Comparative Analysis Of Information Sources For Climate Change Awareness: Investigating Press T.V And Social Media Sites

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Article Details

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ABSTRACT

It is often believed that human activities are the primary cause of climate change; hence, effective climate change communication is crucial for reducing this phenomenon. No comprehensive study has yet examined the impact of narratives on climate change communication, despite their shown effectiveness in domains such as health communication and politics. When the statistical distribution of weather patterns changes over extended periods of time, say, decades to millions of years, we say that there has been climate change. Droughts and more intense floods in different regions of the nation are predicted as a result of climate change, along with a rise in rainfall and a fluctuating trend in temperatures throughout the 21st century. Surface runoff from different river basins is projected to decrease. Deterioration of agricultural and forest land, water, mineral, sand, rock, and other resource depletion, environmental degradation, and public health are some of the most pressing environmental problems. Ecosystems are becoming less resilient and biodiverse. Safety of Income for the Because it has the potential to produce national variance in public awareness of a global environmental problem, the lack of effective communication on climate change by scientists and policymakers via the media has garnered a lot of attention. Finding out which forms of media are most effective in raising public awareness about climate change is another goal. This study used a random sample strategy for its research design. Researching how the media may best raise public awareness about climate change is one of its overarching goals. This research makes use of a random sampling technique. The final tally was 135 responders. A questionnaire was used for the investigation. In order to collect data from respondents on a certain issue, a questionnaire is a group of questions that has been structured and arranged in a specific way. There are two types of questionnaires used for this: closed and open ended. To develop forecasts and draw meaningful conclusions, we use statistical tools like percentage, average, ratios, and weighted averages to examine the main data acquired from the sample population via interview schedule. We then back these findings up with statistical tests

Introduction

The scientific community has established that climate change is an incredibly significant occurrence. Because of its worldwide scope, it impacts all forms of life and inanimate objects on Earth. It has far-reaching consequences for both rich and developing countries, giving it a transnational aspect. However, industrialized and inventive countries bear the brunt of climate change, while less resilient nations bear the brunt of its effects to a greater extent. Many different perspectives and opinions exist among governments, scholars, and policymakers on the subject of climate change. Optimists put their faith in the capacity of the human race to discover answers to climate change's problems, while pessimists, seeing the crisis for what it is, see a world gone mad. Through innovation, global collaboration, and sustainable use of resources, they believe this to be true. The media has the ability to shape public opinion, create agreement, and even create consent via its immense discursive power. 1 Responsible media may teach people "what to think about" by pointing them in a certain direction. According to Pahlavani et al. (2022), the world should pay attention to climate change because of its substantial socioeconomic and environmental repercussions.

The fourth estate has the ability to rally the public behind a cause by asking the pertinent questions. In today's pervasive information era, the influence of media is growing at an exponential rate. The media establishes a "epistemic community" when it educates the general public and solicits their opinions by asking pertinent questions. That is why the media can inspire global action to combat climate change. It is well-established and recognized that the media may influence the activities of organizations and governments (New York: Palgrave Macmillan, 2013).

There has been a marked improvement in the media's ability to educate the public about climate change in recent years. Media outlets may inform, educate, and influence public opinion (Smith, 2017). The impact of climate change coverage on public opinion is investigated in this research. The term "climate change" describes the slow but noticeable shift in Earth's weather patterns caused by human actions such as deforestation and the combustion of fossil fuels. This leads to a rise in the levels of greenhouse gases in the atmosphere (Straver, 2019). Sea levels are rising, weather patterns are becoming more intense, and many species of plants and animals are becoming extinct because of climate change. Many things may affect people's health and wellbeing, including the availability of food and water, the frequency of diseases, and the relocation of populations. When it comes to how people see climate change, the media is king. How the media portrays climate change has the power to influence public opinion and anxiety about the topic (Straver, 2019).

A growing number of people agree that global warming is the most pressing problem we are now facing. Not only does climate change pose a danger to human lives, but it is also expected to have severe negative effects on agriculture and the overall ecological system. Due to the unsustainable nature of human lives, consumption habits, and resource exploitation, it is now evident that the majority of the factors

contributing to climate change are human activities. Rising public knowledge about climate change is crucial because it gives individuals the power to adapt to and lessen the impact of this catastrophic phenomenon.

Review of Literature

Researchers have examined the influence of media on public perceptions of climate change. A research conducted by Pariser et al. (2011) examines the influence of new media on climate change views, focusing on how people discuss climate change on social media. They also examine the influence of social media on future perceptions of an evolving environment. The research indicates that social media affects public conversation and perceptions about climate change. The research analyzes social media platforms and their content to get a deeper understanding of how social media affects public debate around climate change. Nonetheless, it overlooks other internet sources for information on climate change, including news websites and blogs. Slater (2003) analyzes internet and social media activities aimed at raising awareness and prompting action on climate change. The research investigates the use of websites, blogs, and social media by enterprises to disseminate information on climate change. The research indicates that internet and social media initiatives may motivate individuals to combat climate change. Their success is contingent upon the platform, audience, and message. The research reveals that social media and digital efforts may expand audiences and enhance engagement with climate change.

This research offers insights into the successes and failures of online and social media campaigns, which may inform the design of future climate change initiatives. Nonetheless, it does not examine the dissemination of individual climate change knowledge; it only focuses on organization-led internet and social media initiatives. The use of social media and its efficacy in addressing climate change as analyzed in Germany, France, Italy, Poland, and Spain (Tufekci, 2014). Social media use is positively associated with views of climate change efficacy, especially in Germany and France. Tuitjer and Dirksmeier (2021) observed that social media may facilitate young people's engagement with climate change. A research in Malawi examined the impact of social media on African youth's perceptions of climate change, conducting 24 interviews with young Malawians and used thematic analysis. The research indicated that social media affected the perceptions of Malawian youth on climate change. It provided information and raised awareness on climate change. Social media facilitated collaboration among kids, allowing them to exchange ideas and discuss climate change. The research also highlighted the detrimental effects of social media, including misinformation, technological inaccessibility, and the digital divide. Social media serves as an excellent medium for African teenagers to acquire knowledge and engage with climate change; nevertheless, more efforts are necessary to provide equitable access to technology and eliminate misinformation.

The research, although only focusing on European countries and excluding Nigeria, reveals a favorable association between social media use and perceived effectiveness in combating climate

change. Balarabe and Hamza (2020) examined the coverage of climate change and public perceptions in Kano, Nigeria. The poll indicated that Kano's media coverage of climate change focused on issues rather than solutions. The poll indicated that although the majority of individuals were uninformed about climate change, they recognized its detrimental impacts on their lives. The research concluded that improved media coverage of climate change in Kano might motivate more public engagement and action. The research assesses media coverage and public opinion of climate change in Kano, Nigeria, to identify communication gaps about the issue nationwide. It is, however, confined to a certain region and may not represent Nigeria in its whole. The knowledge of Ghanaian graduate students on climate change policy and media coverage was analyzed (Adjin-Tettey, 2019).

The poll indicates that Ghanaian graduate students lack awareness of climate change laws. The poll revealed little coverage and poor analysis of climate change in Ghanaian media. The research advocates for the enhancement of climate change education for graduate students and the improvement of media coverage in Ghana. Despite the study's restriction to a specific cohort, which may hinder its generalizability to broader populations, it provides valuable insights into the awareness of climate change policies among Ghanaian graduate students and the quality of climate change reporting in Ghanaian media, potentially guiding initiatives to enhance climate change education and communication in the country. The influence of broadcast media on the views of climate change among Warri Nigerians was analyzed (Akpoghiran, 2013).

A questionnaire was presented to 400 participants. The research revealed that media significantly influenced the respondents' perceptions about global climate change. This research only examined Nigerians, hence its applicability to other groups may be limited. Wang et al. (2018) examine the influence of climatic images in digital media on climate change engagement. The research analyzes the use of climate imagery by media sources, the responses of viewers, and the potential impact on individuals' beliefs and behaviors. They examine the problems and opportunities associated with communicating using climate imaging. The research emphasizes the importance of visual communication in educating the public about climate change, as well as the need of recognizing the biases and limits associated with different climate change perspectives. Wang et al. (2018) observed that using diverse imagery while taking into account the audience's cultural, social, and political context may improve climate communication and increase public engagement.

Nonetheless, the generalizability of this research was constrained due to its failure to account for the many audiences and contexts in which climate communication occurs. O'Neill and Smith (2014) investigate the impact of visual images on individuals' perception and understanding of climate change. The research emphasizes that emotionally compelling pictures may elicit emotions and enhance public understanding of climate change matters. The study emphasizes the need for further investigation into the effects of visual communication on public perceptions of climate change and its potential to influence public attitudes and behaviors. The research examines emotional engagement in climate communication and the limitations of visual depiction.

Objectives of the study

This research aims to do two things:

(a) To determine which media are most effective in disseminating information about climate change, (b) To evaluate how often this information is really used. In order to determine the relevance of the media information with the goal of influencing public perception of climate change coverage in the media.

Methodology

A random sample strategy was used in the research design of this study. Researching how the media may best raise public awareness about climate change is one of its overarching goals. A random sample technique was used in this investigation. We chose 135 people to fill out the survey. The research method used was a questionnaire. The term "questionnaire" refers to a structured collection of questions designed to elicit data from respondents on a certain issue. Questionnaires, both closed and open-ended, are used for this purpose. Statistical methods such as percentages, averages, ratios, and weighted averages are used to analyse the primary data acquired from the sample population via interview schedule. This data is then used to construct predictions and draw valid conclusions, which are further supported by statistical tests.

Participants

One hundred eighty-eight people made up the original sample. At last count, 33 respondents were excluded from the poll data set due to incomplete responses or reports of technical difficulties with the survey's text or video. There were 135 people that took part in the study; 65 were men and 70 were female. Participants' ages ranged from eighteen to eighty-five, with a mean of thirty-five ($M = 34.72$, $SD = 17.28$). A total of 67 individuals are enrolled in or have completed a degree programme at a university, while 33 are enrolled in or have completed a degree programme at a college, 10 are enrolled in or have completed an intermediate programme, and 10 are in or have completed a high school programme. Participants were requested to demonstrate proficiency in reading and listening to Urdu, given the narrative condition video was only accessible in that language.

Results

This chapter delves into the discussion of the outcomes. In order to create means variables for pro-environmental attitudes and intents, we first checked the reliability of the scale. We then compared participants' scores before and after watching the experimental material; these are called pre and post scores. By conducting two one-way ANOVAs, we examined the impact of the experimental condition on the pre-scores of attitudes and intentions towards the environment. This was done to rule out the possibility of bias caused by participants' pre-existing, more favourable attitudes and intentions towards the environment. Given the lack of statistically significant impacts, it follows that the preexisting attitudes and intentions had no bearing on the outcomes. After removing the pre- and post-test scores, there was one difference variable for each dependent variable, for a total of two. To conduct the analysis, these variables were used. We checked the difference variables for normality and homogeneity to see whether our assumptions held water.

Next, we used two factorial ANOVAs to examine how narrativity and media type influenced pro-environmental attitudes and intentions. Table 1 displays the pre- and post-scores on pro-environmental attitudes and intentions for each condition.

See Table 1 for condition-specific means and standard deviations of pre- and post-test results on pro-environmental attitudes and intentions.

Table 1 condition-specific means and standard deviations

	Narrative				Factual			
	Text		Video		Text		Video	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Attitudes	5.50	5.52	5.41	5.50	5.57	5.70	5.74	5.71
	(.74)	(.80)	(.77)	(.90)	(.73)	(.85)	(.88)	(1.03)
Intentions	5.35	5.37	5.37	5.67	5.32	5.44	5.05	5.28
	(1.04)	(1.24)	(.73)	(.69)	(.79)	(.89)	(1.21)	(1.14)

Normality checks

By computing the z-scores of skewness and kurtosis, we ensured that the independent variables, which include pro-environmental views and intents, followed normal distributions. In Table 2 you may see these numbers. The premise of normalcy was broken as nine out of sixteen values were significant. Be wary that these primary analyses' conclusions may not be entirely trustworthy due to the fact that bootstrapping is not very useful when dealing with factorial ANOVA.

Table 2: Test of normality: z-scores of skewness and kurtosis per condition.

	Pro-environmental attitudes		Pro-environmental intentions	
Condition	Skewness	Kurtosis	Skewness	Kurtosis
Narrative text	–0.09	–0.66	–1.66	0.51
Narrative video	**–4.30**	**4.82**	**3.33**	**5.57**
Factual text	–1.77	**2.99**	1.82	0.77
Factual video	**–3.27**	**2.38**	**2.45**	**4.25**

Effects on pro-environmental attitudes

Using pro-environmental sentiments as the outcome variable in the first factorial ANOVA, Levene's test came out non-significant ($p = .09$), suggesting that the assumption of homogeneity was satisfied. No significant effects of narrativity ($F_{(1,116)} = .001$, $p = .97$, $Dz2 = .00$) or medium ($F_{(1,116)} = .220$, $p = .64$, $Dz2 = .00$) on

pro-environmental views were found in the factorial ANOVA. Neither the narrative nor the factual texts or videos significantly increased nor decreased the pro-environmental sentiments of the participants (M =.06, SD = 0.43). Additionally, there was no significant difference in pro-environmental sentiments between those who read a text and those who saw a video (M =.04, SD = 0.58).

Moreover, there was no discernible interaction between narrative style and medium and pro-environmental sentiments (F (1,116) = 1.481, p =.23, 2 =.01). This indicates that the impacts on pro-environmental attitudes were not affected by various combinations of the independent variables, narrativity (narrative vs. factual) and medium (text vs. video). The average and standard deviation scores for these interaction effects are shown in Table 3.

Means and standard deviations of the interaction between narrative and media on pro-environmental sentiments are shown in Table 3.

Table 3 Means and standard deviations

Medium	Narrative		Factual	
	Mean	*SD*	*Mean*	*SD*
Text	.02	.38	.13	.49
Video	.09	.47	−.03	.70

Effects on pro-environmental intentions

A second factorial ANOVA was conducted to examine the effects of narrativity and media on pro-environmental attitudes after the effects on pro-environmental attitudes had been tested.

Since Levene's test did not provide a significant result (p =.86), the assumption of homogeneity was once again satisfied. Narrativity was shown to have no significant impact on pro-environmental intents, according to the factorial ANOVA (F (1,116) =.019, p =.89, ŋ2 =.00). Neither the narrative nor the factual text or video substantially changed the participants' pro-environmental intentions (M =.17, SD =.40 vs. M =.16, SD =.39). Nevertheless, it was discovered that the kind of media had a significant impact on intentions to be environmentally conscious (F (1,116) = 1.159, p =.01, ŋ2 =.06). Viewing a film (M =.27, SD =.41) considerably increased participants' scores on pro-environmental intents compared to reading a text (M =.07, SD =.35).

In conclusion, there was no evidence of an interaction effect between narrative style and media and intentions to promote environmental protection (F (1,116) = 1.727), p =.19, 2 =.02). Therefore, it seems that the desire to start acting pro-environmentally friendly was unaffected by the combination of narrativity (narrative or factual) and medium (text or video). Table 4 displays the averages and standard deviations of the circumstances' interaction effects on the intentions to do good for the environment.

Table 4 Means and SD's of the interaction between narrativity and medium on pro- environmental intentions.

Medium	Narrative		Factual	
	Mean	*SD*	*Mean*	*SD*
Text	.02	.32	.12	.37
Video	.31	.41	.22	.42

Based on the analysis of the questionnaire, this chapter presents and discusses the study's results. To learn how the media may best raise climate change awareness, the researcher in this study used a random sample of 135 people. The first section of the survey asks about the respondent's experience with the following four forms of mass communication: newspaper, radio, television, and the internet. The second section delves into an examination of how the media portrays climate change.

Conclusion

The media's civic duties make it an essential component of a democratic society, and this is especially true in Pakistan. All sorts of print and digital news outlets, including television, radio, films, and websites make up media landscape. The media's portrayal of climate change has recently been the subject of much investigation. Because it has the potential to produce national diversity in public knowledge of a global environmental problem, the way scientists and policymakers communicate climate change to the public via the media has garnered a great deal of attention. But no research has looked at Pakistan's scenario thus far.

It is now well-established that the media have an impact on how the general population perceives environmental problems (Burgess 1990). The influence of the media on the framing and re-formation of scientific and political climate change concerns has been the subject of much speculation and recent empirical evidence.

The vast majority of people in this survey had televisions in their homes (89.96 percent). The results show that a large majority of respondents (80.74%) read newspapers every day, and a similar percentage (71.85%) watch television every day. A careful examination of the research reveals that 21.48 percent of the participants read both national and international newspapers. Newspaper (15-30 minutes), television (1–2 hours), radio (15–30 minutes), and internet (1-2 hours) make up the bulk of the respondents' daily media consumption. Almost half of all respondents (43.70%) cite the internet as their primary source of news and current events. The study's participants are fully aware of the concept of climate change. About 42.96% of those who took the survey learnt about climate change via television. The majority of respondents (49.02%) learn about climate change from newspaper articles, while 53.33 percent get their information from radio news, 55.17 percent from television news, and 30 percent from online social networks and ads.Among those

who have taken the survey, 60% find climate change coverage in the media to be relevant; 86.67% say they get all the information they need about the topic from the media; 77.38% say they put media coverage to use in their daily lives; and 63.81% say they use it to some degree.

Therefore, among the many ways that people in Pakistan learn about climate change, television ranks first, followed by newspapers, radio, and the internet."What is the effect of narrativity in climate change communication on pro-environmental attitudes and behavioural intentions, both in text and video?" was the research question that was examined in this study. Following an analysis of the data, we will go over the four hypotheses that were developed within the theoretical framework.The first hypothesis (H1a) stated that narratives about climate change lead to a higher score on pro-environmental attitudes than factual information. The same was predicted for pro-environmental intentions (H1b). However, the results did not show a main effect of narrativity on neither pro-environmental attitudes nor intentions. This means that participants who saw a narrative text or video scored approximately the same on pro-environmental attitudes and intentions as participants presented with a factual text or video. Therefore, both H1a and H1b can be rejected.

The third and fourth hypotheses focused on the reinforcing effect media type would have on the effect of narratives. More specifically, it was expected that the effects predicted in H1a and H1b would be stronger for narratives transmitted via video than for narratives transmitted via text. However, for the combination of narrativity and medium on both pro- environmental attitudes and intentions, no interaction effects were found. Since these results deviate from the expectations, hypotheses H2a and H2b can be rejected as well. Although no hypothesis was created for the main effect of medium, a main effect of medium has been found in this study. The results showed that videos in general led to significantly higher pro-environmental intentions than text did. This effect is further elaborated on in the discussion section.

Discussion

Narrativity combined with medium type did not exhibit any significant major effects, which goes against the cited literature and predictions. Nevertheless, the data may possibly obscure other important insights about climate change communication, apart from the discovered primary impact for medium type. We will address these findings and potential reasons for the lack of substantial impacts below.Since no impacts of narrativity were observed in this research, no suggestions about the use of narratives can be made. However, it can be inferred that there are numerous chances to experiment with narrativity and media type in climate change communication. The scientific community has the task of delving more into the impacts of movies on environmental goals, as shown in the present research. Similarly, narrativity is known to have powerful persuasive effects in other areas, but it was not supported by the existing evidence when it came to climate change communication (Kreuter et al., 2007; (Escalas, 2004; McLaughlin & Velez, 2019). Materials for communicating about climate change may benefit from any further discoveries in this area. The forecast made by Van de Ven, González-Eguino and Arto (2018) about a decrease of up to 16% per person in

footprint emissions could come true if the message can be quickly given to as many people as possible to begin behaving ecologically responsibly with maximum effort.

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