased amount of decisions being made over the future functioning of educational institutes. Such content would have a large reception as it fell right at the centre of the group's intrinsic culture.

The group did not suffer from fake news, however a significant point to be noted is the nature of informative content being closely associated with recent research content. Hence, the authenticity is susceptible to change in the coming future. The legitimacy for the current data has been decided based on the methods described above. There was no communal, political or nationalist content, which has always been the case with the group, and that continued to remain the same.

## Group-3

**Group Type** - Family Group

**Number of Members** - 7

**Group was formed on** - September 2018

**Who initiated the group** - User1

**Gender Ratio** - 4:3 (F/M) (Pink/Blue with respect to the Family Chart below)

**Oldest Member** - 59 (User1)

**Youngest Member** - 45 (User6)

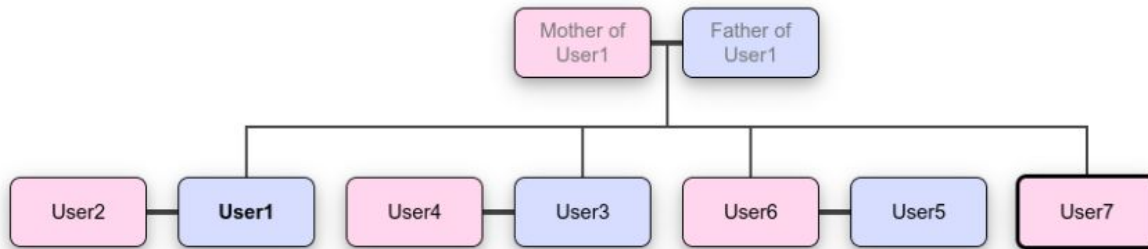
**Average Age** - 51.57

**Lowest Education** - B.A, B.Ed (User2)

**Highest Education** - Postdoctoral (User6 and User7)

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**Number of people with formal employment - 6 (All Members Except User2)**



The above figure represents the family-relations among the group members.

The group consists of seven members of a family (the author shall not be describing my involvement in the group in any kind as this was one of the conditions requested by the members while consenting to the study). The relationships have been described above. The means of employment vary from members holding posts in government offices, to college professors, to entrepreneurs, etc. Also, all the group members belong from Uttar Pradesh. The further information was obtained by taking a short interview of User7.

All the group members have close and intimate relationships, there are hints of formality in the interactions depending upon the age of the member (usually elder members enjoy an implicit order) however, for in most scenarios the discussions are open and frank. Since there are seven members in the group, the interpersonal relations between them do vary to a certain extent and mentioning all of them individually shall not be possible. User1 is the eldermost of the group and hence, conflicts against them are rare. User2 is rarely active and does not enjoy as close a position as other group-members. User7 is a single-mother, and does feel that this causes other group-members to pose as an (unwanted) over-protective figure.

The group acts as a location for almost everything of current importance (or more precisely everything popular in the Indian News Media Organization) does find its way onto the

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group. This includes current affairs, political discussions, economics discussion, etc. Humor also plays a massive role in the group and a number of jokes are forwarded (in terms of textual and audio/visual content). Apart from these, content of daily relevance like cooking, discussions related to the group member's workplace, their cities, other family members, etc, are also common. Hence, the natural culture of the group takes over no particular but a rather wide dominion.

The pandemic brought a change to all the facets of our lives, and hence a lot of content regarding the same found its way in the group. As all of the group members are from Uttar Pradesh, the points of discussions were naturally centred around the same. In particular these were also centred around the specific cities that the members are from. Political discussions were also largely based towards Uttar Pradesh. The fake news was not a concern, however, a lot of news whose authenticity remained unknown to the author did find its way in the group. Since all the members were educated, there was an inherent sensitivity towards fake news and the members were willing (usually) for it to be pointed out. On being pointed out, the members often had a constructive discussion regarding the same. Conflicts around fake-news/misinformation were usually resolved by directing the poster towards (what was believed to be) the correct information (this was done by sharing links, screenshots, etc for the same). The authenticity was often determined through multiple sources, picking instances from audio-visual media, picking instances from social-media, etc, however a few group members (User3 in specific) showed reliance towards popular credible sources.

A few group members also used the group as a platform where they would "validate" the information, hence, a lot of news/information according to the members were also put on the group (even while they were unsure about the validity of the same) since they believed that other group members would engage on the same and correct them when necessary.

The content was often overwhelming and comprised a very varied set of domains, and hence all of it did not find an integral part in my daily-life. However, a lot of content was news to me, but it was something which I dived deeper into only when I had the time to.

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## Statistics

### General Statistics:

**Total Number of Messages:**  
11,082

**Average Activity:**  
62.49  
messages/day

**Most-Active:**  
User1

**Least-Active:**  
User2

**Distribution of Messages:**

**User Based Distribution:**

**User1** = 2,938,  
**User2** = 103, **User3** = 2,121, **User4** = 668, **User5** = 546, **User6** = 2176, **User7** = 2530

**Content Based Distribution:**

**Media** = 2,016, **Non-Media** = 7,528, **Only Emojis** = 1,538

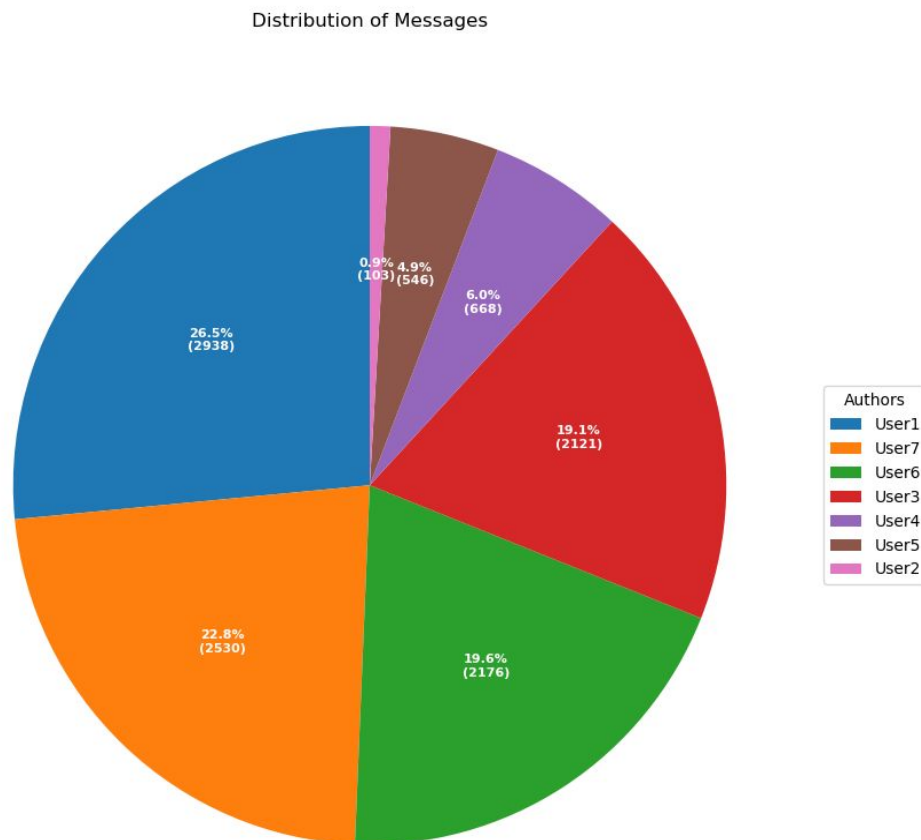
### Pandemic Related Statistics:

**Total Number of Messages:** 178

**Most Active:** User1

**Least Active:** User2

**Distribution of Messages:**





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### Content Type Based Distribution:

1. **Informative:** 90
2. **Humor:** 43
3. **Personal Remark:** 23
4. **Speculative:** 19
5. **Suggestion:** 3

### Content Character Based Distribution:

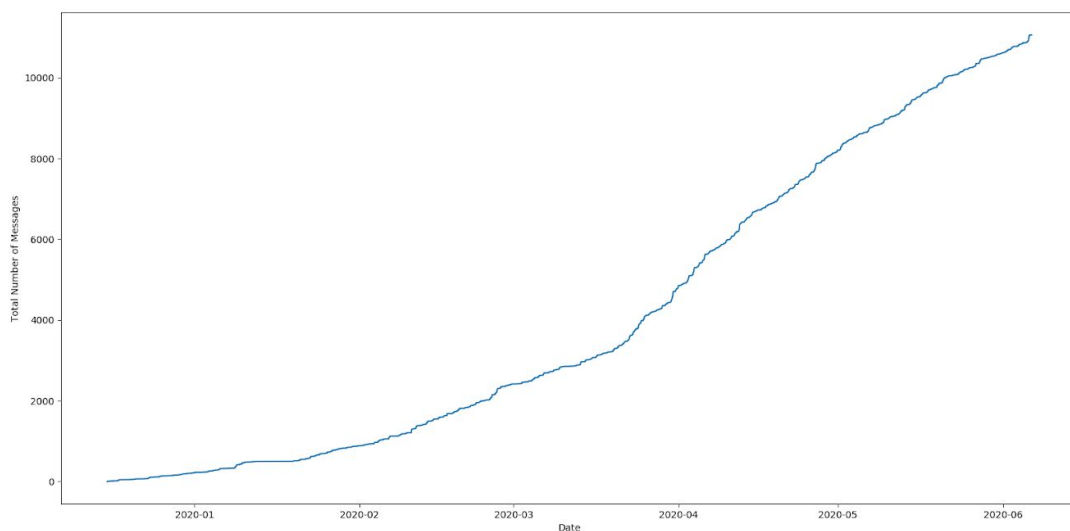
1. **Journalistic:** 56
2. **Non-Journalistic:** 122

### Authenticity Based Distribution:

1. **Authentic:** 68
2. **Fake:** 4
3. **Unknown:** 19

### Origin Based Distribution:

1. **Generated By Poster:** 116
2. **Forwarded:** 25
3. **Directly Shared Link:** 37

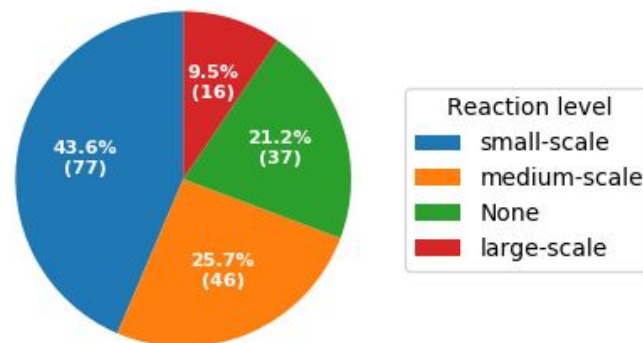


Time Series Depicting the Group-Activity from 29-Jan-2020 to 31-May-2020

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The time-series depicts an increase in volume of activity around the third-week of March. However, unlike the previous groups that we have analyzed, it does not represent sudden jumps, but a smooth transition to a similar, but shifted equilibrium with a larger average volume of total content. This represents how the events surrounding the pandemic fell right in with the intrinsic information patterns of the group. A pandemic has also events of paramount personal importance for a family, this is also a reason for the rise of total content.

Distribution of Messages

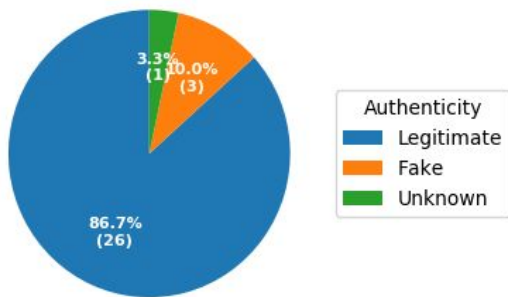


Reaction To Pandemic Related Content

There was significant activity in terms of content being put-up on the group, as well as with what it followed. However, there are a few key points to note here. Since the group comprised 7 members, even as its underlying tone was mostly informal, the inter-relations did depend on each individual pair. As a general observation, the information sent by an elder member of the group was acknowledged more often and refuted less often. Similarly, certain members would have an implicit 'immunity' to conflicts and would often get-away with fake-news/unpleasant content. However, these patterns showed a significant change with the government deciding to get directly involved in curbing the growing issue of 'fake-news'. After the government passed explicit guidelines for the same, content with 'questionable authenticity' would be put up by the poster with an explicit message along the lines of, "Please verify", "Unsure if true" and "Not to be shared". This can be attributed to the fact that certain members used the platform for discussion to get to the correct information, rather than a platform where they share the final information.

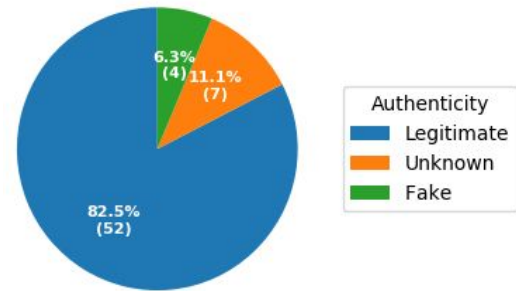
Humor has always been a significant part of the culture of the group. This is in lines of the stereotypical-notions attached to Indian family-whatsapp groups where you see a lot of forwarded jokes, funny images, etc. With the pandemic, a huge volume of jokes, memes, etc was formed around it, which naturally found its way in the group. The humor accounted for 24% of the total distribution of content.

Distribution of Messages



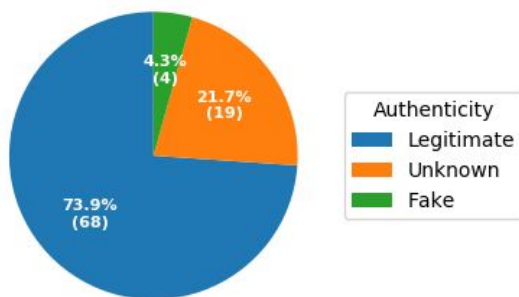
Group-1 Authenticity of Content

Distribution of Messages



Group-2 Authenticity of Content

Distribution of Messages



Group -3 Authenticity of Content

Moreover, the pandemic and lockdown also seemed to invite content around 'cooking'. We witnessed social media challenges, healthy recipes to boost immunity, etc around the same. Since this was also an inherent part of the group's culture, it naturally found its way in the group. Apart from these, astrology is something that most of the group members have faith in. Hence, astrological analysis of Covid19 was also posted and discussed. These reasons lead to, what I would say as a 'shift of existing trend', as the information pattern remained the same in essence, but evolved in terms of volume.

Even while the group did not suffer from blatant fake news, it did see a lot of content with questionable authenticity. This can be attributed to the reasons mentioned above. This also has to do with the prevalence of third-party content on the group. The group carries a wide domain and hence, third-party from a wide area finds its way in the group. This is much more susceptible to being fake. However, most group members readily agree when pointed out and directed towards the authentic content.

Usually group members having a higher education are more susceptible to accept counter to their posts. In addition, group members with higher education and posts in government offices are less likely to post non-authentic content in the first place.

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## Conclusion

### Qualitative

WhatsApp has emerged as a powerful platform in recent times. Being freely available and predominantly accessible, can often lead us to undermine its capabilities and reach into our everyday-lives. WhatsApp group-chats have also inherited these characteristics. A WhatsApp group chat is an environment with a culture determined by its flow of information and content. Through the means of this study, the author has come to realize the immense stability that the environment commands in its cultural foundations. These foundations emerge over a long period of time (and often in a self-guided manner). In the early phases of the current study, the primary hypothesis in the author's vision was, "to uncover the changes that the pandemic has brought to the information flow of the WhatsApp group". However, through data-collection and analysis, the author believes that rather than being able to change the information flow, the current flow merely adopted the characteristics of the pandemic-related information which was relevant to its foundation. Apart from a few noisy spikes, the information-flow remained rather stable in nature, and the changes manifested predominantly in a quantitative fashion.

**Group-1** had been a first-response site and represented close family-ties. The information flow incorporated content of everyday personal relevance to the group members. The group was never a prime location for news (other than that scientific in nature) and that continued to remain so. As the lockdown and shutting down of colleges/workplaces resulted in all the members being confined to their homes and leading monotonous lives, the number of 'happening' moments in personal lives reduced significantly too. As this formed the primary flow of information on the group, the flow subsided significantly.

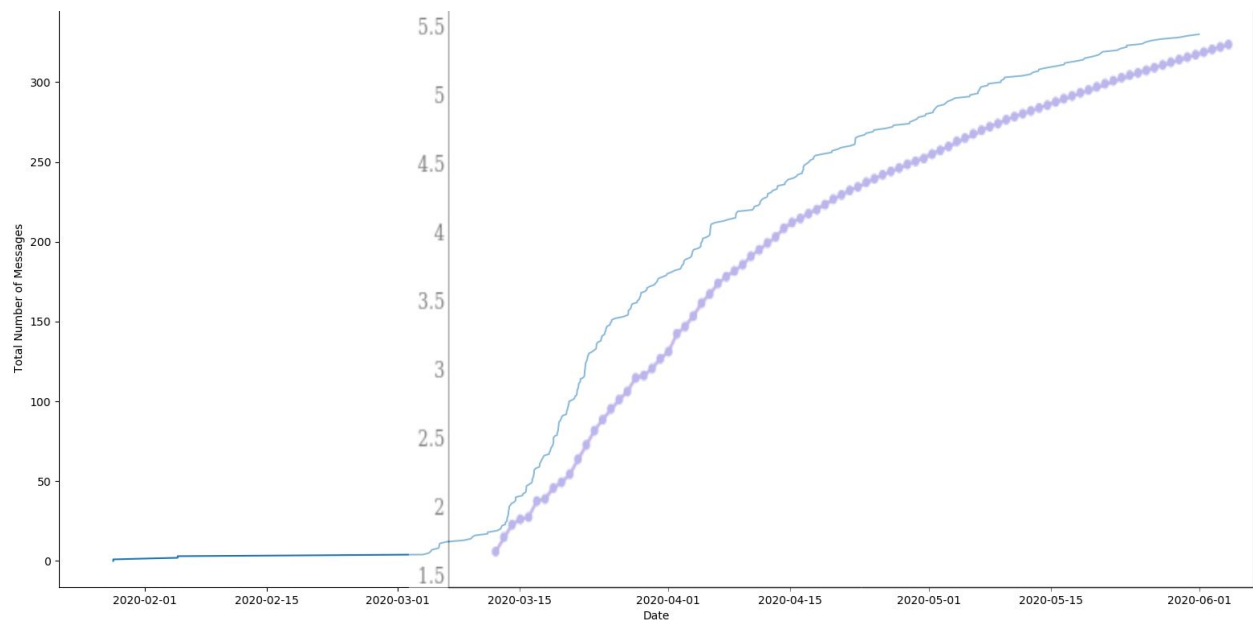
**Group-2** had been a first-response site and represented close college-ties. The information flow incorporated content of everyday personal relevance, everyday college relevance and educational relevance (which also falls into both the earlier categories). The pandemic brought a number of changes to a student's lifestyle as well as the functioning of educational institutions, and these were reflected by the group's information flow. Since the members had close personal-ties and the pandemic demanded them to stay at home for the majority of the data-collection period, an increase in the amount of content of personal relevance was also witnessed. The various other kinds of content (which otherwise gained popularity during the pandemic) like political content, communal content, nationalist content, etc never became a significant part of the group's information flow,

**Group-3** had been a rather extended family group. The information flow had content regarding current happenings, humor, political, religious, astrological, etc at its core. A lot of the content surrounding the pandemic had close-ties with the same. This caused an overall surge in the flow of information for this group.

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Hence, in conclusion the author believes that WhatsApp groups have strong cultural foundations in terms of the information flow that they harbor. The information flow can be considered as an intrinsic property of the group and the interpersonal relations between the group members, and it maintains a rather (unusually) stable equilibrium. External factors as intense as a global pandemic (which had a significant impact on all aspects of our everyday lives) did not manage to bend the flow of information on the groups. This came as an interesting and surprising conclusion to my analysis.

## Quantitative



The figure represents an overlap of the combined pandemic related content for all the three-groups analyzed along with the growth of the pandemic in India (log-scale). The total content of the WhatsApp groups is represented in light-blue (tapering to the left) where as the pandemic's growth is shown in light-purple.

Before analyzing any further I would like to make a few points:

1. The graph for the growth of pandemic is for the duration of 10-March 2020 to 5-June 2020. This has been obtained from <https://www.isibang.ac.in/~athreya/incovid19/>
2. The figures have been aligned manually using a freely available online tool (<https://overlay.imageonline.co/>)
3. The figures have been aligned "approximately", and the goal was NOT to denote the absolute alignment of the two, but only to advocate the "similarity" in the growth.
4. The (rather unusually) exact alignment shown in the above figure is a CHANCE occurrence, and the author DOES NOT advocate it to any extent.

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Having taken the above points into consideration, the author does believe that there is a strong relation between the two graphs, and that exists for a good reason. The log-scale of the pandemic growth does not reflect the absolute number of infections, but instead depicts the rate at which the infections are rising. For example: the distance of the y-axis for 10 infections to 20 infections will be the same as the distance between 1000 infections to 2000 infections.

Biological anthropology characterizes the human ability to adapt and cope with environmental challenges, through biological and behavioral/cultural means. The author believes the same to be at display for the collected data. The pandemic began to have a significant impact in India around mid-March. It has been on a rise ever since. The number of daily-infections on June 8 is more than what we had for the entire second-half of March. However, the content that finds its place on the WhatsApp groups is far less than what was back then. This can be attributed to the fact that the relative change that the first few weeks brought into our lives was far greater than what they bring now. In March, a single case of the virus-infection in the city made it appear unsafe to take public transportation, however in the midst of ~10,000 cases appearing everyday we are rapidly moving towards re-establishing the pre-pandemic order. Since the content around pandemic fits in with the existing culture of the WhatsApp information flow, the importance of the pandemic also plays a role in determining the importance of the content associated with it. This in turn determines the amount of content that finds its way into the WhatsApp groups. As time passes by, we rapidly adapt (behaviorally and culturally) to the circumstances around us, this adaptation decreases the pandemic's relative influence in our lives which the author believes to be manifesting in the collected data.

## Final Remarks

This study has been an insightful journey for the author. The author learned about the intrinsic cultural foundations of the group that they have been a part of. Even though the group has been a significant part of their daily lives, and they have had regular interactions on it for several years, this had been an important facet which remained hidden prior to careful conscious reflection. This inherent information flow of the group determines its position and importance in the author's life. The group acts as a source of information for the pandemic for the domains that fit into its existing culture. The reception and discussion around the content is also heavily dependent on the interpersonal relations between the members. Education seems to have a positive effect over showing respect and acceptance towards conflicting beliefs. Third party content seems to be the major source of non-authentic content which stems from the laziness that the members show towards fact checking/researching on the content that they propagate .