

PERCEPTIONS AND CONTENT OF TRADITIONAL AND ONLINE NEWS: AN
ANALYSIS OF BIAS IN INDIAN MEDIA

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THESIS

Submitted in partial fulfilment of the requirements
for the degree of Master of Arts in Communication

The University of Texas at Arlington

May 2021

Arlington, TX

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ABSTRACT

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The primary objective of this study was to compare and analyse two different points of view on media polarization: one, from the public's perspective through a survey (analysis of their perceptions on news received from their preferred news sources) and the other, analysis of media published by the media content providers. Another research contribution of this study was that it included an analysis of the mode of media consumption, i.e., how the news was consumed--via traditional media or through online media. This project ties in a variety of aspects in the field of communication -- media, mode of news consumption, who consumes it, and what perceptions of bias they develop.

For the first research question, a survey was used to collect the data about what the public thinks and perceives of the news that they consume through their preferred news sources. The survey had 330 respondents who consume news in an online and/or traditional format. Analysis from the study shows that in general, most respondents found slight bias in the news reporting of their preferred media sources. However, this difference was not found to be statistically significant. The results for the first research question also show us that there was no significant perceived bias noted on coverage of 10 key issues, except for one. The respondents reported that they saw significant levels of bias when getting news on the issue of corruption from their preferred media sources.

For the second research question, data from traditional and online media was collected for a period of 10 days from two traditional media sources -- *The Times of India* and *The Hindustan Times*, and two online media sources -- *FirstPost* and *The Scroll*. This data

was analysed through content analysis. Theme-based news coverage from online sources and front-page coverage from the traditional media sources were coded to reveal the tone of news pieces, which was measured as ‘indication of bias.’ Results from the analysis reveal that there was a significant difference in the tone of the news coverage when comparing traditional and online news sources.

One key research questions guiding this study examines a possible relationship between the media source and the level of perceived biases on some key issues. Another research question examines the differences in bias between online news sources and traditional media sources.

Keywords: Indian media, Indian traditional media, Indian online media, media bias, perceived polarization

Acknowledgement

I would like to thank my professors for inspiring me and nudging me to explore this field along with the extensive body of research within it, from the very start. If it weren't for the amazing classes that I got to take throughout the course of graduate school, I would have never been inspired or even had the idea to go forward with this research project.

Thank you, Dr. PS for encouraging precision and instilling the value of a good foundation to any research. Yours was the first research methods class I took, and I have been in love with it ever since. Your feedback regarding the tiniest of the details for this project has been monumentally helpful.

Thank you, Dr. Wigley for asking me questions with every draft and suggesting valuable changes. From suggestions on data collection, to formatting, to grammar, your help has been a massive support.

Thank you, Dr. Christie for supporting me from the very first moment I got this idea and seeing this through to the end. Your enthusiasm and belief in my work has made all the difference and fuelled my confidence in my work and myself.

The last year was rough to say the least, but throughout this process, I have had the opportunity to learn so much, and reflect on so many things along the way. And after a hundred missed meetings and deadlines, I can say that if anything, I'm grateful for the sheer support I got from my graduate committee, from the bottom of my heart.

And finally, thank you, Srishti, for accepting to be my external coder. You have been so understanding and prompt throughout the process, I truly admire the dedication and effort that you put into your work. No matter how tight the deadline, you never disappointed me.

Thank you so much for sticking around and keeping up with me despite of the colossal

difference in our time zones and an ongoing global pandemic. This project would not have been as strong without your knowledge and skillset. Your contribution is noted and deeply appreciated.

Dedication

I would like to dedicate my work to a lot of people, including my family and friends. Each one of them has had a unique role to play in my journey throughout graduate school and their contribution to my time here is duly noted and appreciated. This would not have been possible had each one of you not inspired me in your own special way.

To my parents, Ritesh and Sudhir. Thank you for helping me getting through graduate school. Your support in what I do has been of the utmost importance to me. I know that I am in your thoughts and prayers always, and I am eternally grateful for that.

To my sister, Rashi. Thank you for keeping me focused and reminding me of my deadlines because I sure lost track multiple times. If it weren't for you constantly waking me up to complete my endless to-dos, I would have absolutely blown this.

To my closest friend, Rajeshwari. Thank you for being excited by each and every one of my endeavours. Thank you for hearing me out for hours on end, gushing over academic ideas and more than that, thank you for your input and feedback on every single one of them, every step of the way.

To my partner, Harsha. Thank you, for being my loudest cheerleader. You've reminded me time and again of my own potential and helped me see my goals brighter than day, when I couldn't on my own. Thank you for being patient when my work consumed most of my time and energy, your constant support means the world to me and this would have been a lot more harder without you by my side.

To my beloved pet, Marshall. Thank you for smiling at me every time I have ever looked at you and raising my spirits sky high. Thank you for sitting by my side and hearing me out when I was back home. Your unconditional love and happy as ever presence, makes me miss home.

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PERCEPTIONS AND CONTENT OF TRADITIONAL AND ON-LINE NEWS: AN ANALYSIS OF BIAS IN INDIAN MEDIA

Introduction

Mainstream news media have been a fundamental pillar of Indian society since before the independence struggle. As cited by Rao (2008) since the early 1990s, when the economy was liberalized, India has emerged as the world leader in information technology. Economic growth, rising income levels, and consumerism, coupled with technological advancements and policy initiatives taken by the Indian government, which encouraged the inflow of external investment, became the key drivers in the rise of the media industry. Print media was then and now, a force to bring people together on issues of national interest.

In the past three decades, the Indian mainstream media has grown due to the rising literacy rate, a growing middle class, and advances in media technologies, to a level where extremely competitive conditions and a profit focus have become detrimental to its reputation due to the quality of journalism that some of them practice, as noted by Rodrigues and Niemann (2019). Competition and profit motives do not fully explain the changes in Indian media and consumer behaviour-- the authors maintain that in 2019, the number of people accessing the Internet is expected to be around 627 million, with 87 per cent of the users accessing the Internet on their mobile phones, according to an advertisement agency report by Kantar (Exchange4media staff, 2019). India is expected to witness a digital transformation in the next few years, with about 60 per cent of the country's 1.3 billion people expected to have Internet access and about two billion devices expected to be connected to the network by 2021, according to a 2018 KPMG report (KPMG.com, 2018:1) Rodrigues and Niemann (2019). According to Rodrigues (2014), notwithstanding the fact that only about 11 per cent of the Indian population has access to the Internet (much lower than the global average), around 137 million Indian users have Internet access, including 75 per

cent under 35-year-olds who are connected to the world wide web (ComScore 2011 data). New and revised data suggest that the number of Internet users in India will go up to 601 million by the year 2021, and the number of social media users will go up to 400.3 Million (Statistica data, 2020). Social networking sites in India reach as many as 84 per cent of these Internet users, one of the highest in the world. In fact, news consumption online among Indian Internet users is as popular (58 per cent) as it is for web users elsewhere in the world (ComScore, 2011). Moreover, Indian Internet users are more likely to discuss politics than many other countries. As cited by Rajput (2014), a Pew research study in December 2012 established that nearly 45% of Indian web users connect on social media to discuss politics. Only Arab countries scored higher than India on this account. These stats are evidence that media, both traditional and online news, in Indian society, is ever-growing, suggesting that research in this area is warranted. Analyses of the nature and effects of this evolving media use will contribute to our understanding of the cultural, societal, and political construct of a fast-growing global economy.

Defining media

‘Media’ in general has been defined in a variety of ways. Media in all its forms embodies a very dynamic meaning, and it is due to this nature that over the years, there has been a scholarly lack of consensus on any one definition for any type of media. According to Christie (2007), traditional mass media are defined as the available, dominant sources of news and information appealing to mass audiences, such as the major television broadcasting networks and daily newspapers in Western societies. Non-traditional mass media, such as issue-oriented talk radio, may be distinguished from the dominant, mainstream mass media by decentralized control and by their circumvention of dominant mass media. Online media, given ease of development and lack of print or broadcast infrastructure, are well suited to by-

pass government control and circumvent these traditional sources. As cited by Kenix (2012) mainstream media generally aim to maximize audiences through pack journalism that is conventional and formulaic, which results in content that can be binary and reductive. Since different types of media cater to different audiences, this study will examine two different types of media outlets that are popular in India -- traditional media and online news media.

Media play a prominent role in the lives of most people. It is a primary influencer when it comes to people's connections to the events of the world happening all around them. As pointed out by Roberts (2018), the function of media in society has evolved in recent years, especially due to the digitization of messages. Audiences in the past had to rely heavily on mainstream messages that were generated, sent, and controlled by institutions such as corporations and large media outlets. These institutions determined which issues and stories were newsworthy, thus influencing the public's perception of what was important.

Due to the impact that media has on the public in India and around the globe, it becomes important to examine the different types of news sources and test for bias in their content.

According to a Pew Research Center report (2018) Publics around the world overwhelmingly agree that the news media should be unbiased in their coverage of political issues (data taken from a Pew Research Center survey of 38 countries). Yet, when asked how their news media are doing on reporting different political issues fairly, people are far more mixed in their sentiments, with many saying their media do not deliver. And, in many countries, there are sharp political differences in views of the media – with the largest gap among Americans as can be seen in figure 1.

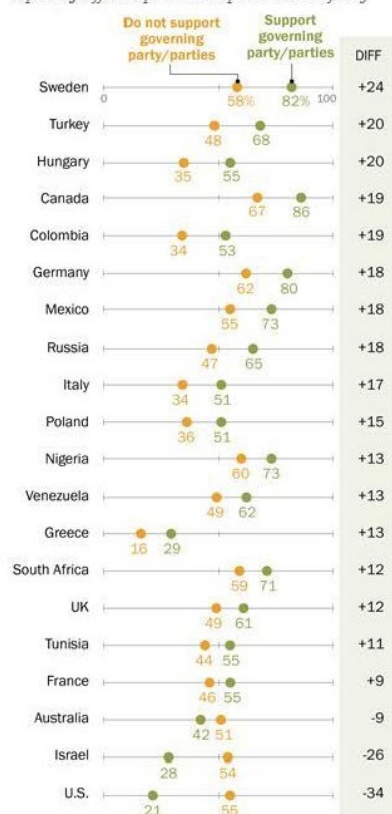
Figure 1

Perceived perception of the political divide in global news media

Deep political divides on whether news media cover political issues fairly

Deep political divides on whether news media cover political issues fairly

News organizations in our country are doing well at reporting different positions on political issues fairly



Note: Only statistically significant differences shown.
Source: Spring 2017 Global Attitudes Survey, Q42c.

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For the purpose of this study, ‘Traditional media’ is defined as the dominant news source available offline to the masses. This news is primarily generated offline and distributed through offline means such as newspapers and broadcast news. The news source’s availability offline is of importance to this study since the platform of availability is going to be a distinguishing factor. Conversely, ‘online- news media’ can be defined as the dominant news source available online to the masses. This news is primarily generated online and distributed online via news websites and social media. In order to avoid confusion in data

collection and analyses, the online versions of newspapers that are now available online were eliminated and were not used. Thus, some examples for online news media can be websites such as the wire, and scroll.in.

To reiterate the importance of examining online news media, Kenix (2012) has maintained that roughly 28.7 per cent of the world population, or nearly 2 billion people, were using the Internet in 2010 (Internet World Stats 2010). The growth in developing countries has been astronomical: Africa has seen a 2,357 per cent increase in usage since 2000, while Internet use in the Middle East increased by 1,825 per cent during the same time period (Internet World Stats 2010). In terms of real numbers, Asia has, by far, the most Internet users with about 825 million online. Europe is a distant second with 465 million Internet users (Internet World Stats 2010).

Research pertaining to the dissection of the Indian media into alt-media and mainstream media, or traditional media and new news media has also been published. One study by Ranganathan (2016) maintained that the online media was indeed an alternative way of reaching the voters (2014 general elections in India), bypassing the agendas of the mainstream media; yet, it merely replicated online the processes and structures of communication of mainstream media.

Media contexts change from country to country; for instance, how the news is distributed, who controls news distribution, how many outlets are available, and how polarized they are, etc. Along with that contextual change comes a difference in the definition of traditional and online news media.

In an attempt to define traditional media in the Indian context and differentiate it from the new news media, Mathiyazhagan et al., (2015) state that traditional media are of various kinds and vary from place to place, culture to culture and region to region, but in all these forms the purpose remains the same, that is, to inform, educate and entertain the audiences

for generating awareness among them about various development issues, including health and family welfare, rural development, agriculture, social aspects, etc. Different methods of traditional media are predominantly used in different parts of the country according to the pulse of the audiences.

To provide a more precise definitional underpinning for the purpose of this study, traditional media are distinguished from the new news media source or online news media source by the mode of availability. In this sense, the essential feature of traditional media sources is their availability in the ‘offline’ mode. On the contrary, new news media or online news media are any media that are available in the ‘online’ mode or through the Internet. For the purpose of operationalizing the terms ‘traditional media’ and ‘online news media’ for this paper, newspapers are used (print media such as national dailies: *The Times of India*, *The Hindustan Times*) and television news (broadcast media such as popular prime time news channels: NDTV, ABP News) in the category of traditional media. Media accessible through the means of the Internet, such as e-news portals (Quint, EPW, The Wire, etc.) and Twitter/Instagram freelance journalists, are placed in the category of new news media. To allow for more precise comparisons, online versions of print media (for instance, an online piece posted by *The Hindu*, which is a leading national daily) and broadcast television (broadcast clips from Primetime TV Channels such as NDTV, CNN that are posted on Twitter/Instagram) are not used for this study.

It is evident that there has been a lot of research on both types of media before, however, none of those studies explicitly examined the differences or the degree of polarization that these media outlets reflect in society. Therefore, for the purpose of this study, the focus is placed on examining the nature and extent of the polarization of Indian media, which leads us to our research questions. The first research question focuses on examining the degree of polarization as perceived by the media’s target audience whereas the

second research question focuses on examining the degree of polarization and bias in the content of the media sources.

RQ1: To what extent do users in India perceive bias in traditional or online news media sources on key issues?

A comparative study done in 2016 tested the relationship between news media use and perceived polarization in 10 countries. Yang et al., (2016) uncovered a multitude of dimensions in which polarization has been studied, and complementing that understanding, they built on the concept of ‘perceived polarization.’ Citing Westfall et al. (2014), the authors maintain that perceived polarization can be conceptualized by measuring the difference between the respondents’ estimate of Democrats’ attitude and the estimated attitude of Republicans on a range of political issues (both political parties are well established in the US). Other studies similarly captured the estimated difference between the positions of social groups (Ahler,2014; Levendusky & Malhotra, 2015; Lupu, 2014), as cited by Yang et al. (2016). This study found that among the 10 countries, Greece, Italy, Norway, and South Korea are the countries with the highest perceived polarization levels; India, the UK, and the US are moderate; and Canada and Colombia are the countries where the public perceives little polarization among political parties (Yang et al., 2016). Based on the results of this study, it can be concluded that perceived polarization does exist in the Indian media environment, and this research is a step towards examining that in a more robust manner. In explaining the Indian political setup, Laxmikanth (2013) writes, except the BJP (Bhartiya Janta Party) and the two communist parties, CPI (Communist Party of India) and CPM (Communist Party of India Marxist), all other parties do not have a clear-cut ideology. They (i.e., all other parties) are ideologically closer to each other. From that standpoint, it can be said that a part of Indian politics is issue-based, where ‘public concerns’ is a more significant driving force for political action as compared to ideological motivation. Given this

understanding, the concerns held by the public may fuel polarization. Also departing a little from this view, Hasan (2010) maintains that in recent years, following a global trend, quite a few major Indian parties have moved ideologically in a rightward direction.

Much of the literature on Indian polity, polarization and ideologies is relatively new and some areas have conflicting findings. In 2021, the Indian constitution (driver of the political system) was 71 years old, which is still young compared to some of the other well-studied constitutions and political systems in the world. In comparison, the US constitution was 234 years old in 2021. Owing to the overwhelming British influence on South Asia and a lack of research in this field, most of the political literature in India is driven by concepts and theories of the west. Studies like this one will contribute to the growing body of literature specific to India and its culture. For the purpose of this study, the Ruling party is defined as the political party that is currently in power, i.e., the BJP (for most Indian states). The Opposition is defined as other small parties that come together in opposition of the ruling party -- some of these parties include INC (Indian National Congress), RJD (Rashtriya Janta Dal), DMK (Dravida Munnetra kazhagam), and CPI (M).

Theoretical perspectives useful in this study of Indian media are rooted in framing and priming research. Framing is related to perceptions of bias, and scholars have often attempted to study news framing and bias during American presidential campaigns.

Given the intensification of partisan animus globally, it is not surprising that media choices increasingly reflect partisan considerations. People who feel strongly about the correctness of their cause or policy preferences are more likely to seek out the information they believe is consistent with their preferences. There is a growing body of evidence suggesting that politically polarized consumers are motivated to exercise greater selectivity in their news choices (Bennett and Iyengar, 2008).

In their study, Bennett and Iyengar (2008) state that the evidence on partisan bias in news consumption is consistent with the argument that technology will narrow rather than widen users' political horizons. Over time, avoidance of disagreeable information may become habitual so that users turn to their preferred sources automatically no matter what the subject matter. Consistent with this claim and keeping in mind that technology, ease of access, and the ability to choose what you view are at the core of 'online news media,' the study also seeks to uncover which type of media displays a higher degree of news bias, and that leads us to our second research question (for the purpose of this study, the terms 'media bias' and 'polarization' have been used interchangeably and to define and indicate some sort of inclination or prejudice in the process of news content generation and/or distribution).

RQ2: To what extent does the degree of bias differ in the content of traditional and online news coverage in India?

Literature in this area suggests that a definite difference in the media types and the nature of reporting exists, and these differences may be uncovered through content analyses of media.

Defining Media Bias and Polarization

According to Lin et al. (2011), in journalism, the term "media bias" refers to the selection of which events and stories are reported and how they are covered within the mass media. The most commonly discussed biases include reporting that supports (or attacks) particular political parties, candidates, ideologies, corporations, races, etc.

In an analysis of American media, Prior (2013) maintains that "Political elites have become more polarized, and some new voices on cable television and the web offer ideologically slanted content." This statement is as true for the American media as it is for the Indian media. He further talks about how more Americans do in fact report that they see

important differences between the parties (Hetherington 2001; Prior 2007, p. 222). And on many political issues, more respondents are able to place the Republican Party to the right of the Democratic Party than in previous decades (Abramowitz & Saunders 1998, Layman & Carsey 2002a, Levendusky 2009b).

According to a *Washington Post* report (2019), Indian media has ascribed to itself the role of an amplifier of the government propaganda, and very few media establishments in India have been able to stand against the influence of political leaders. This characterization provides an expectation for finding the presence of bias in Indian media sources. A BBC report (2019) pointed out that there is a willingness among some of the country's most senior media executives and journalists to take money in return for pushing a political agenda. According to the World Press Freedom Index (2020), India ranks 140 out of 180 countries in terms of press freedom. The index measures press freedom on criteria such as pluralism, media independence, environment and self-censorship, legislative framework, transparency, infrastructure, and abuses; media importance being one key measure for this study as it measures the degree to which the media are able to function independently of sources of political, governmental, business and religious power and influence. Comparing the rank of United States (45) to that of India (140), reveals how slanted and unreliable the news in India is, and there is strong potential for bias in Indian news media content. Thus, it logical to assume the possibility of the presence of bias in Indian news media.

According to Entman (2007) systematically employing agenda setting, framing, and priming under the conceptual umbrella of bias would advance understanding of the media's role in distributing power, revealing new dimensions and processes of critical political communication. Therefore, framing theory is useful in building the primary theoretical foundation of this study.

Figure 2

Freedom of the press world map



Framing Theory

Like various related communication theories, framing theory also has its roots in multiple disciplines. As stated by (Bryant et al., 2009), the several approaches to framing can be distinguished along at least two distinct dimensions: disciplinary origins (psychological vs. sociological approaches) and explanatory models (applicability models vs. other effects models). Framing theory in communication research has essentially been used in two contexts, ‘Frame building’ and ‘Frame setting’ (Scheufele 1999).

As maintained by Entman (2007), framing can be defined as the process of culling a few elements of perceived reality and assembling a narrative that highlights connections among them to promote a particular interpretation. Citing other sources, Entman also

maintains that framing works to shape and alter audience members' interpretations and preferences through priming. That is, frames introduce or raise the salience or apparent importance of certain ideas, activating schemas that encourage target audiences to think, feel, and decide in a specific way. Scheufele (1999), while citing others, has maintained that within the realm of political communication, framing has to be defined and operationalised on the basis of social constructivism. Mass media actively set the frames of reference that readers or viewers use to interpret and discuss public events. McLeod et al. (1987), posited that the construct of 'individual frames' is used by the audience to make sense of political news. They conceptually define individual frames as cognitive devices that operate as non-hierarchical categories that serve as forms of major headings into which any future news content can be filed (Scheufele 1999). Therefore, it is relevant to use this theory to understand how issues are covered and framed by the media, which ultimately affects how they are received by the public.

Examining bias induced by frames, prior research maintains that frame building deals with the creation and social negotiation of frames in at least three related areas: journalistic norms, political actors, and cultural contexts. It is important to note that news frames at the stage of 'frame building' are highly susceptible to bias, according to Tewksbury and Scheufele (2009). While editors pick and choose what news is more important or more aligned to their news brands, they are indeed subjecting the news items to bias. When news agencies take their pick at the events based on their brands' overall ideology, news content becomes a source of polarised or ideologically slanted news that further has the potential to impact its reading audience. As synthesized by (Dainton & Zelle, 2015), a handful of news editors set the news agenda - they also select, emphasize, elaborate and even exclude news stories or parts of news stories to create a certain effect for the audience.

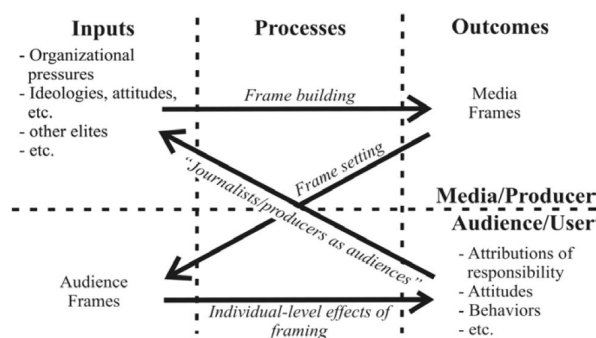
Framing process

In communication science, interpretive ‘frames’ are considered a part of three interlinked models – ‘priming’, ‘framing’ and ‘agenda-setting’. They have been developed in research as approaches to explain the effect of media on all kinds of groups, and vice versa (Scheufele and Tewksbury, 2007). Frames emphasize certain aspects of a subject and thus provide a model for the selective perception of complex topic areas. Accordingly, they allow individuals as well as organizations to quickly come to terms with complex problems and with manifold information (Snow et al., 1986). This perception is likewise relevant for social media since the communication model for web-based communication still relies on a sender-recipient situation which gives the sender the chance to reduce the complexity of a certain issue. Due to this fact, framing is also possible in social media particularly because no ‘professional’ authority like a journalist tries to verify the posts (Boehm et al 2010). Since this study examines media frame, it is important to note that Scheufele (1999) linked media frames in his model of the ‘framing process’ (see figure 3). In this process, he distinguished between ‘inputs’, ‘processes’ and ‘outcomes’, as well as the two levels of media and audience, or recipient.

Figure 3

Framing Process

(Source: Modified according to Scheufele 1999)



Methodology

This study measures bias and polarization in people's preferred media sources in India.

RQ1: To what extent do users in India perceive bias in traditional or online news media sources on key issues?

The study measures perceived polarization in two different preferred sources of media: traditional and online news. As stated before, perceived polarization is an evaluation of the news bias from the perspective of the target audience. The method of such analyses is going to be similar to the one in the study done by Yang et al. (2016). However, instead of doing a comparative analysis between countries, this study uses a comparative analysis between the two media sources. To test perceived polarization between these two groups, this study follows the same measures as proposed by Yang et al., (2016).

Measure of perceived polarization:

Perceived polarization is operationalized as the absolute distance between the two most distant political parties' positions on specific socio-political issues as placed by the respondent.

On a 5-point Likert-type scale, respondents were asked to locate the media coverage of major political parties and their stand on important issues. This design essentially allows the discovery of the extent to which the media is polarized, according to the Indian public. To determine which issues were of primary importance to the public, the parameters that people brought up during the last general election in India were used. This criterion was chosen to refine issues of importance, as people vote on vital issues of national interest for the general elections and this process would reveal the level of polarization the media coverage on these issues. According to a Pew Research Center report from March 25, 2019, a lack of employment opportunities is seen by the public as India's biggest challenge, with 76% of adults saying it is a very big problem. More than seven-in-ten (73%) believe rising

prices are a very big problem and about two-thirds of the public says corrupt officials (66%), terrorism (65%), and crime (64%) are very big problems. According to a *New York Times* report from May 2019, across the economy, Indians — and particularly the highly educated — are struggling to find jobs. Surveys consistently rate this as the No. 1 voter concern, particularly among the young. As stated by Reuters factbox (April 2019), some of the key issues for the March 2019 election were: jobs, muscular nationalism (communalism and communal riots), and farmer distress. In lieu of these results and keeping in mind the latest developments during the global pandemic COVID-19, the 10 key news coverage issues that the survey will measure for polarization in the media are: COVID-19, pollution, inflation (hike in prices), employment, national security, terrorism, crime, corruption, civilian protest (farmer distress and other protests combined), and the economy.

Survey type/ question type

Based on these results, a survey was developed for the respondents with a mix of multiple-choice questions (to reveal the respondents' mode of media consumption and other demographic and political-leaning data) as well as questions with a 5-point Likert-type scale (to measure perceived polarization on key socio-political issues). The survey had a total of 16 questions, and the average time for respondents to complete the survey was 5 minutes (Appendix A). To ensure that the survey questionnaire met all requirements for research on human subjects, it was approved by Institutional Review Board (IRB) and only then was circulated for self-administration. A recruitment message (Appendix B) containing researcher details was developed and placed before the survey link for respondents to be able to reach out in case of queries or questions regarding the study or results.

Survey population

The participants in the survey were reached through snowball sampling for the purpose of reaching a large and varied number of respondents, and the survey was spread through online platforms such as E-mail, Facebook (including apps owned by Facebook, such as Instagram and WhatsApp), and Twitter. The survey was live for two weeks and resulted in 330 responses from people all over the country. Some standard criteria for the population were set, such as the participants should be over 18 years of age, able to understand English, should be familiar with Indian media, and have access to the Internet. Since it was important for the respondents' to remember political affairs, and news coverage to be fresh in order to measure perceived bias, the survey was provided a month prior to conducting analysis on this research.

In order to compensate for the lack of representativeness inherent in snowball sampling methods, a descriptive analysis was conducted to validate the proportional representation of basic demographic variables such as age range, region, and gender. India is the second most populated country in the world with a current population of 1.35 billion, in such a case, having a regionally diverse representation of participants will not only help generalise the results of the study but also help tap to understand the vast cultural differences that exist within communities. This in turn will provide a clearer understanding of the population and the media they consume. Thus, one of the biggest advantages of using snowball sampling in this study is that this method enabled recruiting participants from different regions.

Demographic questions for the survey included variables such as age, region, income level, educational qualification, and frequency of news consumption among others.

Some questions asked in the survey are as follows:

1. In the past month, how often did you engage in news consumption?

2. To what degree do you believe the news coverage of your preferred news source is biased?
3. According to me, media coverage on corruption issues for the last month was ...
4. According to me, media coverage on the issue of pollution in the last month was ...
5. According to me, media coverage on the issue of economic growth in the last month was ...
6. According to me, media coverage on the issue of National security was ...
7. According to me, media coverage on the issue of nationalism was ...

Bias on key issues was measured through the following five options: In-favour of the ruling party, Against the ruling party, Neutral, In favour of the opposition, Against the opposition. The ruling party during the time of this study, differs from the opposition on key issues of economy, civilian protest, and corruption (mostly opposing views, especially on these issues). A popular survey software program called QuestionPro was used to create and distribute the survey. A combination of the analytical tools provided by QuestionPro along with SPSS was used for statistical analysis in this study.

Measures

Demographics

Factors such as age, gender, country, state, religion, education level, and household income were measured in the survey in order to better understand the results. Information regarding the respondents' age, gender, religion, household income, and education levels were collected in the form of categorical data, where the respondents could pick one from the given group

options. Data about the respondents' country and state were collected by directly asking them to type in the response. Having information regarding the country and state of the participants helped provide an estimate of the reach of the survey.

News consumption

The survey was based on self-evaluation of the participants, and they were asked about how often they consumed news (how often do you consume news; 1="never", 2="sometimes", 3="monthly", 4="weekly", 5="daily") and which news sources they preferred (preferred source of news consumption; 1="traditional media", 2="online media", 3="other").

News coverage and bias

The respondents rated their preferred news sources on whether they thought the news sources were biased, favoured any political party, and the tone in which they reported about both, the ruling party and the opposition. Participants were asked to rate on a scale of 5: 1="very unlikely", 2="unlikely", 3="neutral", 4="likely", and 5="very likely".

Political attitude

In order to understand and describe our sample better, the respondents were asked to report where they see themselves on the ideological front (from left to right).

To address the second research question,

RQ2: To what extent does the degree of bias differ in the content of traditional and online news coverage in India?

this part of the study utilized the method of content analysis.

To give this research a more holistic and statistically strong grounding, the study examined biases in the news that are mass-produced and provided to the public through both traditional means and online means. This research question is used to reveal the bias at the production stage of the news that is consumed by the public in India.

Content analysis

The method of content analysis was chosen for this study to provide for an examination of the bias that people might think exists in their news. Additionally, results found through this method may also support prior research, noting the existence of bias in mass-produced media. Through the linguistic approach, textual media can be analysed by identifying sentences and word structures and then coded into categories for analysis. It is highly possible that while conducting content analysis, a coding bias may be involved, thus, to ensure reliability, the study used two independent coders.

Pan and Kosicki (1993) distinguish structural dimensions of frames that can be measured: syntax, script, theme, and rhetoric. In following the linguistic frame analysis, researchers can construct a data matrix for every single news text. In this matrix, the signifying elements for every single proposition are analysed. Clearly, one major advantage of this approach is a possibility of a systematic and thorough analysis of news texts. Therefore, utilizing this method of analysis is central in understanding the cultural context behind the results of the study. Since this study compares the two news media types previously defined, our second research question will add qualitative context to the study, considering that the scope of this study is international. Content and thematic analysis that is derived from news coverage will help other researchers better understand the cultural context as well as the levels of bias that might be discovered through this inspection. Such an

approach could reveal how these media present important issues to the public—issues that may affect key democratic processes.

Sources and article selection:

To perform comprehensive content analysis, two sources from both types of media, traditional and online, were selected to determine if either traditional or online media has a higher degree of bias in coverage. The time period of data collection for this analysis was set to be 10 days. It was estimated that the number of articles collected from this period of time would provide us with enough statistical power to conduct tests. A total of 404 news pieces were collected and analysed from two national daily newspapers, from December 1, 2020, to December 10, 2020. Out of the 404 selected pieces, 26 were headlines only, and could not be coded for tone bias. As a result of this process, the total number of articles analysed for tone bias (from traditional media) was 378.

126 randomly selected articles were analysed from two online media sources. In terms of article selection, cover page news pieces or the front-page news pieces for traditional print media were picked for analysis. The rationale behind this decision is that cover stories are the ones deemed most important by editors and set the overall agenda for the edition of the paper that day, thus it is important that those pieces are tested for bias. Even though the 10 key issues identified as most important by the population were not specifically sourced, this method allowed for these issues to appear in media content in a more realistic manner.

Considering the fact that online media produces news items at a much higher frequency (at least 30 articles daily), analysing online media sources posed a unique challenge. Online media analysis was made even harder due to the lack of availability of news organized on the front page -- instead, it was available under pre-selected tabs and themes that did not serve the purpose of this research. Thus, an alternate way to assess online

media for bias was devised. Through a content analysis of the traditional news pieces, themes from traditional media sources were established first. After this process, these themes were used as Boolean search queries to select articles from the two online media sources.

MediaCloud, an open-source software tool, was used to collect relevant news items from selected media sources. This search yielded a selection of 1395 news pieces out of which 126 articles were randomly selected through an online random selection tool along with keyword searches, which returned a small selection of articles. Filtering articles by themes ensured that pieces from both traditional and online sources contained relatively similar news themes, which would, in turn, make comparing bias possible for the purposes of this study. After the final run of content analysis for both media sources, the category of ‘miscellaneous’ news items was removed and not included in the analysis, due to its lack of contribution to the study. Subsequently, a total of 170 articles (inclusive of articles from both media sources) were removed.

Nvivo was used to code all news pieces and further SPSS was used for statistical analysis.

Shortlisted media sources

Two of the most subscribed national dailies were selected to analyse traditional news, and two of the most used online news websites (both producing at least 50 articles per day) were picked to analyse online news media.

Traditional media:

The Times of India (English)

The Hindustan Times (English)

Online News Media:

FirstPost (English)

The scroll (English)

The traditional media, i.e. *The Times of India* and the *Hindustan Times* are noted for their high viewership and popular circulation; however, these papers are under the ownership of popular political figures and capitalists. On the other hand, the online media differs from traditional media in terms of a different audience makeup. Most people who read news through online websites reach the websites through social media links (Facebook, and Instagram, etc). It is also a given that people who read news online do have access to the Internet. Along with that, the news generated online has less regulation and censorship as compared to the traditional media sources.

Process

To measure the degree of bias or compare which source has more bias in its content, a simple coding process was optimized. All news pieces were coded for news title, news source, news tone, theme, and news type. Both independent coders had access to a fairly straightforward code book (Appendix C) which listed all categories and how they should be coded. In addition, the traditional media pieces were subjected to additional analysis to identify themes needed to facilitate the article selection process for online media.

Coding the news articles for ‘tone’ served as a major indicator of bias. This process helped reveal how the media source was covering news themes, thereby helping identify if there was bias involved in news coverage by either source. For instance, was news related to COVID-19 and government action covered in a positive light by a specific media source? Was news related to religion showcased in a negative light by a specific media source? Or were the media sources simply reporting facts without any bias?

All news pieces that had conflicting rhetoric (such as part negative and in some parts positive tone), were discussed during the coding process and not taken into consideration.

Table 1*Examples from the coding process:*

Excerpt from the news piece	Media source	Bias indication in tone
"The UK government says frontline health care workers and nursing home residents will be first in line to get vaccinated"	Online Media	Neutral
"Several fact-checking websites reported that the BJP IT Cell head had shared a clipped video of the farmers' protest to discredit Rahul Gandhi."	Online Media	Negative
"BJP founder Ajay Chautala said his party wanted the standoff between the farmers and the Centre to end soon. "The ones who provide food to this country are sitting on the roads today," he said. "Both the government and the farmers are troubled by the standoff. It would be best to find a solution at the earliest.""	Online Media	Positive
"The Chinese government planned the clash with the Indian troops in Galwan valley in June, which resulted in the death of 20 Indian soldiers...US report concluded."	Traditional Media	Neutral
"CM virtually under house arrest...on the day that entire country is supporting the farmers in the Bharat Bandh, the central government's home ministry has asked Delhi police to not allow Arvind Kejriwal to leave the house"	Traditional Media	Negative
"The fact that MPC expects the annual GDP contraction in 2020-2021 to be 7.5% and not 9.5%, a number it projected in its October meeting shows that the recovery has been faster than expected."	Traditional Media	Positive

Results

The data for this study's first research question

RQ1: To what extent do users in India perceive bias in traditional or online news media sources on key issues?

was collected through an online survey.

The purpose of this section of the research was to examine news polarization in people's preferred media sources and understand exactly how biased the news environment is in India. Through the first research question, this study was aimed at exploring more about perceived polarization, i.e., how polarized the news is in the public's eyes. In collecting data to analyse perceived polarization, the method of survey was utilised.

Demographics

Published for 2 weeks, the survey yielded 330 ($N=330$) responses from all over the country. Demographics such as age, gender, religion, country, state, education level, and household income were measured to better understand our survey population and also to be able to identify whether or not there is a relationship between demographic factors and perceived polarization.

Analysing the gender makeup of the participants, it was discovered that there were more male participants than female. Out of the total number of respondents surveyed, 58.48% identified themselves as male, 41.21% identified themselves as female, and 0.30% identified themselves as other (*male= 193, female= 136, and other= 1*). In terms of the age difference in the sample, the survey got responses from all five age groups. However, the response was not equally distributed among these age groups. The highest number of respondents i.e. 135 out of 330 (40.91%) were aged between 18-24 years. The next age group with the highest number of recorded respondents at 20.91% was the age group of 25-34. With a slightly lower

number of respondents, the age group of 45-54 years was next with 20% of the responses, i.e., 66 respondents were aged between 45-54. Followed by 14.55% of respondents aged between 35-44 years. The age group 55 and above had the least number of respondents, only 12 (3.64%) were associated with it.

Since it was a requirement that all participants be aware of Indian news, most of them were from India. The majority of people who responded to the survey resided in the Northern region of India. However, the use of snowball sampling resulted in responses from a wide range of states such as New Delhi ($n=195$), Haryana ($n=27$), Maharashtra ($n=30$), Punjab ($n=5$), Rajasthan ($n=3$), Uttar Pradesh ($n=27$), West Bengal ($n=4$), Madhya Pradesh ($n=4$), Gujrat ($n=7$), Bihar ($n=2$), and Jammu and Kashmir ($n=2$). States such as Assam, Jharkhand, Uttarakhand, Odisha, Chhattisgarh, and Tamil Nadu had 1 response each. The survey also had responses from outside the country (people living outside India with knowledge and consumption of Indian news). International responses were tracked from The United States ($n=7$), and one response (each) from Dubai, Dublin, and London.

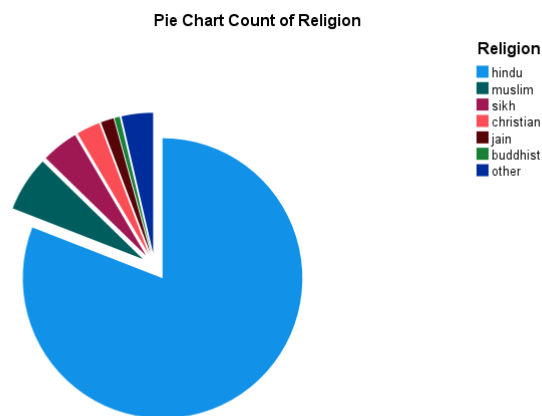
Religion, ideological beliefs and other demographic data such as level of education or amount of news consumption can all be listed as factors contributing to possible biases in the news content consumed by the respondents. In other words, all these factors can affect the degree of perceived polarization. The survey measured religion as one of the demographic fields. Culturally, religion plays a significant role in shaping South Asian societies. From the very beginning of Indian political thought, it has been maintained that religion always has ideological function (Vanaik A, 1997). According to Sen and Wagner (2009), as a result of Hindu ethnic dominance, religion become characterized more by ideology than faith in post-independence India. Since the country was divided mostly on religious grounds during partition (1947), theories in the Indian political thought are pretty consistent while discussing the relationship between religion and ideology. They mostly see religion as a building block

for ideology, a unifier of political thought, and a divider for the general public. It has been theorised that the ideological function of religion is negative in nature, that is, it serves the interests of oppressive groups (religious dominance) (Vanaik A, 1997).

Considering this prior research establishing links between religion and ideology and looking at some current claims that challenge old theories, it was imperative that this study also measure how people place themselves on an ideological continuum and whether or not the data shows any relationship between religion and people's ideology.

Figure 4

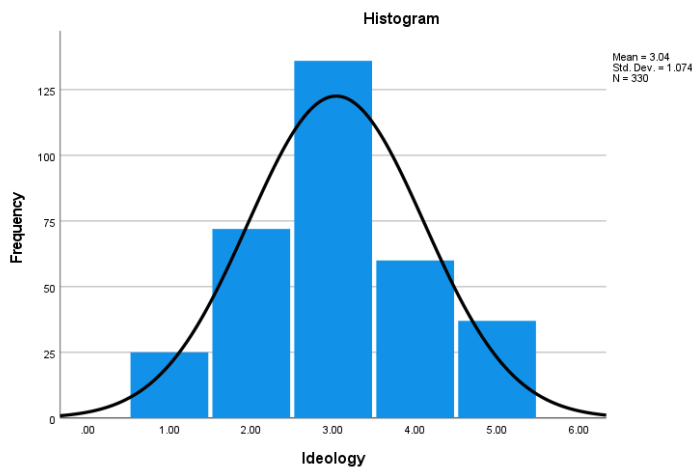
Pie chart depicting demographic data on religion of respondents



As referenced in figure 4, corresponding to the data collected through the survey, 80.9% of the respondents identified themselves as Hindus ($n=267$), 6.8% of them identified themselves as Muslim ($n=21$), 4.2% identified themselves as Sikh ($n=14$) and 2.7% identified themselves as Christians ($n=9$). A small number of participants identified as Jain (1.5%, $n=5$), Buddhist (0.6%, $n=2$), and other (3.6%, $n=12$). Given India's religious diversity, multiple lesser-known religions comprised the 'other' category.

Figure 5

Histogram depicting response data on Ideology of the respondents



The following section of the survey asked respondents to locate themselves on an ideological scale ranging from left to right (1= left, 2=center-left, 3=center, 4=center-right, 5=right). As mentioned before, there have been claims of religion being linked to ideology, therefore, measuring people on an ideological scale (M=3.04, SD=1.07, N=330) was a crucial element of this study. It was interesting to note that 41.2% ($n=136$) of the respondents placed themselves in the center. 21.8% ($n=72$) of the respondents placed themselves as center-left, followed by 18.2% ($n=60$) who placed themselves as center-right. 11.2% ($n=37$) of the participants placed themselves as right and 7.6% ($n=25$) believed they were ideologically left (see Figure 5 for descriptive statistics).

To measure if there was any association between the participants' religion and ideology, a Chi-square test was performed, results for which can be seen in Table 2.

Table 2

Frequencies and Chi-square Results for relationship in Religion and Ideology

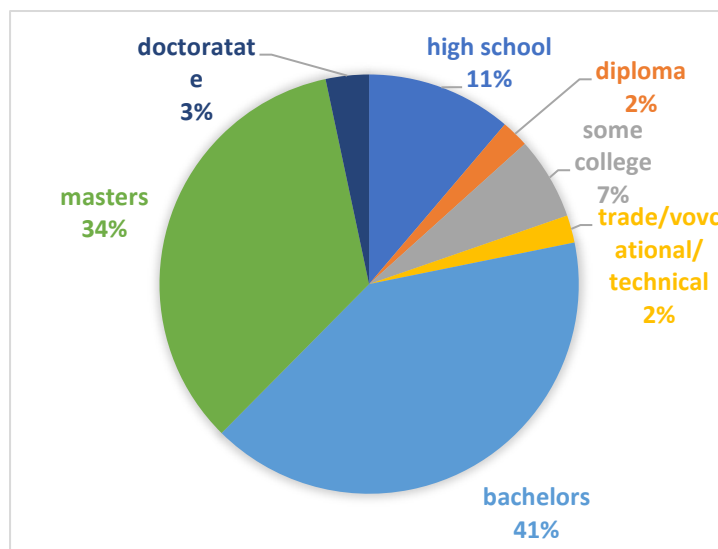
Religion	Ideology					n
	Left	Center-left	Center	Center-Right	Right	
Hindu	22	54	102	56	33	267
Other	3	18	34	4	4	63

$\chi^2 (2) = 13.154, p = .011$

Corresponding to the analysis, it was observed that the two variables are significantly related, $X^2 (4, N = 330) = 13.154, p = .011$. Therefore, substantiating previous research, it may be concluded that there is a significant relationship between religion and ideology.

Figure 6

Education level of respondents

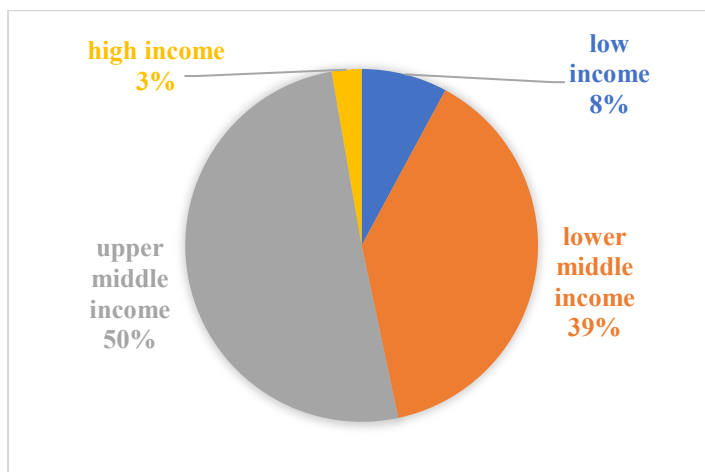


Other factors measured through the survey were the participants' highest education level and level of income. Figures 5 and 6 display the proportion and percentages of the

participant responses for education level and household income level respectively. More than half of the respondents identified as either upper-middle-income level or lower-middle-income level. Half of the respondents (50%, $n=167$) belonged to the upper-middle-income level and 39% of the respondents identified themselves as belonging to the lower-middle-income level. 85% ($n=279$) of the respondents had some college education and above and the rest, 15% received education such as high school ($n=37$), diploma ($n=7$), or vocational/technical training($n=7$).

Figure 7

Household Income level of respondents



News Consumption

To measure the participants' frequency of news consumption, three types of questions were asked: the participants' frequency of news consumption in the month before the survey was conducted ($M=3.56$, $SD=1.18$, $N=330$), preferred news source, and the names of some regularly used media sources. For the monthly news consumption, responses were measured on a 5-point Likert scale where, 1= Never, 2= Once in a while, 3= About half the time, 4= Most of the time, and 5= Always. 253 out of 330 (76.7%) participants consumed news about

half of the time during the past month or more, whereas 63 participants (19.1%) indicated that they consumed news only once in a while during the past month, and 14 (4.2%) reported that they never consumed news in the past month.

When asked about the participants' preferred source of media consumption, 53.49% responded that they preferred online media such as news websites, whereas 28.60% of the people reported that they preferred traditional media such as newspapers to obtain news. 17.9% of the people reported that they preferred other sources of news. The question about naming regularly used media sources generated a plethora of responses, some of the news sources that featured the most were: NDTV, television news, Google Inshorts, Aaj Tak, print, the scroll, Zee news, Newslaundry, newspaper, Quint, BBC, *New York Times*, and DD National.

Degree of Bias

One of the key questions on the survey was to measure the bias in news sources the respondents were asked, "In general, to what degree do you believe the news coverage done by your preferred news source is biased?". The response was measured on a 5- point Likert scale, with values ranging from 1(very unlikely), 2(unlikely), 3(neutral), 4(likely), and 5(very likely).

Out of a total of 330 respondents (M=3.33, SD=1.06), 34.2% ($n=113$) reported a *neutral* on the likeliness scale. Upon analysing the descriptive statistics of the results it was also found that the percentage of people who thought it was unlikely or very unlikely that their news source was biased was smaller than the percentage of respondents who agreed that it was likely that their news source was biased. 45.1% of people reported that the news they consumed was biased ('likely': $n=102$: 30.9%, 'very likely': $n=47$: 14.2%). However, 20.7% ($n=68$) of the respondents believed that their news source was unlikely to be biased to some

degree ('unlikely': n=51: 15.5%, 'very unlikely': n=17: 5.2%). Since political bias in news reporting is also a form of news polarization, another question regarding the respondents' views on biased news was asked in the survey: "In general, to what degree do you believe that your preferred news source favours any political party?". Upon analysis of data on political bias in the news that people receive (M=3.37, SD=1.11), it was discovered that 31.8% of people believe that the news they consume is 'likely' to favour a political party (n=105), and the number of people who believe that the news they consume is 'very likely' to favour a political party was 56 (17%). 22.2% (n=73) of the respondents reported that it was 'unlikely' or 'very unlikely' that the news they consumed would favour any political party. 29.1% of the respondents (n=96) reported that their news source neutral in terms of favouring any political party.

In accordance with our first research question:

RQ1: To what extent do users in India perceive bias in traditional or online news media sources on key issues?

To check for the presence and/or degree of bias between preferred media sources, means of the two variables (degree of bias, and media type: traditional media and online media) were compared, descriptive statistics for which can be seen in Table 3.

Table 3

Descriptive statistics for the degree of bias and media type

Degree of bias*Media type	N	M	SD
Traditional Media	55	3.07	1.086
Online media	169	3.30	1.022

Comparing the group statistics of traditional media and online media (see table 3), it is noted that online media (M=3.30) is only slightly more biased than the traditional media (M=3.07). Thus by comparing means, it can be concluded that the degree of bias did not differ in the two separate groups of online and traditional media user.

People with different ideological beliefs are bound to perceive differences in the news they consume and in the news those with different ideologies consume. What can be a highly biased piece of news for one person, can be a completely neutral one for another. Thus, the relationship between these two variables, ‘ideology’ and ‘degree of bias’ is one of key interest to this study. To test whether or not these two variables are correlated, a Spearman’s correlation test was performed. Results for the test can be seen in Table 4.

Table 4

Spearman’s correlation test results between ideology and degree of bias

	Sig. (2-tailed)	Correlation Coefficient	N
Ideology and Degree of bias	0.003**	0.161	330

*Note: ** indicates significance level at (p<0.01)*

The sig. (2-tailed) value is 0.003** (p<0.01), therefore, it can be concluded that there is a significant positive correlation between the two variables, ideology and perceived degree of bias. This relationship provides context for understanding the linkage between ideology and perceptions of bias central to this study.

Key issues and bias in media coverage

Another key component that the first research question focuses on is the news coverage of key issues and whether the public thought the coverage was polarised or not. In order to test this relationship, the respondents were asked to rate news coverage on the key issues on a 5 point Likert scale (1= in favour of the ruling party, 2= against the ruling party, 3= neutral, 4= in favour of the opposition, and 5=against the opposition). These ratings on news coverage were then tested for association alongside the media type variable. Statistics observed from the survey on the 10 key issues Covid-19, pollution, inflation (hike in prices), employment, national security, terrorism, crime, corruption, civilian protest (farmer distress and other protests combined), and economy, are as follows. For descriptive statics on key issues see Table 5.

Table 5

Descriptive statistics on coverage of key issues

Key news issues	Statistics			
	N	M	SD	Variance
Covid	330	2.06	1.013	1.026
Pollution	330	2.27	.985	.971
Inflation	330	2.14	.987	.974
Employment	330	2.16	.992	.984
National security	330	1.93	1.084	1.174
Terrorism	330	2.13	1.133	1.285
Crime	330	2.23	1.012	1.024
Corruption	330	2.25	1.097	1.203
Civilian protest	330	2.30	1.128	1.273

Economy	330	2.14	1.082	1.170
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For COVID-19, 44.5% (n=147) respondents reported that the news coverage done by their preferred source was neutral, while 43.9% (n=145) respondents reported that the news coverage done by their preferred source was in favour of the ruling party.

Examining the coverage on Pollution, 43.9% (n=145) of the respondents thought that the news coverage done by their preferred source was neutral, while 28.8% (n=95) of the participants believed that news coverage done by their preferred source was in favour of the ruling party, and 22.4% (n=74) of the respondents believed that the news coverage done by their preferred source was against the ruling party. The respondents defined this bias based on their own understanding of the terms used in the survey question.

For the issue of Inflation, 32.1% (n=106) of the participants reported that news coverage done by their preferred source was in favour of the ruling party. It was interesting to note that an equal number of respondents (n=100, 30.3%) thought that the news coverage on inflation was against the ruling party and neutral.

Exploring news coverage on Employment, 32.1% (n=106) of the participants thought that news coverage done by their preferred source was in favour of the ruling party, while 30.9% (n=102) of the participants thought that the news coverage done by their preferred source was neutral, and 29.1% (n=96) of the participants reported that the news coverage done by their preferred source was against the ruling party.

Regarding the issue of National Security, 51.5% (170) of the respondents thought that the news coverage done by their preferred source was in favour of the ruling party, while 29.7% (n=98) believed that the news coverage done by their preferred source was neutral.

For the issue of Terrorism, 43.6% (n=144) of the participants thought that the news coverage done by their preferred source was in favour of the ruling party, while 37.6%

(n=124) of the participants reported that the news coverage done by their preferred source was neutral.

For the news coverage on Crime, 41.85 (n=138) of the participants thought that the news coverage done by their preferred source was neutral, while 32.4% (n=107) of the participants thought that the news coverage done by their preferred source was in favour of the ruling party, and 19.7% (n=65) of the participants thought that the news coverage done by their preferred source was against the ruling party.

Examining the news on Corruption, 33.9% (n=112) of the respondents thought that the news coverage done by their preferred source was in favour of the ruling party, while 38.25 (n=126) of the participants thought that the news coverage done by their preferred source was neutral, and 19.7% (n=65) of the respondents reported that the news coverage done by their preferred source was against the ruling party.

For the issue of Civilian Protest, 30% (n=99) of the participants thought that the news coverage done by their preferred source was neutral. 29.7% (n=98) of the participants thought that the news coverage done by their preferred source was in favour of the ruling party, and 28.5% (n=94) of the participants thought that the news coverage done by their preferred source was against the ruling party.

For the issue of Economy, 38.2% (n=126) of the participants thought that the news coverage done by their preferred source was in favour of the ruling party. 32.4% (n=107) of the participants thought that the news coverage done by their preferred source was neutral, and 21.2% (n=70) of the participants thought that the news coverage done by their preferred source was against the ruling party. In order to statistically test each issue for bias and its relationship to the media source, this study utilised Chi-square tests. This next section will discuss the results of the tests (see tables 6-15).

Table 6*Frequencies and Chi-Square Results for relationship in Covid news and media*

Covid reporting	Different media users		
	Traditional	Online	<i>n</i>
In favour of ruling party	26	73	99
Against ruling party	3	18	21
Neutral	24	73	97

 $\chi^2 (2) = 1.356, p = .508$

Examining the results for the Chi-square test, it was observed that no significant relationship between the perceived news bias on Covid-19 and the source of the news generation, $X^2 (2, N = 217) = 1.356, p = .50$. Thus it can be maintained that there was no significant bias perceived by the public on the news coverage of COVID-19 done by their preferred media sources (traditional and online).

Table 7*Frequencies and Chi-Square Results for relationship in pollution news and media*

Pollution reporting	Different media users		
	Traditional	Online	<i>n</i>
In favour of ruling party	19	42	61
Against ruling party	14	33	47
Neutral	21	85	106

 $\chi^2 (2) = 3.299, p = .192$

Examining the results for the Chi-square tests, no significant relationship between the perceived news bias on pollution and the source of the news generation was observed, $X^2 (2,$

$N = 214$) = 3.299, $p = .19$. In conclusion, there was no significant bias perceived by the public on the news coverage of pollution done by their preferred types of media sources. (traditional and online).

Table 8

Frequencies and Chi-Square Results for relationship in inflation news and media

	Different media users		
	Traditional	Online	<i>n</i>
Inflation reporting			
In favour of the ruling party	18	52	70
Against ruling party	13	51	64
Neutral	22	50	72

$\chi^2 (2) = 1.860, p = .394$

Examining the results for the Chi-square tests, it can be maintained that there was no significant relationship between the perceived news bias on inflation and the source of the news generation, $X^2 (2, N = 206) = 1.860, p = .39$. In other words, there was no significant bias perceived by the public on the news coverage of inflation done by their preferred types of media sources (traditional and online).

Table 9

Frequencies and Chi-Square Results for relationship in employment news and media

	Different media users		
	Traditional	Online	<i>n</i>
Employment reporting			
In favour of the ruling party	21	49	70
Against ruling party	10	51	61

Neutral	22	50	72
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$\chi^2 (2) = 4.272, p = .118$

Examining the results for the Chi-square tests, it was observed that there was no significant relationship between the perceived news bias on employment and the source of the news generation, $X^2 (2, N = 203) = 4.272, p = .11$. Thus it can be concluded that there was no significant bias perceived by the public on the news coverage of employment done by their preferred types of media sources (traditional and online).

Table 10

Frequencies and Chi-Square Results for relationship in national security news and media

	Different media users		
	Traditional	Online	<i>n</i>
National security reporting			
In favour of the ruling party	33	81	114
Against ruling party	3	25	28
Neutral	17	50	67

$\chi^2 (2) = 3.948, p = .139$

Examining the results for the Chi-square tests, no significant relationship between the perceived news bias on national security and the source of the news generation is noted, $X^2 (2, N = 209) = 3.948, p = .13$. Thus it can be concluded that there was no significant bias perceived by the public on the news coverage of national security done by their preferred types of media sources (traditional and online).

Table 11*Frequencies and Chi-Square Results for relationship in terrorism news and media*

	Different media users		
	Traditional	Online	<i>n</i>
Terrorism reporting			
In favour of the ruling party	24	70	94
Against ruling party	6	13	19
Neutral	21	71	92

$\chi^2 (2) = .685, p = .710$

Examining the results for the Chi-square tests, no significant relationship between the perceived news bias on terrorism and the source of the news generation was observed, $X^2 (2, N = 205) = 0.685, p = .71$. Thus it can be concluded that there was no significant bias perceived by the public on the news coverage of terrorism done by their preferred types of media sources (traditional and online).

Table 12*Frequencies and Chi-Square Results for relationship in crime news and media*

	Different media users		
	Traditional	Online	<i>n</i>
Crime reporting			
In favour of the ruling party	22	46	68
Against ruling party	8	32	40
Neutral	23	77	100

$\chi^2 (2) = 2.648, p = .266$

Examining the results for the Chi-square tests, it can be maintained that there was no significant relationship between the perceived news bias on crime and the source of the news

generation, $X^2 (2, N = 208) = 2.648, p = .26$. Thus it can be concluded that there was no significant bias perceived by the public on the news coverage of crime done by their preferred types of media sources (traditional and online).

Table 13

Frequencies and Chi-Square Results for relationship in corruption news and media

Corruption reporting	Different media users		
	Traditional	Online	<i>n</i>
In favour of the ruling party	22	54	76
Against ruling party	4	36	40
Neutral	26	64	90

$\chi^2 (2) = 6.112, p = .047$

Examining the results for the Chi-square tests, a significant relationship between the perceived news bias on corruption and the source of the news generation was observed, $X^2 (2, N = 206) = 6.112, p = .04$. Thus it can be concluded that significant bias was perceived by the public on the news coverage of Corruption done by their preferred types of media sources (traditional and online).

Table 14*Frequencies and Chi-Square Results for relationship in civilian protest news and media*

Civilian Protest reporting	Different media users		
	Traditional	Online	<i>n</i>
In favour of the ruling party	17	46	63
Against ruling party	12	46	58
Neutral	22	50	72

$\chi^2 (2) = 1.623, p = .444$

Examining the results for the Chi-square tests, no significant relationship between the perceived news bias on civilian protest and the source of the news generation was noted, $X^2 (2, N = 193) = 1.623, p = .44$. In conclusion, there was no significant bias perceived by the public on the news coverage of civilian protest done by their preferred types of media sources (traditional and online).

Table 15*Frequencies and Chi-Square Results for relationship in economy news and media*

Economy reporting	Different media users		
	Traditional	Online	<i>n</i>
In favour of the ruling party	22	62	84
Against ruling party	8	37	45
Neutral	21	53	74

$\chi^2 (2) = 1.758, p = .415$

Examining the results for the Chi-square tests, no significant relationship between the perceived news bias on the economy and the source of the news generation was observed, $X^2(2, N = 203) = 1.758, p = .41$. Thus, there was no significant bias perceived by the public on the news coverage of the economy done by their preferred types of media sources (traditional and online).

Research question 1 of this study sought to look at the perceived polarization between the public's preferred news media sources by asking *"To what extent do users in India perceive bias in traditional or online news media sources on key issues?"*

After statistically testing the data collected from the survey, it can be concluded that in general, there was no significant perceived bias by the public in their preferred news source coverage. However, when asked about the news coverage of key issues, the participants did observe significant bias in their preferred news source's coverage that they received (traditional or online news sources) on the issue of corruption. Therefore, it can be concluded that the users in India perceived bias in the news they received from their preferred news source on the coverage of only one key issue out of ten. Hence, no significant difference in perceived polarization was observed. Demographic characteristics such as region and religion were not found to affect this key finding even though these characteristics may have influenced the use of either traditional or online media.

The second research question sought to track bias in the news reported by traditional and online media by asking *"To what extent does the degree of bias differ in the content of traditional and online news coverage in India?"*

To analyse the data for this research question, the study used the method of content analysis for news articles published in traditional media (newspapers) and online media (news websites). As mentioned before, to determine whether there is a bias between different

news sources, two types of media were examined, and the news coverage was coded. News pieces from both media types were coded for the title, tone, type, source, and theme.

The titles of all the news pieces were coded separately in order to keep a count on the total number of news pieces coded.

The tone of the articles simply highlighted the overall mood of the news piece. If the news piece was using negative or criticizing rhetoric to convey news then the article's tone was coded as negative. If the news piece was using positive or encouraging rhetoric to convey news then the article's tone was coded as positive, however, if the news piece was simply stating facts to convey news then the article's tone was coded as neutral. Since it is possible for authors, editors, and reports to pick and choose how they describe events in the news and what events make the news, the tone was identified as an '*indicator of bias*'.

The type of news category was used to identify and segregate news pieces based on the geographical location they were giving news about. The three subcategories under type were: Indian news (news coverage about India and from Indian states), International news (news coverage from other countries or in relation to India and other countries, except the US) and US news (news coverage from or about the US, including India-US news).

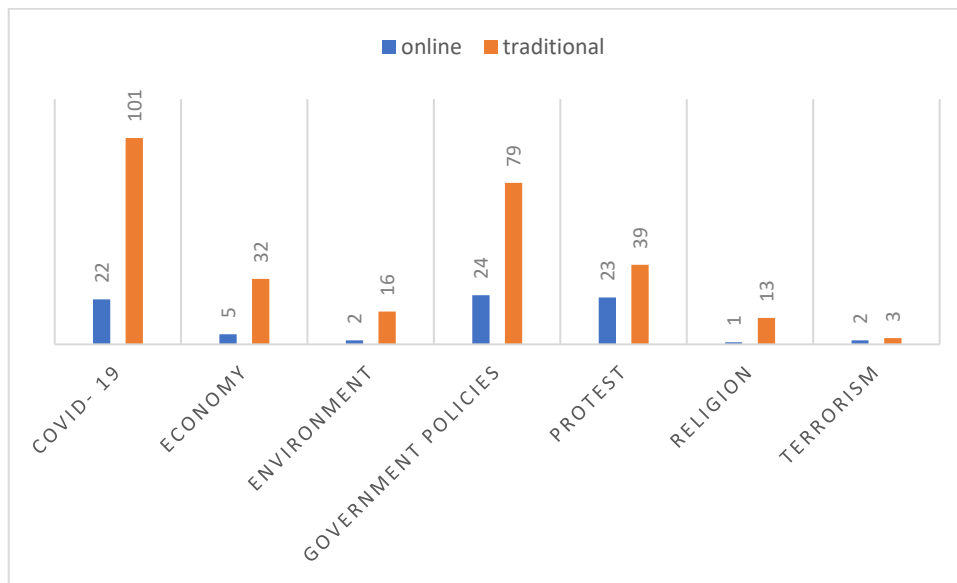
The source of the articles was simply coded to segregate traditional news pieces from online news pieces.

Themes that emerged from coding the traditional news articles were used to shortlist articles from online media. All news pieces were coded under a total of 8 themes: COVID-19 (sub-themes: case count, government action, lockdown, testing, and vaccine), economy, environment, government policies, protest, religion, terrorism, and miscellaneous (sub-themes such as sports, entertainment, and journalism and media).

The distribution of articles from each media type by theme can be seen in the figure below.

Figure 8

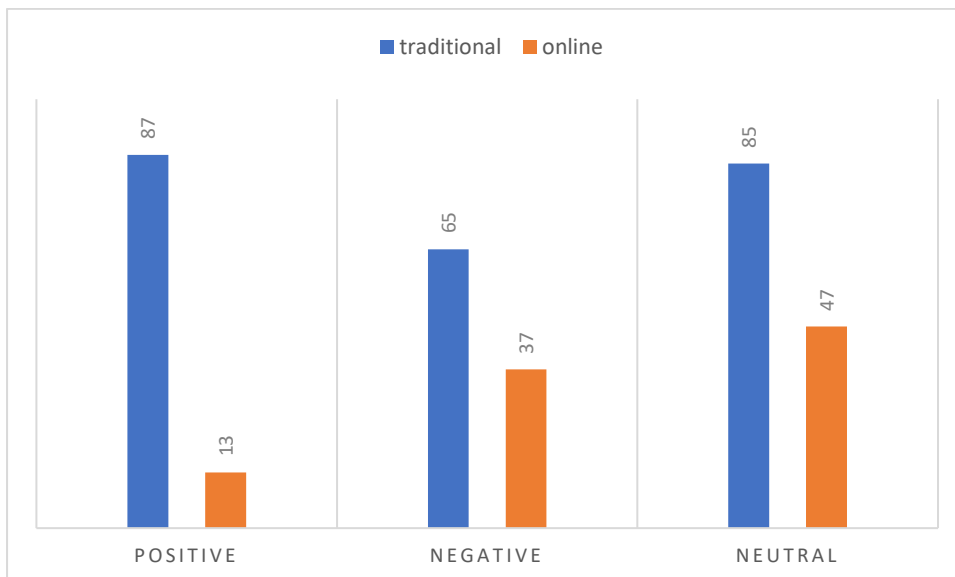
News coverage by media type and theme



Descriptive statistics for the difference in tone of the news pieces in different media types can be seen in figure 9.

Figure 9

News coverage by media type and tone



As mentioned before, the data collected was coded for tones (positive, negative, and neutral) to test for bias. The entire process was followed by 2 coders to ensure reliability in

the data collected and eliminate the risk of ‘biased coding’. Cohen’s Kappa was used as the statistical test to check for inter-rater reliability in SPSS to compare both sets of codes from traditional and online media. The rationale behind using Cohen’s Kappa was the nature of the data collected. According to Leard statistics (2018), 5 assumptions must be met before performing a Cohen’s Kappa test. Therefore, before conducting the test, the entire dataset was tested for the 5 assumptions of the Cohen’s Kappa test (data measured on a nominal scale, both raters assess the same observations, each response variable must have the same number of categories and the crosstabulation must be symmetric, raters are independent, and the same two raters are used to judge all observations) and they were all met (see tables 16 and 17).

Table 16

Cohen’s Kappa test for the subcategories of traditional media(traditional_og and traditional_exp)

		Traditional_og			N
		Negative	Neutral	Positive	
Traditional_exp	Negative	65	2	0	67
	Neutral	0	224	0	224
	Positive	0	0	87	87
κ					0.991

Looking at the symmetric measures table (see Table 16), the measure of agreement i.e. κ is listed as 0.991 ($p > .90$ is observed as almost perfect agreement), therefore, it can be concluded that there exists a highly significant agreement between coders for the two sub

categories of traditional news, See appendix D (traditional_og, i.e. the original coder group, and traditional_exp, i.e. the group coded by the external coder).

Table 17

Cohen's Kappa test for the subcategories of online media (online_og and online_exp)

		Online_og			N
		Negative	Neutral	Positive	
Online_exp	Negative	37	3	0	40
	Neutral	0	73	0	73
	Positive	0	0	13	13
κ					0.956

Observing the symmetric measures table (see table 17), the measure of agreement, i.e., κ is listed as 0.956 ($p > .90$ is observed as almost perfect agreement), therefore, it can be concluded that there exists a strong agreement between coders for the two subcategories of online news, See appendix D (online_og, i.e. the original coder group, and online_exp, i.e. the group coded by the external coder).

A chi-square test was performed to examine the difference between indication of bias and news source (traditional or online). A significant difference was found between the two variables, $X^2(2, N = 334) = 17.837, p < .000$.

Research question 2 of this study sought to examine, “*To what extent does the degree of bias differ in the content of traditional and online news coverage in India?*”

Assessing the data collected and analysed for the purpose of this research question, it was discovered that there is a statistical difference between the news reporting of traditional media and online media. It was found that Traditional media published a higher number of

‘positive tone’ and ‘neutral tone’ articles as compared to the negative tone, whereas online media published a higher number of ‘negative tone’ and ‘neutral tone’ articles as compared to ‘positive tone’ (see table 18).

Table 18

Frequencies and Chi-Square Results for tone bias between traditional and online media

Media		Tone		
		Positive	Negative	Neutral
Traditional Media	Count	87	65	85
	Expected count	71.0	72.4	93.7
Online Media	Count	13	37	47
	Expected count	29.0	29.6	38.3

$\chi^2 (2) = 17.837, p = .00$

Discussion

Addressing gaps in previous Asian communication research, and in doing so, examining ‘bias’ in Indian news, is at the foundation of this study. Previous research has well established that all media have some level of bias entrenched in them. The results from this study solidify those claims to some extent, along with bringing to the forefront a lot of revelations about the Indian media and how the public perceives the news they get on a daily basis.

According to Lin et al. (2011)

Identifying media bias is challenging for a number of reasons. First, bias is not easy to observe. It has been recognized that “bias is in the eyes of the beholder” meaning that, e.g., conservatives tend to believe that there is a liberal bias in the media while liberals tend to believe there is a conservative bias. Hence, finding textual indicators of bias is difficult, if not impossible. Second, the assessment of bias usually implies knowing what “fairness” would be, which may not be available or consistent across different viewpoints. Third, Internet-based communication promises easy, inexpensive, and instant information distribution, which not only increases the number of online media outlets but also the amount and frequency of information and opinions delivered through these outlets. The scale and dynamic nature of today’s communication should be accounted for.

Owing to the fact that there is no one true indicator of bias, and no one right way of measuring bias in media, this study took two different approaches to measure bias in Indian news media. One key research question guiding this study examines a possible relationship between the media source (traditional or online) and the level of perceived biases on some key issues (in preferred news sources). Another research question examines the differences in bias between online news sources and traditional media sources.

Looking at the data collected for this study, another limitation that cannot be missed is the testing process. Most of the analytical testing done in this study establishes correlations and has been successful in pointing out whether this correlation was significant or not. However, owing to how the data was collected, a majority of the tests only point out associations and differences but lack in providing directions to the relationship established between variables.

Results and Implications: RQ1

As mentioned before, the first research question sought to discover differences in perceived bias when it comes to consuming news via different media modes. The data returned from the survey was telling. Upon Further in-depth analysis of this data, revealing conclusions were reached about the perceptions and content of the traditional and online news in India. To investigate the first research question, a survey was circulated through online platforms.

Demographic Results

This survey was made available to the public for 2 weeks (due to the time frame of the study) and it yielded 330 responses from various parts of India. Since the research utilized the method of snowball sampling to circulate the survey, it cannot be maintained that the data collected was evenly distributed. Most responses on the survey were received from major metropolitan states in India like New Delhi, Haryana, Uttar Pradesh, and Punjab. Out of these states, more than half of the total responses (59.09%) were received from New Delhi, the capital of India.

Cultural, political, and media contexts differ from state to state in a country as diverse as India, and this also includes the public's appetite for news consumption, which means that people don't consume news the same way everywhere else, as they do in the capital of the

country. This implies that the data collected from the survey is not randomly distributed, therefore, is ultimately not fully representative of the general Indian public. Another factor leading to uneven data distribution is the data collected on people's age and the method of data collection. It was noted that 40.91% of the respondents were aged between 18-24 years, followed by 20.91% of the respondents who were aged between 25-34 years. While more than half of the participants for the survey were young people between ages 18-34.

All 330 recorded responses for the survey were self-reported. Previous research has shown that relying on self-reported measures of media use cannot always be accurate, such measures are known to overestimate media consumption, with different people overestimating at different rates. The dependence on self-reported data continues to be a significant issue in survey research in communication science, and there is little consensus as to how to best measure media use in questionnaires (Prior, 2009). Amongst other self-reported data in the survey, religion was one of the most accurately represented categories, more than 80% of the total respondents identified as Hindus, where 79% of the entire Indian population also identifies themselves as Hindus (Census 2011). The survey measured a variety of variables that could affect levels of perceived bias. Examining the analysis, it can be maintained that there was a significant relationship between people's reported religion and ideology. It was also found that there was a significant correlation between the variables ideology and how biased respondents believed their news source was. These findings are important because it substantiates some prior evidence indicating that people's religious beliefs might affect their ideological inclinations. Considering that belief systems of all kinds make up an individual's understanding of the world, the findings from this study strengthen the implication that external factors such as religion and ideology contribute to building constructs of bias in individuals. Prior research in the field has also indicated that the source of media consumption can also be a factor contributing to an individual's news bias. Framing

theory may offer an explanation here, exposure to partisan media's framing could lead to polarization, as the audience accepts the partisan frames (Trilling D, 2017; Jamieson & Cappella, 2008).

Out of 330 respondents, only 16.67% of the people reported that they consume news via traditional media whereas 51.21% reported that they consume news via online media, and the remaining respondents reported using other or both media types for news consumption. When tested for a relationship between the source of media consumption and perceived degree of bias, it was found that online media ($M=3.30$) was only slightly more biased than traditional media ($M=3.07$), however, the relationship between the two variables was not statistically significant. It is important to note that the results from these variable values might have been affected by how the data was collected and categorized. Since there were responses indicating that they consumed both or other media sources, they had to be removed from statistical analysis, which in turn might have led to the loss of statistical power (owing to a small population) for this particular analysis. Looking at the data and statistical results, it can be implied that most people perceived their news to be neutrally biased whether it was consumed through an online source or a traditional one. One explanation to this finding may be that the respondents are drawn to news sources consistent with their ideological views.

Media Bias Results

The next set of analyses in the study were performed with the purpose of testing out the relationship between biases in the coverage on key issues and different media sources. For the purpose of this study, 10 key issues (shortlisted on the basis of what the public thought were the most important ones during general elections) were measured for perceived bias in news coverage. For the purpose of analysis, the study utilised chi-square tests to determine whether the bias in coverage on key issues was significantly related to the source of news

generation (i.e. traditional or online media). The results from these tests indicate that the respondents only found significant bias in the coverage of their preferred media when it came to the coverage of news on the issue of corruption. Thus, it can be concluded that individuals have varied perceptions of bias when it comes to news coverage of different socio-political issues. In other words, for most issues, the public might not notice any difference of bias in news coverage in their preferred media sources whereas for other issues they might. The issue of corruption may be unique in that it may be found in all sides of the political spectrum and that news reporting fails to properly address the issue. Additionally, corruption was one of the winning factors during the election for the current ruling party- which is why the news might have been polarized on that issue. This finding is in accordance with previous media research showing that people hardly believe that their preferred media sources are biased since they chose how to consume news and trust in the source.

Results and Implications: RQ2

For the second research question, this study utilised the method of content analysis. News pieces from 2 online and 2 traditional media sources each were analysed. From the traditional media sources, front-page coverage was analysed and themes were shortlisted. Those shortlisted themes were then used to run Boolean searches on online media sources to further shortlist online media articles. These shortlisted articles were coded for the tone to mark an indication of bias and thereafter a chi-square test was run to find whether or not there was a significant difference in tone bias of the coverage from the two media sources.

The media sources within the two broad media type categories (traditional and online), were chosen on the basis of their popularity and how much they were used by the public in general. However, it is important to note that the two national dailys which were used for the purpose of analysis for this study, i.e. *The Times of India*, and *The Hindustan*

Times, are both notoriously known for producing biased news (however, no empirical evidence exists regarding this because bias is rarely studied in context to Indian media), so much so, that these newspapers are strictly not allowed to be used for government examination preparations at the national level. Keeping this context in mind and looking at the number of tone-slanted articles (negatively or positively toned) that were produced by traditional media sources, it can be concluded that traditional media produced more tone-slanted articles as compared to neutrally toned articles. Hence, it can be empirically asserted that traditional media produced biased news, where over 64% of the news pieces had some indication of bias (positive or negative).

Exploring the results further, a significant difference between the tone bias in traditional news and online news sources was found. Out of all traditional news articles (n=237), 36.7% were coded positive in tone, and 27.4% were coded negative in tone as compared to the 35.8% that were coded neutral in tone. Out of all online news articles (n=97), 13.4% were coded positive, and 38.14% were coded negative as compared to the 48.4% of the articles that were coded neutral. Analysing these results, it can be maintained that online media produced a higher percentage of articles with a negative tone, however, both media produce a somewhat equal amount of articles that are neutral in tone. It is also interesting to note that even in the case of online media, over half of the articles (51.5%) indicated bias in tone (negative or positively toned).

Upon examination of prior research, it was found that the Indian media had a reputation for amplifying government propaganda (*Washington Post* report 2019), however, the results from content analysis contradict this finding. Opposing prior data this study empirically asserts that both media sources (traditional and online) produced a significantly high number of 'neutrally toned' news pieces, along with a considerably small number of positively toned articles (which could possibly be an indicator for government propaganda).

Another set of research studies might be able to offer an explanation for this. Results from earlier research maintain that news in further sections of both online and traditional media, such as the 'editor's section' is more biased as compared to the front-page news. While researching editorial slant Parkin and Druckman (2005) maintain that the papers' editorial endorsements significantly affect both the tone (i.e. positive, neutral, negative) and the number of criticisms published about people currently holding office. Therefore, it is rational to maintain that only utilising the front-page coverage analysis method to explore bias in the data is one of the key limitations for this study. A lack of examination of other media sources might also be a reason for the contradictory results found in the study.

One of the limitations in the study done by Yang et. al (2016) was the need to examine bias in other sources of media such as television news. According to them, it was noteworthy that the study did not include measures tapping cable news use more specifically. In the US, many cable news channels are strongly partisan and expose the audiences, who tend to be strongly partisan themselves, to biased and extreme exemplars of the other side (Yang et al, 2016: Prior, 2007).

Theoretical implications

The purpose of this study was to investigate gaps in perceptions of bias, to check whether the news being generated in different media sources was biased and if it was, to determine how the public viewed that bias. This process could be theoretically explained through framing theory and agenda-setting theory.

In essence, framing theory posits that the way news is presented to the audience influences their perception, while agenda setting posits that media sets the public agenda. Looking at the content analysis results from RQ2, a higher number of positive and neutral-toned articles (both types of media combined) were found as compared to negative toned

articles. When these results are examined in connection to the data on bias from RQ1, some connections can be made between frames and perceptions of bias in the public. The data collected on bias from RQ1 is telling of the fact that the majority of the people thought that the news they received, either from traditional or from online media sources, was either neutral or positive. This finding is consistent with the results from RQ2 and can be explained through the theoretical framework used by this study. The public's general perceptions of news (received from their preferred sources), and whether the news being generated was perceived as positive, neutral or negative, was found to be in accordance with how the majority of the frames were set.

Future Direction

Examining the gaps in research, it is important that future studies in this field aim at discovering bias in television news media, as it can be a source of highly biased content. Especially in countries where news channels on television are owned by political parties or powerful industrialists, there are grounds to believe that the content produced in the form of news would be used to further personal agendas and therefore be rich in production bias. Future studies could also benefit from selecting news sources based on the key issues found to be important to the public—this would provide more material needed to analyse the presence and nature of bias.

It is noteworthy to consider that this was but a small-scale study that only utilised responses from a small fraction of the entire sample, moreover, the population for the study was not evenly distributed. Therefore, as a future direction, other researchers might benefit from collecting a much larger dataset, with a population more evenly distributed. Another limitation of this study was in the method of survey circulation. Online circulation of our

research instrument led to the problem of missing out on a major population of people who are without access to the Internet and who might still consume news through traditional media sources. Therefore, it can be noted that future studies might benefit from field survey research that covers more ground, and more importantly, reaches the population that does not have access to the Internet.

Conclusion

This study has helped advance our understanding of the nature of bias in Indian media sources. Upon analysis of media content from two online and two traditional media sources, it was revealed that most of the news generated in Indian media was either positive or neutral in tone. Consistent with theoretical assumptions, the data from the survey indicated that generally, media users in India did not perceive bias in the news coverage on key issues done by their preferred media sources, with the exception of the issue of corruption. Apart from these revelations, this study has also helped provide substantial context about the Indian public and the relationship between variables that might impact their notion of perceived bias, such as religion, ideology, and degree of bias in preferred news sources. Therefore, it can be concluded that this study validates previous research in this area and has contributed by providing new insights on the nature of the media environment in India.

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Appendix A

Survey Questionnaire

Age

1. 18-24
2. 25-34
3. 35-44
4. 45-54
5. 55 Above

Gender

1. Male
2. Female
3. Other

Country

State

Religion

1. Hindu
2. Muslim
3. Sikh
4. Christian
5. Jain
6. Buddhist
7. Other

Household Income

1. Low income group
2. Lower-middle income group
3. Upper-middle income group
4. High income group

Highest educational qualification

1. High school
2. Diploma
3. Some college
4. Trade/vocational/technical
5. Bachelors
6. Masters
7. Doctorate

How often do you consume news?

1. Never
2. Sometimes
3. Monthly
4. Weekly
5. Daily

In the last month, how often did you consume news?

1. Never
2. Once in a while
3. About half the time
4. Most of the time
5. Always

Preferred source of news consumption (select all that apply)

1. Traditional media (newspapers)
2. Online media (news websites)
3. Other

Can you name some of the media sources that you regularly use? (Eg. television channels, radio, podcasts, etc)

Many people use the term 'Left' and 'Right' to describe their political views. Below is a continuum scale which runs from left to right. Think about your political views to assess where you lie on this scale.

	Left	Center-Left	Center	Center-Right	Right
Slide scale from left to right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In general, to what degree do you believe the news coverage done by your preferred news source is biased?

	Very unlikely	Unlikely	Neutral	Likely	Very likely
Slide to choose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In general, to what degree do you believe that your preferred news source favours any political party?

	Very unlikely	Unlikely	Neutral	Likely	Very likely
Slide to choose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>































According to you, in what light does your preferred news source mention:

	Negative	Somewhat Negative	Neutral	Somewhat Positive	Positive
The ruling party	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The opposition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To make informed choices in the next segment of the survey, here is a detailed explanation of the choices available to you. In favour of the ruling party: Reporting positively about government policies and actions on the given issues. Against the ruling party: Reporting negatively about government policies and actions on the given issues. Neutral: Reporting with only facts about the issues. Mentioning both, the ruling and the opposition parties either equally or not at all. In favour of the opposition: Reporting positively about the opposition's stand on the given issues. Against the opposition: Reporting negatively about the opposition's stand on the given issues.

According to me, media coverage done by my preferred news source on the following issues was

	In favour of the ruling party	Against the ruling party	Neutral	In favour of the opposition	Against the opposition
COVID-19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inflation (hike in prices)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

National Security					
Terrorism					
Crime					
Corruption					
Civilian Protest					
Economy					

Appendix B

Recruitment message

Hello, my name is Sangya, and I am asking you to participate in a UT Arlington research study titled, “Media bias analysis in Indian Media”. This research study is about measuring bias in different sources of the news media. You can choose to participate in this research study if you are at least 18 years old, understand English, consume Indian news media, and have access to the Internet.

Moving forward with this survey indicates your willingness to participate in this study. The survey should take about 5-7 minutes.

The research team is committed to protecting your rights and privacy as a research subject. We may publish or present the results, but your name will not be used. If you have questions about the study or the results, you can contact me at sangya.tyagi@mavs.uta.edu.

Thank you for your time!

Appendix C

Codebook

Name	Description
News Tone	Tone of the overall news piece.
Negative	If the news piece is negative or criticising in nature.
Neutral	If the news piece is simply informative in nature.
Positive	If the news piece is positive or encouraging in nature.
News Type	Type of news covered (depending on area)
Indian news	News coverage from and about states in India
International News	News coverage from or about other countries except the US
US News	News coverage from or about the US
Source	online media or traditional media (manually code as 1 (traditional) or 2(online))
Theme	Subject matter of the news piece
COVID-19	News related to COVID 19, further coded as-
Case count	News related to case count
Govt. action	News related to covid and government action
Lockdown	News related to covid and lockdown information
Testing	News related to covid testing
Vaccine	News related to covid vaccines

Economy	News related to economy, gdp, and budget etc.
Environment	News related pollution, weather, and environment etc.
Government policies	News related to government policies in general, laws, litigation, etc.
Protest	News related to protests
Religion	News related to religious matters
Terrorism	News related to terrorism
Miscellaneous	Sub themes such as sports, entertainment, and journalism and media
Title	Title of the news piece

Appendix D

Table of abbreviations used in analysis tables

Variables used in Cohen's kappa reliability test	Description
Online_og	Group of online articles coded and analysed by primary researcher. The group was named "Online_original".
Online_exp	Group of online articles coded and analysed by external coder. The group was named "Online_experiment".
Traditional_og	Group of traditional media articles coded and analysed by primary researcher. The group was named "Traditional_original".
Traditional_exp	Group of traditional media articles coded and analysed by external coder. The group was named "Traditional_experiment".