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Climate Change Reporting in Pakistani English Print Media: A Corpus-Assisted Critical Study of Nouns

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ABSTRACT

The current study aimed to analyze the linguistic strategies used by Pakistani English print media to report on climate change and the role these strategies play in framing climate change ideology, using a mixed-methods approach. The data for the study were obtained from the official website of *Dawn*, covering the period from 1 January, 2024 to 31 December, 2024. Sketch Engine was used to extract the frequencies of various parts of speech, with a particular focus on nouns. Appraisal Theory (Martin & White, 2005) was applied to analyze nouns. The findings, based on a limited dataset, showed that nouns occurred most frequently (24,427 times). The study concluded that Pakistani English-language print media present climate change in largely neutral terms, thereby fostering a deterministic ideology that frames the issue as beyond human control. The study focused only on nouns from a single Pakistani English newspaper. Future researchers may investigate other parts of speech and conduct comparative studies of Pakistani English and international newspapers to explore the reporting of climate change and to identify additional ideological framings.

1. Introduction

1.1 Background of the study

Pakistan is a country known for its cultural, social, political, and geographic diversity. Climate change is a significant global concern, and Pakistan is no exception. As climate change is a crucial global issue, it affects both the environment and people's lives. Newspapers play a significant role in presenting social issues and portraying ideologies regarding them, such as climate change.

Climate change is a global issue. The media influence policy responses and public perception. Pakistan, a country highly susceptible to climate-related disasters, has English print media serving as a key platform for information and influencing climate discourse. Many studies have been conducted at the national and international levels to analyze climate discourse. However, limited research has assessed it with corpus-assisted methods in Pakistan.

Boykoff and Boykoff (2004) studied the US media and found a balance-as-bias effect, in which scientific truth was misrepresented by giving equal weight to the skeptic's view. The study shows the influence of Western media in framing issues, but

Contributions:

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² Conceptualization, Supervision

³ Writing – Review

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this does not apply to media in Pakistan. Antilla (2005) examined the media treatment of climate change. Her study concluded that the media either distorts or oversimplifies climate change as a scientific issue. The work is vital to the issue of misinformation; however, it does not use corpus linguistics analysis, nor does it address the contexts of Pakistani and South Asian media. Carvalho (2007) examined climate change framing in UK newspapers. Her study found that political ideologies are often reflected through media coverage. The study emphasizes the importance of discourse analysis in illustrating the construction of climate narratives. The study discusses media discourse through qualitative research. Nerlick et al. (2010) applied corpus linguistics to study climate discourse in the UK. The study found that metaphors. The study is essential to highlight the significance of corpus-assisted studies, but it was limited to the UK.

Painter (2013), in one of his books, *Climate Change in the Media*, has explored global reporting trends and concluded that various factors, such as national politics, pressure of the institutions and traditions in journalism, affect coverage of any issue. The study, however, lacks a linguistic focus and does not examine the Pakistani media landscape. Qadir and Rasool (2016) examined the ecological reporting in print media in Pakistan. Their study concluded that environmental coverage in Pakistani print media was artificial, lacking depth and context. The study emphasizes the need for critical analysis, but it did not use any linguistic or discourse tools.

Ullah et al. (2017) examined a content analysis of the climate change reporting in Pakistani English newspapers. They concluded that climate reporting in Pakistani media lacked investigative journalism and received minimal coverage. It was a thematic analysis that lacked a linguistic or corpus-assisted method. Mahmood et al. (2019) conducted a study on climate-related disasters in Pakistani newspapers. They found that events were more emphasized than causes and solutions. The study, however, did not use corpus analysis and focused on frequency rather than framing. Ahmad and Rafi (2020) conducted a critical discourse analysis of the ideological representation of terrorism-related reporting in Pakistani English print media. The study utilized critical discourse analysis, but it was not related to environmental discourse.

1.2 Research Gap

The investigation of linguistic strategies, including nouns, to determine ideologies about climate change reporting in Pakistani English print media, using corpus techniques for the first time, is presented. To the best of the researchers' knowledge, various studies on climate change have been done before, but on broader topics. Moreover, previous studies are largely qualitative and do not appear to employ corpus techniques. Also, past studies do not seem to combine nouns, verbs, and modal auxiliary verbs in a single study. Hence, this triggered the researcher's interest in the need for such a study.

1.3 Problem Statement

Language plays a significant role in the construction of ideologies, power, and realities. The media present different sorts of ideologies through the production and transmission of discourse(s). Climate change is a well-established global issue, and raising awareness of it is necessary. Climate change in Pakistan is no exception, and the role of the media in Pakistan in portraying and raising awareness about the issue requires systematic investigation to examine how the print media portrays climate change and shapes its ideology. Therefore, a neutral and accurate analysis of the problem is required.

1.4 Research Objectives

This research study aims:

1. To identify the linguistic strategies used by Pakistani English print media to report climate change.
2. To analyze the portrayal of ideologies through the linguistic strategies used by Pakistani English print media on climate change reporting.

1.5 Research Questions

This research study tends to answer the following questions:

1. What are the linguistic strategies used by Pakistani English print media to report climate change?
2. How does the use of these linguistic strategies in Pakistani English print media portray ideologies about climate change?

2. Literature Review

This section elaborates on the literature review of past studies. To begin with, it provides an overview of the role of linguistic choices in shaping ideologies in media discourse. Further, it provides an overview of various variables, including climate change

and media discourse, examining media discourse through the lenses of critical discourse analysis, corpus-assisted studies, and linguistic choices, as revealed by past corpus studies.

2.1 Climate Change and Media Discourse

Climate change has been a social problem of the 21st century. It has been accepted as a serious challenge and threat to humans and life in general. Researchers and scientists have been conducting several studies in this regard. Given that climate change has been recognized as a 21st-century social challenge, several studies have examined the media's role in portraying it.

Khan and Mustafa (2023) conducted a qualitative descriptive study using Stibbe's (2015) model of eco-linguistics to analyze the portrayal of climate change through the eco-linguistic lens. The study primarily examined the language used to report climate change across reputable Pakistani media sources, both online and broadcast. Further, the study centered on the use of framing, ensuring, and evaluation to reveal how media reports convey ideologies regarding ecology. Further, the research drew on appraisal theory to explain how the messages about climate change are crafted to influence readers of these reports. The findings suggested that media framing of climate change is more negative than positive. The study concluded that negative media framing of climate change, using certain language, had a more powerful impact on readers than positive framing. Lastly, the study concluded that eco-linguistic analysis is exceptionally significant for determining the role of the media in shaping public opinion about climate change.

Santos et al. (2022) conducted a qualitative study using William Nordhaus's DICE Model (2016) to analyse the portrayal of climate change challenges in the UK print media and their proposed solutions in Paris. The study found that, despite breakthroughs in technology and science, the world is still far from achieving the Paris Agreement's solution to climate change. Not unlike previous studies, Ruiu (2021) administered a mixed-method study on the representation of climate change in British Newspapers. The data for this study consisted of 958 news articles and editorials from eight different British Newspapers. The data spanned 1988-2017. The Framing Theory (Entman 1993) was used to analyze the gathered data. The researcher found that the climate change narrative has become complex, and focusing solely on its consequences does not fully capture its complexity. The study further concluded that as climate change became an issue beyond human control, the way the problem was represented in the mass media also changed. The center-left group gave up alarming terms and adopted mocking terms to represent climate change. However, the left wing adopted a more uncertain and neutral discourse to narrate climate change.

Likewise, Ruiu (2020) conducted a qualitative content analysis of media narratives of scepticism about climate change in the UK press. The study analyzed the collected data using content analysis. The study examined how the British newspaper has continued to create scepticism about climate change through its linguistic choices and narratives. The study found that the right-leaning publications promoted sceptical narratives. The study concluded that the current scepticism discourse narrative can influence the public perception of climate change, hindering effective action to tackle the issue. The study concluded that the media plays a significant role in shaping public discourse on climate change.

In the same way, Capstick et al. (2014) conducted a concurrent study to examine the trends in public perception of climate change in newspapers reporting in the USA print media. The study used a longitudinal approach and surveys to collect and analyze data from more than 285 articles over the past quarter-century. The results of this study indicated that many social, political, and economic factors affect the media's choice of language and its role in creating public perception and opinion about climate change.

2.1.1 Existing Literature on Media Discourse through the Lens of Critical Discourse Analysis

Zakizadeh (2024) conducted a critical discourse analysis of news headlines on the Russian-Ukrainian war across three different newspapers. The study aimed to investigate the use of transitivity and linguistic choices in constructing certain ideologies. The study further aimed to find out the representation of events through linguistic decisions. The study revealed hidden biases in the representation of the same event through different lexical choices. The study concluded that some newspapers portray Putin as a leader with the authority to influence the Russians; however, other headlines depict him as a villain responsible for the chaos and anarchy.

Likewise, Joelsson (2023) conducted a qualitative study using Critical Discourse Analysis of media coverage of COP 26 across four Australian newspapers, aiming to examine the news media framing of climate change reporting. The study further aimed to examine the role of those media framings in climate action. Fifty articles were selected purposively for this study, published from 1 October 2021 to December 1, 2022. The study found that climate change in Australian Newspaper discourse has been framed in many ways. The study concluded that the media tends to create relationships between institutions and larger discourse structures through its linguistic elements.

Similarly, Yu et al. (2023) conducted a qualitative study using Wodak's discourse-historical approach to find out the discourse of resistance to climate change in China's English-language news media. The study collected 82 different news articles

from English-language newspapers in China. The study found that the state-run institutions control the use of language to show China's image abroad. Also, the study demonstrated how discourse can be used to show socio-cultural and geopolitical dimensions of climate change.

In the same way, Zhang et al. (2023) conducted an eco-discourse analysis of news reports, focusing on language from an ecological perspective to compare linguistic strategies in China and America. The study found that distinct ideological influences shape the language used in trade. The study provided a method for understanding political discourse across distinct ideologies. In the same vein, Algraini et al. (2018) conducted a descriptive-qualitative study through the lens of a 3D model of Fariclough to analyze Donald Trump's political speeches. The study employed critical discourse analysis and systemic functional linguistics to examine the linguistic patterns and strategies Trump used to construct ideology. The study further focused on all the processes of transitivity for this process. The study found that Trump used all processes of transitivity in the ideological construction. The study concluded that Trump's primary focus seemed to be the construction of a democratic ideology.

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2.2 Corpus-Assisted Critical Studies of Media Discourse

Hassan et al. (2024) took on a corpus-assisted study to examine the use of adjectives and modal auxiliary verbs in horoscope columns of the Dawn and their impact on the readers. The study utilised all three meta-functions of systemic functional linguistics to know the meanings of these adjectives and modal verbs within a clause or sentence. The study concluded that the use of these adjectives and modal auxiliary verbs had a positive, hopeful impact on readers.

In the same vein, Hassan et al. (2024) conducted a corpus-assisted study to examine the linguistic choices used to portray crime in the Dawn and the Express Tribune in the capital and its twin city in Pakistan. The study aimed to examine the use of nouns and adjectives to portray crimes. Further, the study aimed to explicate the psychological effect of these linguistic choices. The study concluded that the use of these linguistic choices created a double-sided impact of fear, danger and safety at the same time.

Recent discourse studies have tended to use corpus-assisted techniques. To begin, Hassan et al. (2023) conducted a corpus-assisted discourse study to examine the construction of power and ideology through media coverage of the 2023 cricket World Cup. The study aimed to explore how linguistic choices construct ideology and power relationships. The study found that the national ideology was dominant, evident in the linguistic choices used to represent their teams, as many newspapers across the world presented their teams as undefeatable and champions both on and off the field. The study concluded that media discourse on sports doesn't just present facts and pleasure; it is used to construct and present certain national ideologies with power relations.

Similarly, Amjad et al. (2023) accomplished a concurrent corpus-assisted study to examine the use of nouns in business articles in two Pakistani English newspapers. The analyses were carried out using AntConc 2.6. The results of the study revealed that the most frequent noun was tax, and the only politician to appear in the articles was PTI chairman Imran Khan.

In the same line of research, Gillings and Dayrell (2023) accomplished a corpus-assisted study to examine the development of media discourse on climate change in the UK press from 2003 to 2019. The study was conducted with a particular focus on the evolution of media discourse and the use of language in UK press media. The study used Usage Fluctuation Analysis (UFA; McEnery et al., 2019). The research showed how media discourse on climate change evolved over 17 years, from 2003 to 2019. The results demonstrated that the press has increased its coverage of climate change as public involvement in the issue has increased over the past few years. The study further concluded that as public engagement with climate change increased, media discourse and its language about climate change evolved.

Similarly, Gillings and Dayrell (2023) conducted a corpus-assisted study to examine the press's attitude toward climate change over 17 years. The researchers quoted Boykoff (2013), who argues that, following the shift in January 2000, the media's language choices regarding climate change greatly affected public perception and created doubts about the threats posed by climate change. It produced counterproductive debates in the public. Based on the small data sets reviewed, this study employed an integrated methodology, an analytical and theoretical framework, and an investigation of ideology through linguistic choices on climate change in the local contexts of Pakistan, making this research a unique addition to the epistemology of linguistics and a departure from existing studies.

3. Research Methodology

3.1 Research Design

This is a mixed-methods study. It includes both qualitative and quantitative analysis of the data. Quantitative data is used to determine objective results and to analyze and qualitatively interpret the data. Mixed-method studies give a more in-depth analysis of perceptions about climate change. (Byg & Salick 2009; Crate 2009; Wolf & Moser 2011; Pidgeon 2012). This combination is beneficial for studying social and cultural issues, as it allows for an in-depth analysis of all facets of the topic.

3.2 Corpus Design/ Data Collection

In mixed-method research, data can be collected through various methods, including content analysis, textual or visual analysis, observations, and interviews. However, internet databases, focus groups, digital libraries, interviews and online newspaper websites are all used to collect data for research in social sciences. The data for this study were collected from the official website of Dawn2. The researcher has restricted himself to the search terms Climate/change, smog, heat, flood, drought, and air/pollution to identify relevant articles. A corpus is created based on the collected data.

3.3 Sample of the Data

The purposive data consists of 99 articles collected using the relevant search terms mentioned above. The corpus consists of 67,027 words, 2,856 sentences, and 78,371 tokens. The data is copied, refined, and then saved in Doc format. The articles are saved in a folder organized by publication date.

3.4 Time Frame of the Selected Data

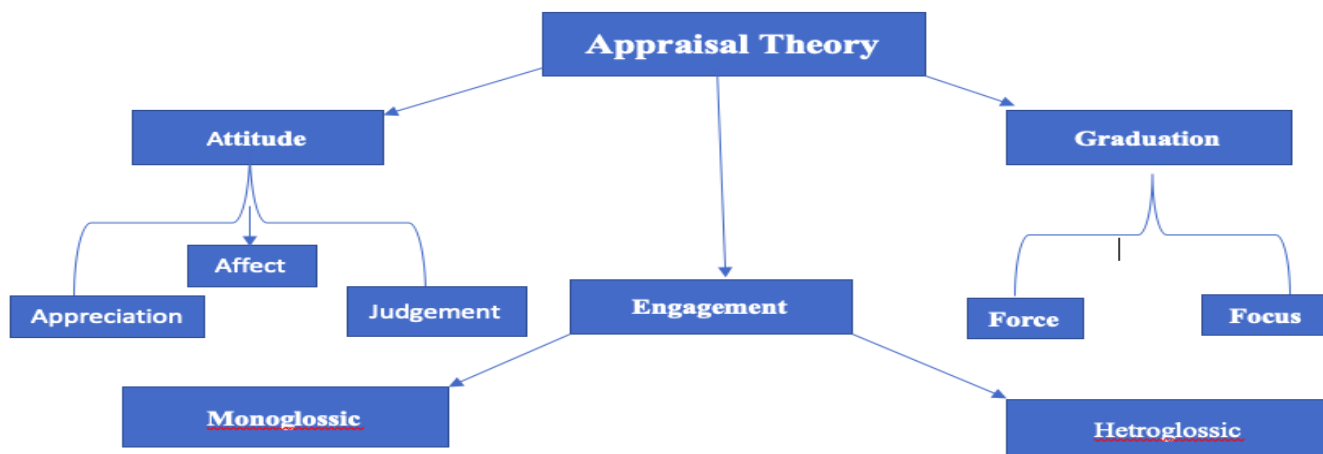
The researcher has collected data for the current research, comprising articles published within 1 year of the official Dawn website from 1 January 2024 to 31 December 2024.

3.5 Variables and Tools for Data Analysis

Once the corpus, consisting of 99 articles, 67,027 words, and 2,856 sentences, was compiled from 1 January 2024 to 31 December 2024, it was saved with the dates of each article. Baker's (2006) model of concordances was used to extract data from the corpus for Nouns, verbs, and modal verbs using the computer software Sketch Engine (Kilgarriff et al., 2014). Nouns are analyzed with the help of Appraisal Theory (Martin & White, 2005) as shown in Figure 1.

Figure 1

Conceptual Framework for the Study of Nouns Based on Appraisal Theory (Martin & White, 2005)



Conceptual Framework: Appraisal Theory by Martin & White (2005)

3.6 Theoretical Framework

The theoretical framework provides the model through which the ideas and key concepts pertinent to research are explained for a thorough understanding. The theoretical framework is a crucial concept that benefits from the research. It also provides a foundation for researchers to build upon their chosen method.

The current study uses the Appraisal Theory of Martin and White (2005) to analyze various categories of nouns used to report climate change in Pakistani English print media. This is a theoretical framework within Systemic Functional Linguistics (SFL). It helps analyze how attitudes, judgments, or emotions are expressed through language use in discourse. Theory provides the foundation for research on ideology, persuasion and language itself. There are three parts in which linguistic choices used by the discourse producers can be presented: Attitude, engagement and graduation. (Martin & White, 2005).

3.7 Rationale for this Framework

Appraisal Theory functions both as a theoretical and an analytical framework. This theory is very relevant for analyzing the role of language (written or spoken) in the construction of ideologies, emotions, and persuasion of the audience. Further, this theory is particular to the role of linguistic choices in the construction of ideologies in the media and political goals. Also, critical analysis of discourse(s) is enhanced through it as it unveils the hidden meanings of discourse. Since this study is a critical analysis of media discourse on climate change, and one of its objectives is to analyze the construction of ideologies through linguistic choices/strategies, this framework seems most suitable and appropriate.

3.8 Delimitation of the Study

This study is confined to only one Pakistani English newspaper, Dawn. This chiefly owes to two reasons: firstly, the time restriction to complete this degree within the stipulated time frame; and secondly, Dawn newspaper has the highest readership and circulation. As of 2025, almost 95,446 copies of Dawn are circulated daily in Pakistan, including the diplomatic and power corridors, more than any other Pakistani newspaper. Secondly, Dawn newspaper covers global issues, such as climate change, more than any other Pakistani English newspaper (Fizzah, 2023).

4. Data Analysis and Discussion

This section presents the analysis, results, and discussion of the data collected to form a corpus for the Dawn to report on climate change in Pakistan. It opens with nouns to convey the impact of climate change. Secondly, the use of verbs has been analyzed through the lens of the Process of transitivity, with implications for framing the climate change ideology in the selected corpus of Dawn. Lastly, the role of modal verbs in framing climate ideology is analysed, based on the results and discussion derived from the data.

The current study is conducted to analyze the climate change reporting in Pakistani English print media. The study analyzes linguistic strategies and their role in framing ideology about climate change in Pakistan. In modern-day linguistics, parts of speech are categorized into two categories: functional and non-functional. Functional type includes words that have some function to play in the sentence. These words are nouns, pronouns, adjectives, adverbs, prepositions, and conjunctions. (Lehmann, 2013)

4.1 Data Description and Analysis

Table 1
Frequency & Percentage of Different Functional & Non-Functional Categories

Functional Category			
S No	Part of speech	Frequency	Percentage
1	Adjective	6162	9.193310158592806
2	Adverb	2416	3.604517582466767
3	Noun	24,427	36.443522759484984
4	Pronoun	1646	2.455726796664031
5	Verbs/ modal verbs	11045/683	16.478434063884703 / 1.018992346367882
6	Conjunctions	2640	3.938711265609381
7	Prepositions	9509	14.186820236621063
Non-Functional Category			
8	Numeral	345	0.574395392901368
9	Others (determiners / articles)	8154	12.165246840825339
10	Total	67,027	100

4.2 Analysis of the Nouns in the Corpus of Climate Change Reporting

After the data was uploaded to the dashboard of the software, the features of the corpus, such as wordlist>Nouns>collocates>concordances> were initially used to analyze the frequently occurring nouns, the concordances, and collocates in the given sub corpora, as shown in Figure 2 below. The data on climate change has been analyzed using the computer software Sketch Engine. The total number of nouns in the Dawn corpus on climate change is 24,427, the highest number of parts of speech across the selected corpora. However, only the nouns occurring with a frequency of 100 or more are selected for the analysis.

Figure 2

Frequencies of Nouns from Dawn on Climate Reporting

Noun	Frequency ? ↓	Frequency Per Million ? ↓	Noun	Frequency ? ↓	Frequency Per Million ? ↓
1 climate	533	6,800.99 ...	16 vehicle	146	1,862.93 ...
2 air	347	4,427.66 ...	17 action	142	1,811.89 ...
3 pakistan	337	4,300.06 ...	18 child	142	1,811.89 ...
4 smog	303	3,866.23 ...	19 area	135	1,722.58 ...
5 lahore	280	3,572.75 ...	20 flood	134	1,709.82 ...
6 government	246	3,138.92 ...	21 heat	128	1,633.26 ...
7 punjab	237	3,024.08 ...	22 water	127	1,620.50 ...
8 change	228	2,909.24 ...	23 aqi	123	1,569.46 ...
9 year	207	2,641.28 ...	24 world	122	1,556.70 ...
10 city	206	2,628.52 ...	25 health	120	1,531.18 ...
11 country	197	2,513.68 ...	26 emission	118	1,505.66 ...
12 quality	172	2,194.69 ...	27 road	111	1,416.34 ...
13 pollution	170	2,169.17 ...	28 level	109	1,390.82 ...
14 people	166	2,118.13 ...	29 temperature	107	1,365.30 ...

Table 2

Categories of nouns based on Appraisal Theory (Martin & White, 2005)

S.No/Category	Frequency	Sub-category	Nouns	Frequency Respectively
1. Attitude	3117	Affect	Smog, heat, flood, pollution, water	303+132+141+170+127= 862
		Judgment	Government, minister, people, child	246+107+166+142=661
		Appreciation	Climate, city, quality, level, temperature, air, health	533+206+172+109+107+347+120=1594
2. Engagement	1070	Monoglossic	Year, world, area, country, road	207+122+135+197+111=772
		Heteroglossic	Policy, action	156+142= 298
3. Graduation	1469	Force	Emission, AQI (Air Quality Index), Vehicle, change	118+123+146+228=615
		Focus	Pakistan, Punjab, Lahore	337+280+273=890
Total	5656			5656

Table 2 above shows the categories of the nouns occurring with the selected frequency of 100 or more in the corpora chosen based on the Appraisal Theory by Martin and White (2005). The total number of nouns with selected frequency is 30, and the total number of nouns is 5656. The highest nouns (3117) have appeared in the category of *Attitude*. Similarly, within the category of *Attitude*, the highest number of nouns appearing is (1594) in the *Appreciation* category, while the lowest number in *Attitude* has appeared in the judgment (661). In the same way, in the engagement category, where the total number of nouns appearing in the selected corpora is the lowest (1070), the monoglossic nouns have appeared more frequently (772) while the number of nouns appearing in the heteroglossic category is only 298. The nouns appearing in the *graduation* are the second-highest occurring nouns. (1469). Further, the number of nouns in the *focus* category (854) is more than the frequency of the nouns of *force* (615) in this category.

4.2.1 Case Study of the Noun Climate

The analyses of the data have shown that the lemma *climate*, of the *Appreciation* subcategory in the *attitude*, has appeared 533 times in the selected corpora of Dawn's reporting on climate change. This is the highest frequency of any word to have appeared in the selected corpora. The noun has been primarily associated with change, diplomacy, cooperation, warming, and effects. However, in both left- and right-contexts, the lemma *Climate* has also been surrounded by lemmas such as destruction and loss.

The climate change effects are causing a colossal loss to the global climate and destruction to human lives as well. (Dawn, 11th August, 2024)

This implies that climate change is not a local problem. It has become a global issue. Climate change anywhere in the world will have a severe impact on the global climate, particularly on developing nations. As climate change is a global issue, it needs a global effort to address it. This also implies that the global issue of climate change requires collective responsibility and environmental justice. This also denotes that climate change is an urgent and catastrophic matter. However, alongside urgency, there seems to be an anthropocentric bias, being human-centred rather than adopting deep ecological perspectives. By and large, it emphasizes the need for emergency, large-scale action and responsibility.

4.2.2 Concordances of the Noun Climate

Figure 3 below shows the concordances of the noun Climate from the selected corpus.

Figure 3
Concordances of Climate

1	<input type="checkbox"/>	<input type="radio"/>	doc#0	<s>South Asia floods expose gaps in regional	climate	cooperation As more extreme rainfall hits South Asia leading to floods that
2	<input type="checkbox"/>	<input type="radio"/>	doc#0	is resolving them," the ministry said in a statement.</s><s>Early warnings	Climate	change is likely to trigger more frequent and more extreme weather events
3	<input type="checkbox"/>	<input type="radio"/>	doc#0	n-profit promoting stewardship of rivers and inshore wetlands.</s><s>"But	climate	change should not be made into a scapegoat for explaining away preparac
4	<input type="checkbox"/>	<input type="radio"/>	doc#1	extreme weather events, air pollution and the spread of infectious disease:	climate	change poses an already vast yet rising threat to the health of humans aro
5	<input type="checkbox"/>	<input type="radio"/>	doc#1	to the health of humans around the world, experts warn.</s><s>The of UN	climate	talks begin next week during what is expected to be the hottest year in rec
6	<input type="checkbox"/>	<input type="radio"/>	doc#1	expected to be the hottest year in recorded history – and in the shadow of	climate	sceptic Donald Trump's as US president.</s><s>The negotiations will be h
7	<input type="checkbox"/>	<input type="radio"/>	doc#1	n lashed by devastating floods, droughts, heatwaves and storms.</s><s>"	Climate	change is making us sick, and urgent action is a matter of life and death," t
8	<input type="checkbox"/>	<input type="radio"/>	doc#1	re ways that global warming affects health.</s><s>Extreme heat The EU's	climate	monitor said this week that 2024 is "virtually certain" to surpass last year tc
9	<input type="checkbox"/>	<input type="radio"/>	doc#1	ner than the 1850-1900 pre-industrial average.</s><s>Out of 15 ways that	climate	change impacts health being tracked by experts as part of The Lancet Cou
10	<input type="checkbox"/>	<input type="radio"/>	doc#1	re and ultimately death.</s><s>Jeni Miller, executive director of the Global	Climate	and Health Alliance, said "this year has underlined the growing impacts of i
11	<input type="checkbox"/>	<input type="radio"/>	doc#1	l Alliance, said "this year has underlined the growing impacts of a warming	climate	on people's health and wellbeing".</s><s>She pointed to leading to 700 de
12	<input type="checkbox"/>	<input type="radio"/>	doc#2	r was also completely blocked.</s><s>Punjab Environment Protection and	Climate	Change Department (EPCCD) Secretary Raja Jahangir Anwar shared sate
13	<input type="checkbox"/>	<input type="radio"/>	doc#3	isks and encourage citizens to do so as well."</s><s>Punjab CM calls for '	climate	diplomacy' with India LAHORE: Punjab Chief Minister Maryam Nawaz has
14	<input type="checkbox"/>	<input type="radio"/>	doc#3	with India LAHORE: Punjab Chief Minister Maryam Nawaz has called for "	climate	diplomacy" with India to mitigate smog impact in the province.</s><s>"Botl
15	<input type="checkbox"/>	<input type="radio"/>	doc#3	</s><s>This issue needs to be taken up with India forthwith," she said at a	climate	change event here on Wednesday.</s><s>She said the Air Quality Index (
16	<input type="checkbox"/>	<input type="radio"/>	doc#3	ing the warnings have been demolished," she added while speaking at the	Climate	Change Leadership Internship Programme..</s><s>"We don't want to dest
17	<input type="checkbox"/>	<input type="radio"/>	doc#3	ed at a meeting of the cabinet standing committee on smog mitigation and	climate	resilience, chaired by the CM.</s><s>Punjab's climate change policy ready,
18	<input type="checkbox"/>	<input type="radio"/>	doc#4	mog mitigation and climate resilience, chaired by the CM.</s><s>Punjab's	climate	change policy ready for cabinet approval LAHORE: Punjab Senior Minister
19	<input type="checkbox"/>	<input type="radio"/>	doc#4	day, Ms Aurangzeb said the policy, aimed at and the hazardous impacts of	climate	change, was being sent to all the relevant stakeholders.</s><s>She said th
20	<input type="checkbox"/>	<input type="radio"/>	doc#4	usiness persons was put forth in the meeting.</s><s>Ms Aurangzeb said, "	Climate	change is a global issue which pertains to human life and death.</s><s>Tr
21	<input type="checkbox"/>	<input type="radio"/>	doc#4	ange is a global issue which pertains to human life and death.</s><s>The	climate	change effects are causing a colossal loss to the global climate and destru

4.2.3 Case Study of the Noun Smog

The lemma *smog* noun 'affect on attitude' has appeared 303 times, making it the second-highest noun in the analyzed corpora. Based on the data, the noun “Smog” has been clustered with mitigation, awareness, causes, warning, worst, dangerous, toxic, Punjab, trucks, cities, and vehicles, etc., in the right and left contexts.

*By emitting dangerous smoke, such vehicles are contributing to toxic smog (Dawn, November 13, 2024).
Lahore's dangerous smog: where disease and death stalk. (Dawn, 12th November, 2024)*

This indicates that the main cause of smog emissions is vehicles, which produce toxic, hazardous smog. The *Monogossic*, having a factual or absolute representation of *engagement*, is Lahore. Moreover, the analyses show that smog is a problem, more specifically in Lahore. Additionally, vehicles are blamed for emitting smog. This also means there is social injustice, as only people in Lahore are affected by the smog, highlighting the ideology of social injustice. This frames pollution caused by smog not merely as an environmental concern but also as a violation of basic human rights. This calls for an urgent policy to tackle the situation. Smog seems to have presented more urgent and critical issues than overall climate change.

Over 11 million children under 5 are in peril as they breathe toxic air in Punjab. (Dawn, 11th November, 2024)

4.2.4 Concordances of the Noun Smog

Figure 4 below shows the concordances of the noun Smog from the selected corpus.

Figure 4
Concordances of the Noun Smog

Doc ID	Left Context	KWIC	Right Context
doc#5	ryum Aurangzeb announced the of the provincial sports gala due to severe	smog	, which will be rescheduled once conditions improve.
doc#5	last week.	smog	stings eyes and burns throats.
doc#5	erly.	smog	, and this year, trucks with water cannons sprayed the streets – with no resu
doc#5	witnesses the damage from emergency rooms in Lahore.	smog	is much more than previous years and the number of patients suffering from
doc#5	or awareness campaigns for patients who often do not know the dangers of	smog	. Children from poor neighbourhoods, she said, are the first victims t
doc#10	ry year.	smog	. This was stated by Dr Irfan Habib, Medical Director at ChildLife Foi
doc#10	said impact of climate change and environmental crisis such as the current	smog	emergency on child health was severe in Pakistan.
doc#10	urt had imposed a ban on construction activities for two months to address	smog	but the order had not been implemented.
doc#10	ousing societies were now evident to all.	smog	in Multan is not understood, then only God can help," the judge remarked.
doc#10	eral and the commissioner to hold a meeting to formulate a policy.	smog	is an emergency and should be addressed as such," the judge declared.
doc#14	ess certificates, outdated laws, staff shortage impede Punjab's fight against	smog	LAHORE: The authorities dealing with smoke-emitting vehicles, the main ca
doc#14	RE: The authorities dealing with smoke-emitting vehicles, the main cause of	smog	, are finding it hard to control air pollution due to issues of jurisdiction, fake f
doc#14	Improvement.	smog	that is affecting the health of the public at large as many people are admitte
doc#14	By emitting dangerous smoke, such vehicles are contributing to toxic	smog	, leaving hazardous effects on the health of people, animals etc," a resident
doc#14	ehicles on Lahore roads is a routine matter even during the present worst	smog	situation, the authorities concerned seem least interested in taking action," I
doc#15	osing fines amounting to Rs1.75m," he claims.	smog	: where disease and death stalk With air quality hitting "hazardous" highs, L
doc#15	hospitals overflow, and households resort to pricey air purifiers to keep the	smog	at bay.
doc#15	us".	smog	"It's been horrible; I've been sick on and off for the last 10 da
doc#15	two kids – the air purifiers struggle to maintain their effectiveness."	smog	became an annual phenomenon, Sohail has relied on anti-wheezing drugs i
doc#15	ness picks up for 37-year-old Hassan Zaidi as soon as Lahore is covered in	smog	brings business for some Business picks up for 37-year-old Hassan Zaidi at
doc#15		smog	. He's currently fulfilling an order for "hundreds of air purifiers" for a f

4.2.5 Concordances of the Noun Air

Figure 5 below shows the concordances of the noun Air from the selected corpus.

Figure 5
Concordances of the Noun Air

Doc ID	Left Context	KWIC	Right Context
doc#1	er," he said.	air	pollution and the spread of infectious disease: climate change poses an aire
doc#1	pected to hit global crops, leading to rising hunger in many regions.	Air	pollution Almost all – 99pc – of the world's population breathes air that exce
doc#1	s.	air	that exceeds the World Health Organisation's guidelines for air pollution.
doc#1	ion breathes air that exceeds the World Health Organisation's guidelines for	air	pollution.
doc#1	tobacco.	air	pollution, according to the WHO.
doc#1	HO.	air	pollution at 40 times the level deemed acceptable by the WHO.
doc#1	ews, the Lancet Countdown report found that deaths from fossil fuel-related	air	pollution fell by nearly 7pc from 2016 to 2021, mainly due to efforts to reduce
doc#2	's most polluted cities for the second consecutive day on Saturday, with the	air	quality index (AQI) reaching 1,914 in the early hours.
doc#3	bat smog.	air	direction.
doc#3	he said at a climate change event here on Wednesday.	Air	Quality Index (AQI) was improving, but smog persisted not just from October
doc#5	and Multan.	air	in Punjab, Unicef warns The United Nations Children's Fund (Unicef) repres
doc#5	tan Abdullah Fadil on Monday called for urgent and greater efforts to reduce	air	pollution, as over 11 million children under five years of age were exposed to
doc#5	re exposed to this smog in the worst affected districts of Punjab.	air	quality was declared a "" in the province last month.
doc#5	alth.	air	pollution levels broke records in Lahore and Multan last week, while several
doc#5	several people, including dozens of children, were hospitalised.	air	pollution is so severe it is now visible from space," the statement said, citing
doc#5	ut the well-being of young children who are forced to breathe polluted, toxic	air	. Over 11 million children under five years of age are exposed to this
doc#5	s representative in Pakistan.	air	pollution, about 12 per cent of deaths in children under five in Pakistan were
doc#5	n, about 12 per cent of deaths in children under five in Pakistan were due to	air	pollution," Fadil said.

Words in the *affect* category, *toxic air* and *peril*, evoke fear and urgency. Similarly, the judgment of the *air* is strongly negative, as it appears to have caused pollution, suggesting that policies and governance have completely failed to tackle air pollution. The rising level of pollution creates a sense of danger. Further, the *Affect* category appears through concern for small children under the age of five. This leads to the idea of empathy. The use of the noun *Air*, glued to *pollution*, frames an ideology of urgency and responsibility that leads to environmental action. Lastly, the text indicates that there is severe air pollution in Lahore and Punjab. This forms a negative ideological attitude towards environmental deterioration.

4.2.6 Case Study of the Noun Heat

The analysis of the selected indicates that the lemma 'heat' is classified in the Attitude category and further into the subcategory of *Affect*. The noun has appeared in the corpus at a frequency of 132. The lemma itself is surrounded by words expressing negative emotions, such as extreme, devastation, record-breaking, and danger. The contexts of the noun *heat* further intensify the representation of the lemma *heat*. This seems to imply that heat is a serious issue. Other monoglossic words of focus, *Worldwide & Punjab*, in the right contexts of the word, are of great significance. The presence of words of negative emotions given above implies that *Heat* is not only an issue across the globe, but also it is an extreme issue in Pakistan, particularly in Punjab.

The number of over-65s who died from heat has risen by 167 per cent since the 1990s, just one of the recent all-time highs, the report said. (Dawn, 10th November, 2024)

Extreme heat, drought, wildfires and flooding will worsen. (Dawn, 16th October, 2024) Intense monsoon rains, devastating heat waves, rapid glacial melting and glacial lake outburst floods. (Dawn, 17th October, 2024)

The linguistic choices of nouns, together with other words with the lemma 'Heat', indicated negative emotions of suffering and loss. Phrases like 'Who died by heat' have risen by 167%, suggesting concern and fear. Further, it indicates a sense of crisis. In the same vein, phrases like 'extreme heat,' 'devastating heat,' etc., suggest that climate change is an urgent issue and an undeniably threatening threat to humans and the world alike. Also, phrases like 'will worsen' indicate that climate change is worsening and requires immediate action from authorities and policymakers. Words like *rapid, devastating and extreme* construct crisis ideology. By and large, the linguistic choices used here frame a negative ideological stance, issuing a warning about the worsening climate crisis. Finally, the ideology of worsening environmental crisis, the need for urgent action and the climate emergency are presented and framed. It is evident that the lemma 'heat' chiefly conveys negative emotions about climate change.

4.2.7 Concordances of the Noun Heat

Figure 6 below shows the concordances of the noun Heat from the selected corpus.

Figure 6

Concordances of the Noun Heat

The screenshot shows a concordance tool interface for the search term 'heat'. The search results are displayed in a table with columns for document ID, left context, KWIC (Key Word In Context), and right context. The word 'heat' is highlighted in red in the KWIC column. The results show various contexts where 'heat' is used, often in relation to climate change impacts, health risks, and extreme weather events.

	Left context	KWIC	Right context
1	in nations, need to work together," he said.	PARIS: Record-breaking heat	, extreme weather events, air pollution and the spread of infectious disease:
2	re are some of the ways that global warming affects health.	Extreme heat	The EU's climate monitor said this week that 2024 is "virtually certain" to sui
3	g to the group's latest report.	The number of over-65s who died from heat	has risen by 167 per cent since the 1990s, just one of the recent all-time hig
4	1990s, just one of the recent all-time highs, the report said.	Extreme heat	leads to numerous health risks such as kidney disorders, strokes, adverse f
5	She pointed to leading to 700 deaths and more than 40,000 cases of	heat	stroke in India, "climate-exacerbated" rains causing a dam to collapse in Niç
6	ows of water now and no water after about 30 to 40 years.	Drought, heat	waves and uncontrolled forest fires at a massive scale, tidal waves, cyclone
7	atures in the Gulf between 400 and 800 times more likely.	This extra heat	made Milton the third-fastest intensifying Atlantic hurricane on record, the U
8	ns across the region from June to September offer respite from the summer	heat	and are crucial to replenishing water supplies. They are also vital for
9	the capital's previous record high: 49.2°C clocked in 2022.	Now the heat	has been replaced by rains. India's weather department this week w
10	apidly and delivers long-term forecasts of weather events like cyclones and	heat	waves. The ECMWF readings before last month's floods were accur
11	om the European Environment Agency (EEA) has warned.	Extreme heat	, drought, wildfires and flooding will worsen in Europe even under optimistic
12	events, such as unprecedented floods, intense monsoon rains, devastating	heat	waves, rapid glacial melting and glacial lake outburst floods. She no
13	infrastructure and disrupting livelihoods, particularly in rural areas.	Heat	warnings STARTING next week, the country must brace for brutal heatwave
14	ols should consider adjusting schedules or temporarily closing during peak	heat	periods, as seen in Bangladesh and the Philippines, to protect students from
15	and the Philippines, to protect students from the adverse effects of extreme	heat	Punjab has announced early school closures. Sindh must c
16	Enhancing urban planning to increase green spaces can reduce the urban	heat	island effect. Investing in renewable energy sources will mitigate clin
17	azi Khan contributed to this report.	Millions sweltering under extreme heat	worldwide as summer arrives Deadly heatwaves are scorching cities on fou
18	summer, a sign that climate change may again help to fuel record-breaking	heat	that could surpass last summer as the warmest in 2,000 years. Rec
19	been contending with a spate of dead and missing tourists amid dangerous	heat	A 55-year-old American was found dead on the Greek island of Ma

4.2.8 Case Study of the Noun Flood

The analysis of the data shows that the lemma *Flood*, a noun in the *Affect* category of *Attitude*, has occurred 141 times. The noun 'flood' carries negative emotions. Further, analyses of the selected corpora indicate that *the lemma monsoon and August have mostly surrounded the lemma flood*. Both nouns belong to the monoglossic category *Engagement* and imply a fixed season and month during which floods occur.

Although floods have come to be an established world issue, the data shows that *Dawn*, through phrases like *brought the death toll from monsoon floods to near zero* in the *Affect* category of the *Attitude*, contains a tone of positive emotions, which seems to suggest that there is a definite relief and success in the management and alleviation of disaster. Further, the reference to the phrase 'Vulnerable communities' indicates that communities in Bangladesh, Nepal, and other parts of South Asia continue to face flooding-related risks. This seems to evoke sympathy towards these communities.

Similarly, certain phrases seem to suggest negative affect with indirect blame and frustration. The Phrase 'without warning' suggests irresponsibility, unpredictability, and danger. By and large, the analysis shows that floods are portrayed both positively and negatively. The competence and responsibility of the institutions are contrasted with the possibility of negligence. The data analysis shows that the newspaper's monoglossic focus has been on Bangladesh, India, Nepal, etc. Based on the small data sets

analyzed, Pakistan's engagement in the flood is missing.

The portrayal of the *flood* seems to carry various ideological perspectives, such as the ideology of technological development, which is particularly important for early forecasting and has reduced the number of deaths caused by flooding. Similarly, the analyzed text frames nationalist, political, and geographical ideologies around flood, showing that flood is the result of India's actions, suggesting that disasters are not only natural but also political. Overall, the newspapers portray the flood with a nationalistic, technocratic and political ideological stance.

4.2.9 Concordances of the Noun Flood

Figure 7 below shows the concordances of the noun Flood from the selected corpus.

Figure 7
Concordances of the Noun Flood

	Left context	KWIC	Right context
1	<<South Asia	floods	expose gaps in regional climate cooperation As more extreme rainfall hits Sc
2	ional climate cooperation As more extreme rainfall hits South Asia leading to	floods	that do not recognise national borders, regional countries must work togethe
3	iversity in India.</s></s></s>A Bangladesh government adviser said the August	flood	was caused by India releasing water from a dam upstream without warning i
4	h about the rising waters, but had stopped due to a power cut caused by the	flood	</s></s></s>It said the area had seen the "heaviest rains of this year" and in any
5	ost of the water came from catchments downstream from the dam.</s></s>"	Floods	on the common rivers between India and Bangladesh are a shared problem
6	rigger more frequent and more extreme weather events, such as the August	flood	, said Shaikh Rokon, head of Riverine People, a Bangladesh non-profit prorr
7	uld provide early warnings and help communities make preparations before	floods	hit.</s></s></s>Forecasts and timely messaging have brought the death toll from
8	>Forecasts and timely messaging have brought the death toll from monsoon	floods	to near zero in vulnerable communities in South Asia, said Dharam Raj Upre
9	n-based development organisation Practical Action, which has implemented	flood	resilience projects in Bangladesh and Nepal.</s></s></s>But while monsoon floo
10	od resilience projects in Bangladesh and Nepal.</s></s></s>But while monsoon	floods	can be predicted 10 to 12 days ahead, flash floods caused by rain give muc
11	>></s></s></s>But while monsoon floods can be predicted 10 to 12 days ahead, flash	floods	caused by rain give much less warning and that means alerting communities
12	much bigger challenge, said Sardar Uday Raihan, executive engineer at the	Flood	Forecasting and Warning Centre in Bangladesh.</s></s></s>Bangladesh and Inc
13	sh and India set up a joint river commission in 1972 to foster cooperation on	flood	warnings for the 54 rivers that cross their border.</s></s></s>India and Nepal hav
14	as little sense for each country to have its own strategy to adapt to the same	floods	, he said.</s></s></s>"Though we often stress on locally-led adaptation, we actu
15	ject also benefited Indians living near the frontier who could also receive the	flood	warnings.</s></s></s>At present, Bangladesh and India have agreements on onl
16	heating fossil fuels, even as many nations have been lashed by devastating	floods	, droughts, heatwaves and storms.</s></s></s>"Climate change is making us sicl
17	worse drought".</s></s></s>Spain is meanwhile still recovering from its deadliest	floods	in a generation, while parts of the United States and Cuba are picking up the

4.3 Role of Nouns in Framing (Climate Change) Ideology

Nouns play a significant role in shaping ideology about any event or issue. Climate change is no exception. The use of various noun categories shapes our beliefs. When the media, politicians, or scientists use nouns about climate change, they shape public opinion either positively or negatively. For instance, when positive nouns such as '*climate change*' are used to report on climate, they present a broad horizon of climate change. However, when the same issue is reported with a more negative noun, such as '*climate crisis*,' it creates a sense of urgency, threat, and fear, calling for immediate action.

4.4 Results and Discussion

The current study primarily focused on nouns, and other parts of speech were excluded due to time constraints. The study disagrees with Khalil's (2023) study, which analyzed media depictions of climate change through linguistic choices in the construction of reality. The analysis of the nouns indicated significant outcomes. The total number of nouns appearing in the selected corpus to report climate change was 24,427 (36%), which makes it the highest-frequency lexical item. However, the nouns with frequency of 100 or more were selected for analysis. The total number of these nouns was 5656. These nouns were further categorized through the lenses of Appraisal theory: Attitude, Engagement and Gradation (see table 2). The nouns were then analyzed through the lens of Appraisal theory for the construction of ideology. The results indicated that nouns with a neutral attitude or a deterministic ideology appeared at the highest frequency (1594; see Table 2).

The first category is the lexical items with a neutral effect; Nouns of appreciation in the Attitude category of nouns. The study aligns with the findings of a mixed-methods study by Ruiu (2021), which found that climate change is beyond human control. However, the study differs from the study in terms of context, methodology, and time frame. Lastly, the use of the modal of obligation with low frequency removes the urgency and immediate action needed. The current study found that nouns were the most frequently occurring lexical category (24,427 times), whereas verbs were the second most frequent lexical choices. The use of nouns in Dawn's reporting on climate change constructs two collective ideological stances. The use of nouns seemed particularly Lahore. Further, the representation of smog is more serious and threatening than the linguistic choices used to present the overall

climate change situation in Pakistan. Though it is presented as a threat, the linguistic choice of action on it is largely neutral in nature.

5. Conclusion

The objectives of the current study were to analyze climate change reporting in Pakistani English print media critically and to examine how English print media constructs ideology/ideologies through linguistic strategies. To find answers to the research questions and achieve the objectives, ninety-nine (99) articles spanning 1st January 2024 to 31st December 2024 were selected through purposive sampling, focusing on the key term(s) climate/change, resulting in a corpus of 67,027 words. The study used *Appraisal Theory* (Martin & White, 2005) to analyze the nouns. The study sought to answer the first question using the computer software Sketch Engine. It was found that the noun (24,427) was the most dominant linguistic strategy used by Pakistani English print media to report climate change. The choice of nouns constructs a deterministic ideology about climate change, suggesting that humans have no role or control over it. The study concluded that Pakistani English print media's use of nouns to report climate change is predominantly neutral. Nouns expressing urgency or negativity have occurred infrequently, and only in the context of reporting smog. The ideological perception of all the selected linguistic strategies was to frame climate change as a natural phenomenon beyond human control, requiring no immediate action or agency, even if they wanted to take action against/ for it.

The current study presented a new perspective on the construction of ideology through linguistic strategies in climate change reporting. There is a notion that ideologies lie only in religious or political discourses. However, the study deviates from that notion and shows that every discourse, whether written or spoken, political or religious, social or literary, contains some ideology. Hence, climate change discourse also contains certain ideologies, which this study has investigated.

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