

Visibility vs. Engagement: How Two Indian News Websites Reported on LGBTQ+ Individuals and Communities during the Pandemic

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Abstract

In India, online news media outlets were an important source of information for people with digital access during the COVID-19 pandemic. In India, where “transgender” was legally recognised as a category only in 2014, and same-sex marriages are yet to be legalised, it becomes crucial to analyse whether and how they reported the lived realities of vulnerable LGBTQ+ communities during the pandemic. This study analysed articles from online editions of two English-language newspaper websites, which differed vastly in their circulation figures—*The Times of India* and *The Indian Express*.

The results of our study suggest that these newspaper websites published articles surrounding various aspects of the lives of LGBTQ+ individuals with a greater focus on transgender communities. However, they lacked quality and depth. Focusing on the period spanning March 2020 to August 2021, we analysed articles using sentiment analysis and topic modelling. We also compared our results to the period before the pandemic (January 2019 – December 2019) to understand the shift in topics, sentiments, and stances across the two newspaper websites. A manual analysis of the articles indicated that the language used in certain articles by *The Times of India* was transphobic and obsolete. Our study captures the visibility and representation of the LGBTQ+ communities in Indian newspaper websites during the pandemic.

1 Background

Coronavirus (COVID-19) was declared a pandemic on 11 March 2020. A highly infectious disease caused by the acute respiratory syndrome coronavirus 2 (SARS-CoV-2), it was first detected in China in December 2019 and has since rapidly spread to other countries. From December 2019 to June 2023, over 13 million vaccines were administered, and by August 2023, over 760 million

cases and 6.9 million deaths were recorded. In addition to this, 67% of the global population by November 2023 had been vaccinated with a complete primary series of a COVID-19 vaccine, which in most countries comprised of two doses (World Health Organization, 2023).

With the onset of the pandemic in 2020, regulations to check the spread of the disease through physical isolation were implemented in different countries. These checks/measures with the goal of social distancing were put in place to different degrees in different regions. While some regions implemented measures by choosing total isolation, others implemented minimal social distancing regulations (Hiscott et al., 2020).

Previous widespread outbreaks of infectious diseases have brought in their wake an intensification of gender inequalities in access to healthcare, social support, education, and employment at a global level (Wenham et al., 2020; Stemple et al., 2016). The COVID-19 pandemic was no exception to this norm (Al-Rawi et al., 2021; Gausman and Langer, 2020; Phillips Ii et al., 2020; Yuan et al., 2023; Carli, 2020; Alon et al., 2020; Flor et al., 2022; Fish et al., 2021). Adamson et al. (2022) performed a global cross-sectional analysis—involving 79 countries—to characterise the degree to which the levels of violence and discrimination against vulnerable communities have changed amid SARS-CoV-2. It was found that ethnic minorities, disabled people, and those who identified as gay or queer experienced more discrimination from government representatives, state apparatuses, and healthcare providers (Adamson et al., 2022). Particularly in the context of gender and sexual minorities, LGBTQ+ individuals and groups living in different countries also experienced an intensification of discrimination, prejudice, and violence during the COVID-19 pandemic, leading to unique experiences during the pandemic (Ganguly and Singh, 2021; Roy, Raina, 2020; Kon-

083 noth, 2020; Lucas et al., 2022; Velasco, Gabi and
084 Langness, Mel, 2020; Whittington et al., 2020). To
085 make matters worse, laws that added to the stigma
086 against LGBTQ+ individuals were passed and/or
087 maintained in many countries, including Singapore
088 and the United States.

089 Online news outlets were a prominent source
090 of information during the COVID–19 pandemic
091 for those who had digital access, covering various
092 topics, from the spread of the virus to government
093 regulations, measures, and updates to constrain the
094 virus (Ghasiya and Okamura, 2021). According
095 to a survey conducted in 2020 by KPMG India
096 Analysis, news consumption through digital appli-
097 cations increased, thus decreasing traditional news
098 consumption by approximately 38–40%. The 2021
099 Digital News Report by the Reuters Institute for
100 the Study of Journalism shows that 82% of Indians
101 use online sources to read news, an increase from
102 56% in 2019 (Aneez et al., 2019; Newman et al.,
103 2021).¹

104 Mainstream media outlets have the power to de-
105 cide what news the readership is informed of and
106 how that information is presented (McQuail, 1987).
107 Given the popularity of online news media during
108 the pandemic, online news media has played a cru-
109 cial role in the spread and narration of information
110 as well. In the past, specifically in the context of
111 the transgender community, research conducted ex-
112 poses news media outlets of their marginalised and
113 stereotypical narratives and representations of trans
114 people (Barker-Plummer, 2013; Capuzza, 2016;
115 Gupta, 2019; Hackl et al., 2016; Åkerlund, 2019).
116 The language, or narration, used in news media
117 outlets is used to construct issues in a certain way.
118 It holds political power to either maintain or de-
119 construct ideologies based on beliefs rooted in con-
120 ventions constituting hegemonic power relations
121 (Fairclough, 2013; Willox, 2003). Therefore, the
122 topics chosen by news media outlets to inform their
123 audience and the articles' narration are crucial in
124 forming public opinion.

125 To date, much research has been conducted in
126 different geographical contexts to understand what

¹Indian national print media suffered from a terrible recession during the COVID–19 pandemic. Disruptions in newspaper distribution due to lockdowns, high production costs, financial crisis due to a decline in advertisements revenue, and cost-cutting targets by laying off journalists and other employees are a few difficulties faced by the Indian print media (Saxena, 2021). Despite these challenges, during the COVID–19 pandemic, Indian news media played a major role in bringing pandemic-related information to their audience.

127 news was conveyed by the online news media dur-
128 ing the COVID–19 pandemic (Bogović et al., 2021;
129 Liu et al., 2020; Wan et al., 2021; Ghasiya and Okamura,
130 2021). Qualitative research has been con-
131 ducted using critical discourse analysis of the news
132 media articles (Wiktorek, 2015; Hindarto, 2022)
133 along with a thematic analysis of media framing
134 (Morrison et al., 2021). Jain et al. (2021) created
135 a hybrid model that can analyse the overall effect
136 of digital news content in India through a hybrid
137 approach of sentiment analysis to classify all head-
138 lines. Particularly in the context of LGBTQ+ com-
139 munities, a study by Åkerlund (2019) analysed
140 the representation of transgender people in approx-
141 imately 16000 Swedish newspaper articles pub-
142 lished in the period 2000–2017 using topic mod-
143 elling and critical discourse analysis. The results
144 indicated that the media positioned transgender
145 people by trivialising trans expressions, incorporat-
146 ing these expressions into the gender binary and
147 excluding them by framing them as "deviant" (Åk-
148 erlund, 2019). Additionally, several studies and
149 articles compiled in Arora and Kumar (2023) inves-
150 tigated Asian media narratives during the COVID–
151 19 pandemic. It brought to light how the COVID–
152 19 pandemic affected different nations differently
153 and intensified discrimination against communities
154 marginalised based on gender, caste, class, nation-
155 ality and religion.

156 Studies have also found that news media still
157 lack fair representation of LGBTQ+ communities
158 and their activities, such as the Pride festival (Mor-
159 rison et al., 2021; Semykina, 2018). While on-
160 line news articles covered issues relating to the
161 LGBTQ+ communities, they made little effort to
162 provide a comprehensive picture and vital context.
163 The lack of content can be found in the lack of para-
164 graphs and small lengths of the articles (Semykina,
165 2018; Listiorini and Vidiadari, 2022). Research
166 conducted by Raj (2023) investigates the missing
167 gendered narratives in Indian news media and the
168 impact of COVID–19 on women. It analysed ar-
169 ticles published by the top three English dailies,
170 namely, *The Times of India*, *The Hindu*, and *Hin-*
171 *dustan Times*, from 25 March 2020 to 25 June
172 2020. It found that while these national dailies
173 covered the difficulties faced by healthcare work-
174 ers, they excluded women healthcare providers
175 and did not mention the difficulties faced by the
176 LGBTQIA+ communities during the pandemic
177 (Raj, 2023). Therefore, the coverage of Indian
178 news media remained largely gender-blind, ren-

dering the gendered dimensions of the pandemic invisible (Raj, 2023).

Our study focuses on narratives employed by online Indian news media and their coverage of the lived realities of LGBTQ+ communities.

We aim to answer the following questions:

1. What was the thematic scope of coverage of LGBTQ+ communities during the COVID-19 pandemic in the online version of *Times of India*, the newspaper with the highest circulation figures in India? In contrast, what was this coverage like in *The Indian Express*, which has a relatively smaller circulation?
2. What sentiment and stance can be detected in the articles using state-of-the-art methods? How and why are they similar or different from the stance and sentiment expressed before the pandemic?
3. What were the narratives and attitudes in the two newspapers in the context of LGBTQ+ communities, discernable from the identified themes (topics) and sentiment?

Our objectives, therefore, are as follows:

1. To document, collect, and analyse themes of online articles published by *The Times of India* and *The Indian Express* from the pandemic period;
2. To detect, classify, and interpret the sentiment and stance of the articles posted online during the pandemic period by *The Times of India* and *The Indian Express*, and compare them with the same before the pandemic; and
3. By synthesising insights from topics, sentiments, and stances, to arrive at insights about the narratives followed by two of the highest circulating Indian newspapers while reporting on LGBTQ+ communities during the pandemic period.

2 Data

For this study, we chose *The Times of India* (TOI) and *The Indian Express* (IE), which are English-language dailies. We had two criteria while deciding the news outlets for this research: circulation figures and political stance on LGBTQ+ issues.²

² We ran into practical issues with other English-language dailies that fulfil the criteria but were not considered due to restrictions in accessing their online archives.

Both TOI and IE, in their own individual way, had a sustained engagement with LGBTQ+ issues even before the COVID-19 pandemic.

According to 2023 statistics, TOI has approximately 16 million readers across 36 cities in India, followed by *The Hindustan Times* (Audit Bureau of Circulations, 2023). TOI has been a visible supporter of LGBTQ+ communities, evidenced by a campaign they started, #TimesOutAndProud, in May 2019. This initiative seeks to make “daily life a little easier for the LGBTQIA+ community” and raise awareness about their lived experiences. As part of this campaign, a series of initiatives were taken across digital platforms, television, radio and on-ground activities, which included the creation of digital films and organisation of pride parades, among other activities (The Times of India, 2023).

The Indian Express, a popular English-language daily, is a lesser circulating newspaper with nearly 1.6 million readers according to the Indian Readership Survey 2017 and is not present in the list of highest circulating English-language newspapers published by the Audit Bureau of Circulations. Even though IE does not have a campaign or other activities providing a platform for the LGBTQ+ communities, they harness the power of written expression to raise awareness about LGBTQ+ issues. This newspaper website has informed its audience about the difficulties with the process of coming out, and the atrocities faced by LGBTQ+ individuals worldwide alongside other issues for years before the pandemic.³

These two particular newspaper websites were chosen to examine whether there is a contrast between the quality, quantity, and attitudes pertaining to LGBTQ+ communities prevalent across newspapers with differing circulation numbers during the pandemic period.

Using the archives and sitemap of these two channels, we gathered data from two timelines—March 2020 to August 2021 and January 2019 to December 2019.⁴ The former timeline was explicitly chosen as the pandemic period in our study since the World Health Organisation (WHO) declared COVID-19 a pandemic in March 2020, and by August 2021, most people with access had re-

³ Examples of IE articles that cover these issues are titled, “What they didn’t tell you: Coming out is a never-ending process”, “Turkey bans all LGBTI events in Ankara, citing security”, and “How to start a conversation on LGBTIQI issues at home? Keshav Suri has answers”

⁴ All articles were ethically scraped and were in accordance to the robots.txt file of the news outlet.

ceived their first vaccination shot, with many high-income countries offering booster vaccines to their residents (Organization et al., 2022).

News articles gathered from these time periods were filtered using keywords such as transgender and LGBT.⁵ We collected 1576 articles (477 from TOI and 1099 from IE) during the pandemic period and 1461 articles (659 from TOI and 790 from IE) from before the pandemic period. We analysed two primary components of the articles—headlines and article content. We conducted sentiment analysis on both the components using distil-RoBERTa-base and ChatGPT-3.5. To complement the results from sentiment analysis, we performed stance detection using the TESTED model trained on the Fake News Challenge-1 (FNC-1) dataset (Pomerleau and Rao, 2017).⁶ Furthermore, we performed topic modelling on the articles' content using BERTopic.

3 Methods

3.1 Topic Modelling

We use BERTopic to perform topic modelling on the articles' content. BERTopic uses a three-step process to generate topics. Firstly, the documents are converted into their embedding representation, for which we used the *all-MiniLM-L6-v2* model. Following this, the embeddings' dimensionality is reduced, which we performed using the Uniform Manifold Approximation and Projection (UMAP) method. The last step is clustering, which was performed using HDBSCAN. The last step involves extracting topic representations from the document clusters using a class-based TF-IDF variant (Groontendorst, 2022).

3.2 Sentiment Analysis

We performed sentiment analysis on news headlines and the content of the article. We analysed headlines since they are the bridge that connects the reader with the article (Palau Sampio, 2016). With the age of digitisation, the way news headlines are written has also evolved. Headlines are structured at the expense of quality to make them more attractive to users and secure high positions in search results (Chakraborty et al., 2016; Scacco and Muddiman, 2016). Due to the abundance of

⁵ The keywords used were, "Transgender", "Trans", "Lesbian", "Gay", "LGBT", "LGBT+", "LGBTQ", "LGBTQ+", "LGBTQIA", "LGBTQIA+", and "Queer".

⁶Codebase: <https://github.com/copenlu/TESTED/tree/main>

online resources, consuming content online has become hurried and superficial (Jiang et al., 2019; Chakraborty et al., 2016). Most people review and determine the context of the news article by scanning through the headline instead of reading the article's content (Rieis et al., 2015). Therefore, analysing news headlines becomes crucial when many readers get their information solely from them. Furthermore, we perform sentiment analysis on the articles' content to determine if the headline's sentiment accurately represents that of the article.

RoBERTa is a robustly optimised BERT approach that has achieved SOTA results in RACE, GLUE, and SQuAD (Liu et al., 2019). Sentiment analysis on news headlines and articles was performed using distil-RoBERTa-base, which is pre-trained for sentiment analysis on financial news headlines.⁷ We also used ChatGPT-3.5, which has been gaining ground rapidly. Within two months of its launch, 100 million users were using the AI bot, with 13 million unique visitors per day in January 2023 (Hu, Krystal, 2023). In the task of sentiment analysis, it was found that ChatGPT's zero-shot capabilities is on par with finetuned BERT. In contrast, with the few-shot prompting technique, ChatGPT's performance increases significantly, surpassing finetuned BERT in certain domains (Wang et al., 2023; Qin et al., 2023).

The reason behind using these two models is to see how well a maverick entrant like ChatGPT performs against a finetuned post-BERT model in the domain of LGBTQ+-related news.

Previous research has stressed the importance of high-quality datasets for research on sensitive topics concerning vulnerable and marginalised groups, which requires all actors working on the research, including annotators, to be aware of the lived realities of the communities being studied (Kumaresan et al., 2023). Therefore, three LGBTQ+ annotators labelled 1576 headlines as positive, negative, or neutral. To measure the reliability (level of agreement between the raters) of the annotated dataset, we used Krippendorff's Alpha, which measures the reliability between an arbitrary number of raters. The inter-rater score was 0.58 using Krippendorff's Alpha. The labelled dataset was divided into 1000, 300, and 276 headlines for training, validation, and testing, respectively. The majority sentiment for

⁷This model is hosted on HuggingFace by Manuel Romero. Link: <https://shorturl.at/syGSV>

each headline from this labelled dataset was used to finetune the pretrained distil-RoBERTa-base model, and few were randomly selected as examples to prompt ChatGPT (Brown et al., 2020).

While performing sentiment analysis on the articles’ content using ChatGPT, generating results took longer due to the large input size, and ChatGPT had to constantly be reminded of either the task or the output format (see Appendix A). Therefore, we performed sentiment analysis on the content using only a finetuned distil-RoBERTa-base.

3.3 Stance Classification

Stance detection (also known as stance classification and stance prediction) is used to determine the attitude/position of the author towards a target of interest (Mohammad et al., 2016; Küçük and Can, 2020). This is an important tool for assessing the stances towards a particular target and can be used in various tasks, including but not limited to identifying the leanings of media outlets (Stefanov et al., 2020).

The TESTED framework proposed by Arakelyan et al. (2023) can predict stances across various domains and has been evaluated on a multi-domain dataset consisting of 16 individual datasets, which are grouped into 4 different categories—News, Debates, Social Media, and Various (Hardalov et al., 2021). A topic-guided diversity sampling method has been introduced within TESTED, and the generated multi-domain supervised training sets were used to create a stance detection model by finetuning a pre-trained language model, *roberta-large*, using a contrastive objective. This framework has achieved SOTA results on 10 out of the 16 datasets, where it obtained an F1-score of 83.17 on in-domain experiments and 72.51 on out-of-domain experiments using the FNC-1 dataset. To pre-train TESTED, we used the FNC-1 dataset, which is a labelled dataset that contains the stance of news articles towards their corresponding headlines. The stances could be one of the four labels—agree, disagree, discuss, or unrelated.

4 Results

4.1 Topic Modelling

Topic modelling results indicate that during the pandemic, the top topic in *TOI* is Pride Celebrations and representation in popular culture, and in *IE*, it is Pride celebrations. Tables 1 and 2 mention some of

the interpreted topics alongside the top 5 keywords appearing in the topic (see Appendix B). Using data from the pandemic period, the model achieved a coherence score of 0.77 using *IE* data and 0.79 using *TOI* data.

Topic	Interpreted Topic
Film, people, pride, one, and community	Pride Celebrations and representation in popular culture
Marriage, sex, court, family, and freedom	Exploitative jobs, right to privacy and forced proximity of abusive family members
Voters, polling, candidates, election, and district	American politics

Table 1: Interpreted topics from the pandemic period of *TOI*

Topic	Interpreted Topic
Games, Olympics, athletes, Tokyo, and Hubbard	Global LGBTQ+ representation in sports
Pride, community, month, pride month, and rainbow	Pride Celebrations
Poland, law, lgbt, Turkey, and European	Global politics

Table 2: Interpreted topics from the pandemic period of *IE*

In contrast, the most popular topic covered by *TOI* before the pandemic is 'Legal cases that involved LGBTQ+ individuals', whereas by *IE* is 'LGBTQ+ Representation in popular culture'. Using data from before the pandemic period, the model achieved a coherence score of 0.68 using *IE* data and 0.82 using *TOI* data.

4.2 Sentiment Analysis

Before finetuning, the pretrained distil-RoBERTa-base achieved an accuracy of 51.6%, with a precision of 50, recall of 38 and f1-score of 36. Whereas, ChatGPT obtained an accuracy of 58.8%, with a precision of 68, recall of 70 and f1-score of 60. This indicates that zero-shot performance of ChatGPT is better than domain-specific pretrained distil-RoBERTa-base in the domain of LGBTQ+-related news.

The distil-RoBERTa-base model was finetuned using five-fold cross-validation. After finetuning, the model achieved an accuracy of 77.5%, with a precision of 81.0, recall of 77.5 and f1-score of 77.7. On the other hand, few-shot ChatGPT obtained an accuracy of 75%, with a precision of

76, recall of 75 and f1-score of 75 (see Appendix C for class-wise metrics). This indicates that the few-shot technique considerably increased the performance of ChatGPT. However, in the domain of LGBTQ+-related news, it is inferior than finetuned distil-RoBERTa-base model.

During the pandemic period, both distil-RoBERTa-base and ChatGPT, to varying degrees, depicted that *TOI* posted positively-toned headlines the most whereas, most headlines were neutral-toned by *IE*. In contrast, before the pandemic, distil-RoBERTa-base depicted that most of the headlines by both *TOI* and *IE* were neutral-toned. Sentiment analysis on the content of the articles using distil-RoBERTa-base indicates *TOI* wrote positive-toned articles and *IE* wrote neutral-toned articles the most both during and before the pandemic period (see Appendix D).

4.3 Stance Classification

The result from stance classification indicates that almost all of the headlines published by *TOI* and *IE* both before and during the pandemic period accurately represent the article's content. However, most of the remaining articles have content unrelated to the headline (see Appendix E). The percentage of 'agree' stance increased during the pandemic in *IE* articles, whereas it dropped in *TOI* articles.

5 Discussion

During the pandemic period, the number of articles retrieved from *IE* covering LGBTQ+-related events was more than twice than those recovered from *TOI*. Moreover, the average length of the articles retrieved from *TOI* (2563 characters) was considerably lesser than that of *IE* (3909 characters). Prior research has found that while the online news articles covered issues relating to the LGBTQ+ communities, they made little effort to provide the complete picture, thus throwing into question the credibility and reliability of the article. Research has found the lack of content to consist of the lack of paragraphs and small wordcount (Semykina, 2018; Listiorini and Vidiadari, 2022), as can also be noticed in the articles we retrieved.

The number of articles that write about shallower issues overshadow the articles written on the lived realities of LGBTQ+ individuals during the time of the pandemic. *IE* offers a valuable qualitative contrast to the coverage *TOI* has. *TOI* has taken up many initiatives to voice the range of difficulties

faced by LGBTQ+ individuals and communities. However, when we start looking closely at its material and compare it to *IE*, we find that there is a significant difference in the quality and meaningfulness of the articles between the two newspaper websites. The number of articles written about other important aspects of their lives, such as discrimination by government representatives, legislative institutions, violence and harassment by family members and other patriarchal institutions, had limited to no coverage. This coverage was also mostly focused on the transgender community. The themes and patterns observed in our methods—topic modelling, sentiment analysis, and stance detection—have been discussed in detail in this section.

5.1 Topic Modelling

The major topics covered by *TOI* and *IE* during the pandemic were representation in popular culture, Pride celebrations, legal cases involving the LGBTQ+ communities surrounding a wide range of issues, welfare programs during the COVID-19 pandemic, disruptions in professional as well as personal spheres, and vaccination-related events. Articles on Pride Celebrations and Popular Culture have predominated before and during the pandemic.

Even though *TOI* provides greater visibility to the LGBTQ+ communities in Indian society, their writing and the language used continue to be problematic. The purpose of news media outlets is to inform, and there is an expected corresponding commitment to authentic and responsible reporting. This, however, was not fully realised in the *TOI* reporting of LGBTQ+ communities.

An example of this is the usage of the pejorative term “eunuch” to date.⁸ This term is considered dehumanising and objectifying, and is linked to other pejorative words, such as “effeminate,” “emasculated,” and “impotent.” In addition to this, *TOI*'s articles have been found describing transgender as a “condition”.⁹ The poor-quality writing could be due to submission by stringers, which have further not been verified by the editors of the media outlet, indicating the lack of meaningful interest in LGBTQ+ events. Along with this, the reporting in some articles seems to be superficial and lacks

⁸ They mention the term in the article titled, "Eunuch kills lover of over a decade over domestic dispute."

⁹ Please see the article titled "Kanpur: Man files FIR against in-laws for misleading him to marry transgender."

536 quality. Previous research has also found that of- 588
537 ten, through the use of offensive language, such 589
538 as the derogatory terms used in *TOI* articles, trans 590
539 people are framed as deceptive (Capuzza, 2016; 591
540 MacKenzie and Marcel, 2009; Åkerlund, 2019). 592

541 Even though *IE* does not write extensively about 593
542 LGBTQ+ communities, it still manages to write a 594
543 few articles on LGBTQ+—centric experiences dur- 595
544 ing the COVID–19 pandemic, as observed from the 596
545 results of topic modelling, such as experiences in 597
546 schools, HIV/AIDS, loneliness, lack of financial 598
547 resources and forced proximity to homophobic fam- 599
548 ily members. Instead of simply stating facts and 600
549 conveying information, the newspaper does more 601
550 to educate society about the different experiences 602
551 of different vulnerable and marginalised commu- 603
552 nities, including LGBTQ+ communities, across the 604
553 country. Articles titled "Life in the time of social 605
554 distancing: Confined in homes, people battle rest- 606
555 lessness, anxiety", "Home and unsafe", and "Hit 607
556 hard by lockdown: Transgender community stands 608
557 isolated with no financial resources" are a few such 609
558 examples. 610

559 Some overlapping topics covered by *IE* and 611
560 *TOI* that can be observed in the results of our 612
561 topic model—despite varying extents and qual- 613
562 ity of coverage—are sex work, Pride Celebrations, 614
563 HIV/AIDS, gender dysphoria, popular culture, and 615
564 welfare programs. As interpreted from the key- 616
565 words, the welfare programs discussed are initia- 617
566 tives taken up by governments, NGOs, and groups 618
567 of people to provide free kits, such as masks and 619
568 ration supplies, to the transgender communities. 620

569 Additionally, the articles touch upon HIV/AIDS, 621
570 noting the demand of transgender people for spe- 622
571 cial packages that include medications for hormone 623
572 therapy. During the HIV epidemic, stigma sur- 624
573 rounded the LGBTQ+ communities, and the pan- 625
574 demic brought back memories of the discrimina- 626
575 tion. This discrimination prevailed in many aspects 627
576 of LGBTQ+ people's lives, such as health care. Ad- 628
577 ditionally, sex reassignment surgeries (SRS) could 629
578 not be performed during the pandemic, which led to 630
579 further complications such as hormonal imbalance 631
580 (Stevens et al., 2021). 632

581 The reason for covering sex work is multi- 633
582 dimensional. It is established that LGBTQ+ in- 634
583 dividuals face reduced opportunities of being ac- 635
584 cepted in mainstream jobs. This was also high- 636
585 lighted in the articles published by *TOI* and *IE*, 637
586 which reported this issue several times during the 638
587 pandemic. Sex work, dancing at weddings and

festivals, and seeking alms could not continue to 588
be a source of income during the pandemic due 589
to regulations such as social distancing, which led 590
to economic instability. Unfortunately, no other 591
means of livelihood and a lack of officially recog- 592
nised identity cards such as Aadhar cards and ration 593
cards created obstacles for the transgender commu- 594
nities during the pandemic.¹⁰ 595

596 Pride Celebrations were an event that many 597
looked forward to during the pandemic as a form 598
of social and communal action. These celebra- 599
tions also usually raise funds for various LGBTQ+– 600
related activities and support services. However, 601
due to the pandemic, these celebrations could not 602
take place or were conducted online, which led to 603
insufficient funds (Konnoth, 2020). The lack of 604
a support group further intensified feelings of de- 605
pression and anxiety, which is also noticeable from 606
articles published by *TOI* and *IE*. These articles 607
report the starting of special helplines for women 608
and LGBTQ+ communities and share that these 609
helplines received calls from young children and 610
teenagers forced to live with abusive families, iso- 611
lated and with no support network, susceptible to 612
self-harm during the pandemic. 613

614 We also found a few articles written about global 615
politics related to the LGBTQ+ community. These 616
topics are alive in the public discourse, often of 617
interest to the Indian readership due to ongoing 618
legislative and litigation procedures. These arti- 619
cles were filtered into our dataset due to the con- 620
versations around the rights of LGBTQ+ commu- 621
nities and because, during the pandemic, many 622
countries upheld or modified laws that added to 623
the already existing stigma against the communi- 624
ties. Specifically in the American context, during 625
the COVID–19 pandemic (June 2020), the Trump 626
administration (2017–2021) reversed the protec- 627
tions put in place by the Obama administration 628
(2009–2017). Reversing these protections allowed 629
healthcare practitioners to deny necessary services 630
to transgender people during the COVID–19 pan- 631
demic. This led to added stress and anxiety since 632
many required medications, such as ART drugs 633
and hormone supplements, along with necessary 634
medical care when infected by the virus. 635

636 In LGBTQ+ political spaces, another significant 637
issue raised is representation. Greater representa- 638
tion is vital to increasing acceptance and normalisa- 639

¹⁰ The lack of official documents is often due to the incor- 640
rect gender assigned during their birth, which later changed 641
through transition. 642

tion for LGBTQ+ community members in the coming generations (Shah et al., 2015). Representation in popular culture was the top topic in *TOI* during the pandemic but was a less significant topic in *IE*. These articles are about movies, books, and poems written about LGBTQ+ individuals, along with festivals organised specifically for recognising LGBTQ+ popular culture.

We came across another topic, Family and Friends, that was of interest to us because of the centrality of family and institutions such as schools in an individual’s life, but despite its relevance to the pandemic experiences of LGBTQ+ individuals, there are very few articles dedicated to this topic.¹¹

5.2 Sentiment Analysis & Stance Classification

A study conducted by Rieis et al. (2015) found that headlines with a negative and a positive polarity garnered higher interest than an article with a neutral-toned headline (Rieis et al., 2015). According to distil-RoBERTa-base results, positive and negative headlines from both *TOI* and *IE* increased slightly during the pandemic. However, ChatGPT results indicate that these headlines either slightly decreased or remained the same.

A positive sentiment could imply a more positive representation of LGBTQ+ communities in online media discourse. Our manual analysis indicated that a major proportion of positively-toned headlines informed of initiatives by the government, NGOs, the general public, and LGBTQ+ individuals to provide support to the LGBTQ+ communities or individuals in need. On the other hand, headlines with a negative tone contained information about the difficulties faced by the LGBTQ+ communities as well as crimes committed by LGBTQ+ individuals. However, as mentioned in our discussion on topic modelling results, the topics covered by these newspaper websites were superficial. For instance, anti-queer remarks made by famous artists and reported by *TOI* were also rightly marked negatively, but did not contribute towards communicating the experiences of the communities, particularly during the pandemic.

No major shift was noticed in the stance and sentiment of the headline and the article’s content published by *TOI* and *IE* from before to during the

¹¹Any public space, such as school, can be a safe place or a place of extreme suffering. The interactions at home and school can lead to gender dysphoria, which continues to affect them later in life (Shah et al., 2015).

pandemic. The results also indicate that most of the headlines accurately represented the sentiment and content of the article.

6 Conclusion

We found that even though the articles cover various aspects of the lives of LGBTQ+ individuals, they still fell short in certain ways. *TOI* and *IE* focused more on transgender communities compared to other LGBTQ+ communities. Furthermore, *TOI*, when compared to *IE*, writes superficial articles on the LGBTQ+ communities, which, however, does not mean extensive coverage by *IE*. This is noticeable from our topic modelling results that indicate the gaps in covering various aspects of the lives of LGBTQ+ individuals, the number of articles published, and the brief articles written on their lived realities. We conclude that the English-language Indian newspaper website, *TOI*, does not provide a substantive platform for LGBTQ+ communities to voice their discriminatory experiences during the COVID-19 pandemic in India.

Additionally, we found that in the task of news sentiment analysis in the context of LGBTQ+ communities, few-shot ChatGPT is inferior to finetuned domain-specific distil-RoBERTa-base model.

Our study provides an overview of the shift in the narratives of *TOI* and *IE* from before the pandemic to during the pandemic. Firstly, we have observed a positive development in both *TOI* and *IE*, which covered a wider range of gender-specific issues during the pandemic, such as gender dysphoria and the effect of private spheres on the lives of LGBTQ+ communities. However, during a time of crisis, news forums should put extra effort into conveying news that is fair, unbiased and gender-sensitive to adequately represent the inequalities present in society (Tshuma et al., 2022). The increase in awareness in both media outlets, however, does not meaningfully capture the lived realities of LGBTQ+ communities. The gaps in coverage and use of offensive language render LGBTQ+ communities invisible. An overwhelming coverage of shallower issues with a minimal emphasis on the impact of COVID-19 on the lives of LGBTQ+ communities indicates a lack of interest of the Indian media in covering LGBTQ+ issues.

7 Limitations

Our research includes articles from *The Times of India* and *The Indian Express*. Further research can be conducted on the articles posted by non-English language news media outlets, such as *Dainik Bhaskar* (Hindi language) and *Malayala Manorama* (Malayalam language), which have the highest circulation in the country. Moreover, researchers can find the most optimal keywords and filtering methods to filter out articles that do not directly relate to the COVID-19 pandemic. For instance, our dataset included articles about Indian elections that only mentioned transgender people as voter figures and had no further mention of other LGBTQ+ communities. Finally, researchers can analyse comments present under the online editions of the articles published by news media outlets to assess reader sentiment around the articles.

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A Challenges using ChatGPT

For various reasons, it took us multiple prompts to get the desired outputs. First, ChatGPT used commas as the delimiter for the output, which led to multiple columns for headlines with more than one comma. Additionally, ChatGPT kept forgetting the task and would randomly summarise the headlines and output sentiments of any randomly chosen ten headlines instead of performing sentiment analysis. Furthermore, it refused to provide sentiment for a headline without further context. ChatGPT's outputs may vary with every launch, even with the same prompt (Kocoń et al., 2023). All outputs from the rephrased instruction were considered the final output from ChatGPT. For the next step, we made sure all of the headlines given to ChatGPT were given an output. The ones that ChatGPT skipped in the process were sent again in the same conversation. Link to the conversation: <https://shorturl.at/fhoyW>

B Topic Modelling

Tables 3 and 4 contain all the topics from the articles of *TOI* and *IE* published during the pandemic period obtained from the topic model.

Topic	Interpreted Topic
Leave, employees, India, gender, and women	Diverse and gender-inclusive policies in industries.
Marriage, sex, court, family, and freedom	Exploitative jobs, right to privacy and forced proximity of abusive family members.
Voters, polling, candidates, election, and district	American politics
Covid, cases, said, vaccination and 19	Disruption of normalcy, vaccination centres, medical camps and other support services
Police, arrested, accused, transgender, and woman	Legal cases that involved LGBTQ+ individuals
Transgender, help, community, people, and government	Welfare programs and policies implemented for transgender people
Film, people, pride, one, and community	Pride Celebrations and representation in popular culture

Table 3: Interpreted topics of *TOI* from the pandemic period

Topic	Interpreted Topic
Games, Olympics, athletes, Tokyo, and Hubbard	Global LGBTQ+ representation in sports
Transgender, people, also, community, and government	Welfare programs and policies implemented for transgender people
Biden, Trump, President, first, and house	American politics
Pride, community, month, pride month, and rainbow	Pride Celebrations
People, brand, fashion, year, and one	Social movements
Page, actor, Elliot, like, and show	LGBTQ+ representation in popular culture
Film, also, show, one, and actor	Popular culture
Poland, law, lgbt, Turkey, and European	Global politics
People, book, Rowling, trans, and women	Discussions around the representation of LGBTQ+ communities in popular culture

Table 4: Interpreted topics of *IE* from the pandemic period

C Class-wise metrics

Tables 5 and 6 represent the class-wise metrics of distil-RoBERTa-base and ChatGPT.

Sentiment	F1-score	Precision	Recall
Positive	0.77	0.72	0.83
Neutral	0.79	0.92	0.69
Negative	0.76	0.64	0.93

Table 5: Class-wise metrics for evaluation of results from distil-RoBERTa-base

Sentiment	F1-score	Precision	Recall
Positive	0.72	0.64	0.83
Neutral	0.77	0.80	0.74
Negative	0.75	0.83	0.68

Table 6: Class-wise metrics for evaluation of results from ChatGPT

D Sentiment Analysis

Tables 8 and 9 represent the polarity of the headlines assigned by distil-RoBERTa-base and ChatGPT respectively to headlines written by *TOI* and *IE* during the pandemic.

Tables 10 and 11 represent the polarity of the headlines assigned by distil-RoBERTa-base and Chat-

Sentiment (in %)	IE [headline]	IE [content]
Positive	19.3	28.0
Negative	26.8	33.5
Neutral	53.9	38.5

Table 7: The polarity of headlines and content assigned by distil-RoBERTa-base

Sentiment (in %)	TOI [during pandemic]	IE [during pandemic]
Positive	37.3	26.3
Negative	33.8	31.8
Neutral	28.9	41.9

Table 8: The polarity of news headlines assigned by distil-RoBERTa-base

GPT respectively to headlines written by *TOI* and *IE* before the pandemic.

Tables 12 and 13 represent the polarity of the content of the articles assigned by distil-RoBERTa-base to articles published by *TOI* and *IE* both during and before the pandemic.

E Stance Classification

Tables 14 and 15 represent the stance of the articles assigned by the TESTED model to articles published by *TOI* and *IE* both during and before the pandemic.

Sentiment (in %)	TOI [during pandemic]	IE [during pandemic]
Positive	45.9	23.7
Negative	23.8	15.1
Neutral	30.1	61.0

Table 9: The polarity of news headlines assigned by ChatGPT

Sentiment (in %)	TOI [before pandemic]	IE [before pandemic]
Positive	35.8	19.3
Negative	27.5	26.8
Neutral	36.7	53.9

Table 10: The polarity of news headlines assigned by distil-RoBERTa-base

Sentiment (in %)	TOI [before pandemic]	IE [before pandemic]
Positive	48.1	34.2
Negative	23.1	24.6
Neutral	28.8	41.2

Table 11: The polarity of news headlines assigned by ChatGPT

Sentiment (in %)	TOI [during pandemic]	TOI [before pandemic]
Positive	41.1	38.0
Negative	31.6	27.7
Neutral	27.3	34.3

Table 12: The polarity of content of *TOI* news articles assigned by distil-RoBERTa-base

Sentiment (in %)	IE [during pandemic]	IE [before pandemic]
Positive	33.2	28.0
Negative	31.2	33.5
Neutral	35.6	38.5

Table 13: The polarity of content of *IE* news articles assigned by distil-RoBERTa-base

Stance (in %)	TOI [during pandemic]	TOI [before pandemic]
Agree	85.53	87.78
Disagree	1.05	0.30
Discuss	0.84	1.34
Unrelated	12.58	10.58

Table 14: Stances of *TOI* articles

Stance (in %)	IE [during pandemic]	IE [before pandemic]
Agree	86.57	82.93
Disagree	1.19	0.89
Discuss	1.92	2.42
Unrelated	10.32	13.76

Table 15: Stances of *IE* articles