ROLE OF MEDIA IN CREATING CLIMATE CHANGE LITERACY: A CASE STUDY OF PAKISTAN

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In the name of Allah Almighty, who is most beneficent and eternally merciful. I witness that the Holy Prophet Hazrat Muhammad (PBUH) is the last messenger of Allah Almighty. His (PBUH) life is a perfect role model for a Muslim to be successful in this worldly life and hereafter. Without the blessings of Allah Almighty, I could not complete my dissertation.

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Dedicated to

This dissertation is dedicated to

my beloved parents.

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For their endless support, encouragement and love.

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To my mentor Shuja Uddin Zia

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ABSTRACT

Thesis Title: ROLE OF MEDIA IN CREATING CLIMATE CHANGE LITERACY: A CASE STUDY OF PAKISTAN

Climate change is a worldwide issue that disturbs every country and its inhabitants. Pakistan, a developing country, is mainly weak to the adverse effects of climate change. This study aims to comprehend the media's role in providing cognizance regarding climate change in Pakistan, as the media is critical in producing climate change literacy among the general public. The research questions focused on how Pakistan's media frames climate change-related issues and how exposure to climate change-related media coverage influences the public. The analysis of climate change-related stories in English daily newspapers highlighted key frames associated with climate change effects and the urgent need for collective action. By integrating qualitative insights on media framing (qualitative content analysis) with quantitative data (survey) on the influence of media narratives, the study provides valuable insights into how information dissemination through media channels can drive public cognizance and engagement on climate change. The qualitative content analysis of climate change coverage in Dawn Newspaper and Express Tribune illuminates distinct framing techniques and narrative themes. Dawn emphasized Pakistan's climate vulnerabilities, such as tourism risks and policy complexities, while Express Tribune focused on global crises, developing nations' vulnerabilities, and Pakistan's moderation efforts. This nuanced portrayal in the media highlights the status of climate change literacy in shaping public discourse. The survey highlights a notable level of climate change literacy among participants, with 65.6% indicating increased knowledge and 68.4% reporting enhanced understanding due to media coverage. Furthermore, 44.4% consider themselves well-informed about climate change. These findings underscore the influential role of media in enhancing public cognizance of climate change issues and contributing to developing a more informed and engaged populace.

Keywords: climate change literacy, media coverage, public perception, agenda-setting theory, environmental awareness

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

The world climate is fast changing due to multiple reasons and patterns over the last two centuries specifically, which bring with them a threat to drastic changes along with natural disasters. Pakistan has recently been affected by three major natural disasters due to climate change, and the role of media reporting these climatic changes periodically and in recent times is observed. There is a need for the media to create large-scale awareness campaigns regarding climate change to enhance remedial measures. Overall, the percentage of upper air has risen to 2^{o}C Degrees (IPCC, 2021) higher in the last century, and there have been shifts in temperatures in different parts of the world as “global warming” phenomena that refers to an increase in the overall temperature of the world. "Climate change is moving much faster than we are" (Jan et al., 2020), the UN Secretary-General António Guterres warned. These fast changes are not completely recorded, or media reported with more emphasis, resulting in lesser literacy in public, which relates to media as a medium to educate the masses.

Climate changes have affected the cultivation and production of daily food items, including crops, resulting from extreme weather, which is yet again not explained with extreme tutorials of media. In this study we have gathered data related to Pakistan. Media literacy can be defined as the capability to entrée, investigate, appraise, and produce media content in many procedures, with print, digital, and visual media. It encompasses critical thinking skills that enable individuals to navigate the compound media landscape, discern credible information from misinformation, and understand the winning techniques used in media messages. According to Hobbs (2010), media literacy involves not only considering how media messages are constructed and disseminated but also being able to interpret the social, political, and cultural implications of media representations. By developing media literacy skills, individuals can engage with media content thoughtfully and informally, empowering them to make conscious choices about the media they consume and create.

Pakistan shares common features with developing countries and is sixth among the vulnerable countries due to climate change (Javed, 2016). Lack of awareness has been a bigger challenge, which has disabled people from preparing for these fast changes where media has a huge role in creating awareness.

The Pakistani government has drafted laws and regulations regarding climate change, but the question of how they will be carried out and what steps will be taken is a difficulty that is directly tied to the media's understanding and literacy of climate change in Pakistan.

Moreover, Pakistani newspapers have portrayed a vivacious role in taming the public about climate change. They have published numerous articles, editorials, and opinion pieces on the subject, providing readers with valuable insights into the sources and consequences of climate change. The media has proven to be an active platform for creating climate change literacy in Pakistan. Environmental activists and organizations use media platforms to share information, raise cognizance, and advocate for climate action.

1.1 Background of the Study

Climate change is a critical worldwide issue with far-reaching effects on the environment, culture, and economy (IPCC, 2018). Effective communication and public participation in climate concerns are critical as temperatures rise and severe weather events increase frequency (Adger et al., 2013). Designing focused communication tactics that inspire people to take informed action requires understanding how the public views climate change (Moser & Dilling, 2011).

The media greatly influences society's views of climate change, attitudes, and behavioral changes (Corner et al., 2012). Public perception, knowledge, and reaction to this complicated subject may all be influenced by how climate change is portrayed in the media (Boykoff & Boykoff, 2004). Nonetheless, there are many different ways that media narratives affect people's attitudes and actions, and these methods depend on personal traits and societal settings (Maibach et al., 2010). Effective climate communication thus requires a thorough analysis of how people understand and react to information on climate change in the media.

The present study aims to further this knowledge by examining the connections among public opinions, media exposure, and climate change-related happenings. This study scrutinizes the subtleties of media effects on views of climate change and evaluates the function of different media kinds, including conventional and social media, in influencing people's viewpoints. It does this by focusing on a varied sample. The research also takes into account demographic variables like age and gender, which may have an impact on how people interact with and react to media reports on climate change (Leiserowitz et al., 2013).

Furthermore, the study context is particularly relevant in the Pakistani context, where the bearings of climate change are increasingly evident, affecting communities, agriculture, and

ecosystems (Malik & Ali, 2018). Understanding how media contributes to climate change awareness in this region is crucial for informing communication strategies that resonate with the local population and foster meaningful engagement (Khan, 2015).

Understanding public perceptions of climate change is pertinent for effective communication strategies and fostering a sense of shared responsibility and collective action (O'Neill & Nicholson-Cole, 2009). Public engagement is critical in addressing the multidimensional challenges of climate change, and media serves as a primary conduit for disseminating information and shaping public discourse (Nisbet, 2018). Research suggests that the populace's awareness of climate change is often influenced by media portrayals, which can either enhance or hinder efforts to build public consensus and support for climate policies (Bostrom et al., 2012).

The proliferation of social media platforms in recent years has added a new layer to the climate change communication landscape (Pearce et al., 2019). Social media allows individuals to engage in real-time discussions, share information, and participate in climate-related communities, potentially amplifying the impact of media narratives on public attitudes (Capstick et al., 2015). Examining the appeal of media in shaping climate perceptions becomes crucial in the contemporary media landscape.

Demographic factors, such as age and gender, can influence how individuals observe and respond to climate change information (McCright et al., 2016). Younger generations, for example, maybe more attuned to digital media and social platforms, influencing the channels through which they access climate-related information (Kellstedt et al., 2008). Understanding these demographic nuances is vital for tailoring communication strategies that resonate with different population segments and promote inclusivity.

The Pakistani context adds a unique dimension to this study, given the country's vulnerability to climate change impacts, including floods, droughts, and extreme temperatures (Government of Pakistan, 2019). Investigating how media coverage aligns with local perspectives and contributes to climate change awareness in Pakistan is critical for developing context-specific communication strategies that address the needs and concerns of the population (Ahmed et al., 2018).

A preceding study has highlighted the role of the media in influencing individuals not only in terms of awareness but also in fostering behavioral changes related to climate action (Basil et

al., 2006). Understanding how media coverage translates into tangible actions, such as changes in daily habits or participation in climate initiatives, provides valuable insights into the potential impact of media messages on individual and collective behavior (Hornsey et al., 2016).

Moreover, shaping the narrative and distributing information are two additional goals of media coverage (Entman, 2012). How climate change is portrayed in the media may impact public attitudes, priorities, and policy choices (Nisbet, 2009). Examining how Pakistani media portrays climate change may provide insight into prevailing narratives and how they affect public participation and knowledge.

Given the complexity of the climate change issue, media coverage that includes expert opinions and scientific explanations can enhance public sympathy (Brulle et al., 2012). Assessing the impact of such coverage on participants' knowledge and attitudes toward climate change will provide valuable insights into the role of expertise in shaping public perceptions.

Moreover, exploring participants' trust in the information presented by the media regarding climate change is crucial. Trust is a foundational element in effective communication, and understanding the factors that contribute to or diminish trust in media coverage is essential for refining communication strategies (Brossard et al., 2004).

1.2 Statement of the Problem

The statement of the problem in the study on climate change communiqué in Pakistan highlights the critical role of media literacy in shaping public insights and responses to environmental challenges. Despite the growing scientific evidence and public concern on the issue, a significant portion of the population lacks the necessary information and understanding to engage in informed discussions and actions regarding climate change. Moreover, the media is pivotal in influencing how the general population perceives and responds to climate change. However, the extent to which media organizations promote climate change awareness and foster significant climate action remains inadequately understood. Therefore, the research aims to assess the effectiveness of media coverage in enhancing public realization and comprehension of climate change concerns. Importantly, the study seeks to explore how media coverage influences climate change literacy at both the media and audience levels, emphasizing the need for improved media literacy among the public to navigate and critically evaluate climate-related information presented in various media sources.

Given the profound impact of media on shaping public perceptions and opinions regarding climate change, the research also aims to investigate how print media has framed climate change issues in Pakistan. By examining the prevalent frames used in Pakistani media coverage of climate change and analyzing their impact on public sympathy and actions through survey questionnaires, the study seeks to enhance media literacy among the population. Additionally, the research delves into demographic characteristics and media consumption patterns to identify factors contributing to increased public awareness and concern about climate change in Pakistan. The study aims to develop effective communication strategies that promote informed decision-making, raise public cognizance, and encourage environmentally friendly behaviors in Pakistan by emphasizing the importance of media literacy in interpreting and responding to climate change information disseminated through various media channels.

1.3 Research Objectives

The primary objectives of the study include the following:

- To investigate the various frames used in climate change media coverage.
- To assess the impact of climate change media coverage on the public's knowledge, attitudes, and behaviors related to climate change in Pakistan.
- To examine the factors that influence public perceptions and beliefs about climate change in Pakistan, including demographic characteristics and media consumption habits.
- To develop recommendations for improving public cognizance and understanding of climate change in Pakistan through effective media coverage.

1.4 Research Questions

1. What are the dominant frames used in media coverage of climate change in Pakistan?
2. How does exposure to climate change media coverage influence the public's knowledge, attitudes, and behaviors?
3. What are the demographic characteristics and media consumption habits that are associated with greater awareness and concern about climate change among the Pakistani public?
4. What are the effective strategies for improving public cognizance and understanding of climate change in Pakistan through media coverage?

1.5 Hypothesis of the Study

H_1: There is a significant relationship between media exposure and climate change literacy among the Pakistani population.

1.6 Significance of the Study

The significance of this erudition is underscored by its dual examination of how media in Pakistan shapes climate change literacy at audience and media levels. Through a meticulous content analysis of climate change coverage and a comprehensive survey of audience perceptions, this research sheds light on media narratives' impact on public cognizance in Pakistan. By incorporating theories of agenda setting and social responsibility, the findings of this study are poised to offer valuable insights for media practitioners, policymakers, and educators in Pakistan, informing strategies to enhance public sympathy for climate change and foster pro-environmental behaviors.

Media literacy is pivotal in this context, permitting people to engage with climate change coverage critically. By honing media literacy services, individuals can discern biases, appraise information sources, and distinguish between reliable and unreliable content. Educational institutions, NGOs, and media organizations can contribute to promoting media literacy programs focused on climate change, preparing people with the tools to circumnavigate the plethora of climate change information available and make well-versed decisions. These initiatives can cultivate a populace capable of critically analyzing media messages, engaging in informed discussions, and actively participating in climate change action.

Looking ahead, the evolution of media's role in climate change awareness presents exciting opportunities for immersive storytelling and impactful communication. Integrating new technologies like virtual and augmented reality offers innovative avenues for engaging audiences on climate change issues. Collaborations between journalists, scientists, and communicators can enhance the accuracy and effectiveness of climate change reporting, fostering a profound understanding of the public. Moreover, a shift towards solutions-oriented journalism can inspire and mobilize individuals by showcasing success stories, innovative initiatives, and community-led efforts to address climate change.

In conclusion, the media's influence on climate change awareness profoundly shapes public opinion, influences policy action, and educates the masses. Despite challenges in climate change

communication, media organizations have the potential to enhance coverage and engage the public effectively. By fulfilling their social responsibility to inform and educate, media outlets can play a pivotal role in levitation mindfulness about climate change, inspiring action, and fostering a sense of agency among individuals to address this critical global challenge.

CHAPTER 2

LITERATURE REVIEW

Climate change literacy is a critical component of societal readiness to address one of our time's most pressing global challenges. In Pakistan, a country susceptible to climate-related impacts, understanding the complex dynamics between media consumption habits and climate change awareness is paramount. This chapter delves into the literature on climate change literacy and media consumption patterns in Pakistan. While research in this field has made significant strides, it is essential to identify the gaps and unexplored dimensions within the current knowledge landscape. By shedding light on these research gaps, this chapter groups the phase for investigating the intricate relationship between media exposure and climate change knowledge. Through a comprehensive review of relevant studies, we aim to provide a foundation for the following empirical study, offering valuable insights into how media can catalyze enhancing climate change literacy among diverse demographics in Pakistan.

2.1 Role of Media in Climate Change Awareness

In order to increase public sympathy for climate change and its possessions, the media is essential. It is an effective instrument for spreading knowledge, influencing public opinion, and encouraging climate change literacy. Numerous scholarly investigations have scrutinized the media's purpose in transmitting climate change, emphasizing its importance in augmenting cognizance and comprehension amongst the populace. In one research, Boykoff and Roberts (2008) examined how the media has covered climate change and noted its advantages and disadvantages. They discovered that while there has been a gradual rise in media coverage of climate change, there are still gaps in the coverage's breadth, accuracy, and consistency. The research stressed how critical the media is to shaping public acuity and acceptance of climate change. O'Neill et al. (2015) also researched the prevalent frameworks in media coverage of the 5th Valuation Report of the Intergovernmental Panel on Climate Change (IPCC). The research found that the public's perspective of climate change is significantly prejudiced by media coverage. The enclosing of climate change concerns in media handling might affect how the general public perceives and comprehends them.

Takahashi (2011) examined how the media covered climate change in less developed nations and found that the media's dependence on official sources limits the public's access to knowledge on environmental problems, including climate change. The research stressed how imperative it is for the media to report climate change objectively and thoroughly to raise public cognizance and encourage participation. Furthermore, conventional media channels like newspapers and television are not the only ones using the media to communicate about climate change. Social media sites have become effective instruments for increasing public sympathy for climate change. According to Hansen et al. (2015), using media in a climate change campaign successfully raised participants' knowledge and awareness of climate change challenges. It has also been shown that visual media, such as photography and films, significantly impact communicating messages about climate change. Visual media may have a significant impact on public views and actions about climate change, as noted by Anderson and Krasodomski-Jones (2018). It has been shown that visual storytelling methods may elicit strong emotions and motivate climate change action.

The body of research generally affirms how important the media is in raising public cognizance of climate change. To raise public cognizance, influence attitudes, and promote climate action, the media must provide accurate, thorough, and interesting coverage. To advance the efficacy of climate change communication, scientists, policymakers, and media professionals must work together. The media may significantly increase public sympathy for climate change by leveraging visual media, improving media literacy, and using new media technologies.

2.1.1 Media as a Powerful Tool for Raising Climate Change Awareness

The media is a vital instrument for spreading knowledge to a large audience, which helps to increase public cognizance of climate change. Climate change messages may reach people in various demographic and geographic contexts via various media platforms, including newspapers, radio, television, and other media outlets (Leiserowitz et al., 2013). The views of scientists, professionals, and environmental activists may be amplified by media sources, giving them a platform to convey the significance and urgency of tackling climate change (Levin & Gaeth, 2019). Empirical studies have shown that media coverage may considerably influence the public's comprehension and attitude towards climate change. According to one research study by Maibach et al. (2011), the public's understanding of and worry about climate change rose when they were

exposed to media coverage of the issue. The public may be informed on the causes and possessions of climate change via media coverage, which can also emphasize the need for policy, community, and individual action (Corner et al., 2015).

Media coverage of climate change is vital in promoting climate change literacy among the general public. By providing accurate and accessible information, media outlets contribute to increasing public knowledge and understanding of climate change issues (Corner et al., 2012). Through news articles, features, documentaries, and infographics, media can explain complex scientific concepts in a way that is easily comprehensible to the public (Levin & Gaeth, 2019). Additionally, media coverage of climate change serves as a platform for discussions, debates, and public discourse. It enables individuals to engage in conversations about climate change, share their perspectives, and learn from different viewpoints. Media outlets can facilitate a more informed and inclusive dialogue on climate change, fostering critical thinking and empowering individuals to take action (Boykoff, 2013).

Media organizations have a social responsibility to address climate change and communicate its implications to the public. The social responsibility theory of media emphasizes the role of media professionals in informing the public about important societal issues (McCombs & Shaw, 1972). As a pressing global issue, climate change requires media organizations to prioritize accurate, balanced, and ethical reporting (Boykoff, 2013). Media outlets should adhere to journalistic principles of objectivity, accuracy, and fairness when reporting climate change (Levin & Gaeth, 2019). They have a responsibility to provide balanced coverage that includes a range of perspectives while also distinguishing between scientific consensus and minority viewpoints (Corner et al., 2015). By fulfilling their social responsibility, media organizations can build trust and credibility among their audiences, which is crucial for effective climate change communication.

While media plays a vital role in climate change communication, there are challenges that need to be addressed. Sensationalism and focusing on short-term news cycles can lead to a lack of sustained coverage of climate change issues (Painter & Ashe, 2012). The complexity of climate science and the uncertainties linked with future projections pose challenges in effectively collaborating climate change with the public (Levin & Gaeth, 2019). However, there are also opportunities for media to enhance climate change communication. The advent of digital media and social networking platforms has expanded the reach and accessibility of climate change

information. Social media enables individuals to engage in climate change discussions, share content, and participate in online communities dedicated to climate action (Hoffman et al., 2020). Moreover, innovative storytelling techniques and visual media present opportunities for engaging the public and evoking emotional responses. Films, documentaries, and interactive multimedia platforms can effectively communicate climate change impacts and solutions, appealing to a broader audience (Borick & Rabe, 2010).

Media coverage of climate change can shape public opinion and influence policy action. The agenda-setting theory suggests that media play a significant role in determining the salience of inquiries in the public's mind (McCombs & Shaw, 1972). By highlighting climate change as a prominent issue through consistent and extensive coverage, the media can increase public cognizance and prioritize it for policymakers (Boykoff, 2013). Research has shown that media coverage can impact public insolences and actions towards climate change. Exposure to media messages about climate change has been associated with increased concern, support for climate action, and behavioral changes such as energy conservation and adoption of sustainable practices (Huang & Lu, 2020; Leiserowitz et al., 2013). Media coverage also shapes policy agendas and decision-making processes. Policymakers often respond to public opinion, and media coverage can create pressure for policy action on climate change (Borick & Rabe, 2010). By providing accurate and compelling information, the media can mobilize public support for policies and initiatives aimed at qualifying and acclimating to climate change (Painter & Ashe, 2012).

2.1.2 Challenges in Media Coverage of Climate Change in Developing Countries

In developing countries, media reporting of climate change faces unique challenges. Limited resources, lack of specialized reporters, and competing news priorities can hinder comprehensive and sustained coverage of climate change issues (Takahashi, 2011). Furthermore, the dominance of government sources and political influences on media content can limit independent and critical reporting on climate change (Takahashi, 2011). However, there is evidence of progress in climate change coverage in developing countries. Some media outlets and journalists actively engage with climate change issues and provide in-depth coverage. Efforts are being made to bridge the gap between scientific knowledge and media reporting, ensuring accurate and accessible information for the public (Takahashi, 2011).

In developing countries, the challenges in media exposure to climate change are exacerbated by the lack of infrastructure and technological limitations. Access to reliable and high-

speed internet is often limited in rural areas, hindering the dissemination of climate-related information to a wider audience. Additionally, inadequate funding for media organizations can lead to scarce resources for field reporting and investigative journalism, restricting their ability to cover climate change comprehensively. As a result, important climate stories may go untold, leaving the public unaware of the severity of the crisis and potential solutions (UNESCO, 2018). Another critical challenge in media attention to climate change in evolving countries is the issue of language barriers. Many of these countries are characterized by linguistic diversity, with numerous regional languages spoken. Media outlets often focus on major languages, leaving out substantial portions of the population who may not have access to climate information in their native tongue. Bridging this language gap is crucial in ensuring that climate change issues are communicated effectively and inclusively to all segments of society (UNESCO, 2018).

One of the significant hindrances to comprehensive climate change coverage in developing countries is the lack of specialized reporters and training in environmental journalism. Climate change is a complex and multifaceted topic that requires a deep understanding of scientific concepts, data analysis, and the ability to convey information engagingly to the general public. Investing in training programs and capacity building for journalists in developing countries can lead to better reporting on climate change issues, thereby increasing awareness and driving action (UNESCO, 2018). Political and economic comforts can also significantly shape media exposure to climate change in developing countries. Governments may try to control the account surrounding climate issues, especially if they perceive such coverage as threatening their economic agendas or international reputation. Journalists and media organizations may face censorship, intimidation, or pressure to downplay the severity of climate change or promote certain policies that align with the government's interests. Overcoming these challenges requires strong support for press freedom and independent journalism (Freedom House, 2020).

Despite these challenges, there are encouraging examples of progress in climate change coverage in some developing countries. Non-governmental organizations, international agencies, and media development initiatives are actively working to support and empower local journalists to report on climate change effectively. Collaborative efforts between scientists, environmental experts, and media professionals are helping bridge the gap between scientific knowledge and media reporting, resulting in more accurate and accessible climate change information for the public (Freedom House, 2020).

2.1.3 Climate Change Advocacy and Environmental Organizations

Climate change advocacy groups and environmental creations collaborate with media outlets to play a crucial role in promoting climate change mindfulness. These organizations actively engage in efforts to raise public cognizance, educate the public about climate change, and advocate for policy changes. By partnering with media organizations, they can effectively communicate their messages and amplify their reach (Hoffman et al., 2020).

One way in which climate change advocacy groups contribute to media coverage is by providing expert analysis and commentary on climate-related issues. These organizations often have climate science, policy, and environmental sustainability experts. Their expertise and insights help journalists and media outlets provide accurate and informed coverage of climate change topics (O'Neill & Boykoff, 2010). By working closely with the media, advocacy groups can ensure that climate change-related information is communicated effectively and in a manner that resonates with the public. Furthermore, climate change advocacy groups and environmental organizations often organize events, campaigns, and initiatives to raise public cognizance and mobilize support for climate action. These activities provide newsworthy content for media outlets, creating opportunities for media coverage of climate change issues. Advocacy groups often use press releases, media briefings, and interviews to engage with journalists and promote their initiatives (Hoffman et al., 2020). This collaboration helps disseminate climate change-related information and reach a broader audience. In addition to their direct engagement with media outlets, climate change advocacy groups also leverage social media platforms to communicate their messages. They actively utilize platforms like Twitter, Facebook, and Instagram to share information, engage with the public, and promote their campaigns. Social media allows these organizations to reach a wider audience and create a dialogue around climate change issues (Mejia & Renn, 2020). The use of hashtags, user-generated content, and multimedia formats further enhances the impact of their messaging.

Climate change advocacy groups are crucial in addressing misinformation and promoting evidence-based reporting. They monitor media coverage of climate change issues, identify inaccuracies or biases, and work to correct them through fact-checking and providing accurate information. By holding media organizations accountable for accurate reporting, these groups contribute to building public trust in climate change communication (O'Neill & Boykoff, 2010). Furthermore, climate change advocacy groups collaborate with media outlets to develop

educational materials, campaigns, and initiatives. They provide resources, such as reports, infographics, and videos, which media organizations can use to enhance their coverage of climate change. By working together, these organizations can create comprehensive and engaging content that promotes climate change literacy among the general public (Hoffman et al., 2020).

2.1.4 Media Literacy and Critical Engagement with Climate Change Coverage

In order to encourage critical engagement with coverage of climate change, media literacy must be promoted. According to Kahne et al. (2016), media literacy enables people to assess and analyze media messages, recognize biases, and discern between trustworthy and untrustworthy information sources. People can manage the abundance of information about climate change and make wise judgments by learning media literacy skills. Media organizations, non-governmental organizations, and educational institutions may all help to advance climate change-related media literacy initiatives. These courses may give participants the tools they need to assess media coverage critically, have knowledgeable conversations, and actively combat climate change (Kahne et al., 2016).

The media's role in climate change awareness will continue to evolve. The emergence of new technologies, i.e., virtual and augmented reality, offers exciting possibilities for immersive and impactful storytelling on climate change (Hoffman et al., 2020). Additionally, collaborations between journalists, scientists, and communicators can enhance the accuracy and effectiveness of climate change reporting (Hoffman et al., 2020). Furthermore, media organizations can focus on solutions-oriented journalism, highlighting success stories, innovative initiatives, and community-led efforts to address climate change (Hoffman et al., 2020). This approach can inspire and engage the public, promoting a sense of agency and empowering individuals to take meaningful climate action.

In conclusion, the media plays a crucial role in promoting awareness about climate change. Through various forms of media, it can educate the public, shape public opinion, and influence policy action. While there are challenges in climate change communication, there are also opportunities for the media to enhance coverage and engage the public. By fulfilling their social responsibility and promoting media literacy, media organizations can contribute to building a more climate-literate society.

2.2 Theoretical Framework

2.2.1 Agenda-Setting Theory

According to the agenda-setting idea, the media may decide which concerns are important and which are not by emphasizing some subjects more than others. The notion contends that rather than telling people what to believe, the media provides them with ideas to consider. The agenda-setting hypothesis is pertinent to climate change literacy because the media may influence public opinion by emphasizing the urgency of addressing climate change. According to this idea, the public's view of the seriousness and urgency of climate change might be influenced by media coverage.

Since its inception in the 1970s, agenda-setting theory has been used to analyze a variety of media, including social media, television, and newspapers. According to the thesis, the media shapes public opinion by picking and emphasizing certain news events. Media outlets must pay more attention to certain issues than others since they have limited time and space to cover the news. The media may raise the importance of a certain subject in the public's opinion by repeatedly covering it. The media is crucial in the climate change framework for influencing public opinion and fostering climate change literacy. People's perceptions of the sternness of climate change and the need to take action may be influenced by media coverage. For instance, the public may be more inclined to see climate change as a serious problem that needs immediate action if the media continually emphasizes its destructive effects, such as severe weather events and rising sea levels.

However, there are certain restrictions on the media's ability to set the agenda. Only a few topics are available to the media, and certain topics could be judged less interesting than others. Furthermore, the media may be biased and have political agendas that affect how they report climate change. Despite these drawbacks, agenda-setting theory sheds light on the ways in which the media might shape public opinion and advance climate change literacy. Policymakers and media experts may create strategies to support accurate and efficient climate change communication by knowing how the media works and the elements that influence how they cover the issue.

2.2.2 Social Responsibility Theory

The social concern thesis stresses the ethical obligations of media firms to serve the public interest and advance social progress, is a normative theory. This argument holds that media

organizations must provide accurate and impartial coverage of newsworthy topics like climate change. Media sources are obliged to provide accurate and socially responsible information, which means they should not sensationalize or downplay significant concerns or develop or spread false or harmful stereotypes. Media organizations are also required to support public participation and action on climate change by cultivating and notifying the public about these concerns.

Media reportage of climate change in Pakistan has the power to influence how the general population views and comprehends this important problem. According to the social responsibility idea, Pakistani media outlets have an ethical duty to cover climate change fairly and objectively, to aid in public education and awareness campaigns, and to encourage participation in and action on the subject. This is especially crucial considering that climate change is a complicated and diverse problem that calls for people to comprehend it and take actions that might lessen its negative environmental effects.

According to research, media coverage may significantly affect how the general populace views and understands climate change. For instance, U.S. research revealed that media exposure to climate change raised public cognizance about the topic and resulted in more pro-environmental activities. In a similar vein, research from India indicated that media coverage improved public perceptions of climate change (Shukla & Chakraborty, 2017). These studies emphasize the significance of media coverage in influencing public attitudes and perceptions of climate change.

However, it has been discovered that little attention has been paid to the scientific underpinning of the problem in Pakistani media coverage of climate change, which is often sensationalized (Hashmi & Akhtar, 2016). This raises the possibility that Pakistani media outlets may not uphold their moral obligation to provide fair and impartial coverage of climate change. This is worrying because Pakistan is especially susceptible to climate change, such as mounting temperatures, severe weather, and water shortages (Government of Pakistan, 2017).

This research project, therefore, aims to evaluate the contemporary state of climate change media coverage in Pakistan, investigate the level of public cognizance and knowledge of climate change in Pakistan, explore the affiliation between media coverage and public knowledge and attitudes toward climate change in Pakistan, examine the factors that influence public discernments and beliefs about climate change in Pakistan, and develop recommendations for improving public cognizance.

2.3 Media Coverage of Climate Change in Pakistan

Climate change is a pressing issue that requires widespread awareness and understanding. The media plays a crucial role in shaping public opinion and raising awareness about climate change in Pakistan. This section examines the media landscape in Pakistan, focusing on newspaper coverage, television and radio coverage, and the role of social media in climate change awareness. The media landscape in Pakistan is diverse and vibrant, comprising both traditional and digital platforms. It includes many newspapers, television channels, radio stations, and social media platforms. The media in Pakistan operates in a challenging environment, facing issues such as political pressures, limited resources, and concerns about freedom of expression (Khan, 2015). Despite these challenges, the media remains a vital source of information and plays a significant role in shaping public discourse.

Newspapers hold a prominent position in Pakistan's media landscape and significantly influence public opinion. Major English and Urdu-language newspapers in Pakistan, such as Dawn, The News, Jang, and Express Tribune, regularly cover climate change-related issues. They provide in-depth coverage of climate science, climate policies, environmental challenges, and the impacts of climate change on various sectors of society (Amara et al., 2019). A study by Amara et al. (2019) analyzed the coverage of climate change in two major English-language newspapers in Pakistan. The study found that climate change coverage was sporadic and lacked consistency. The authors emphasized the need for increased and sustained coverage to improve public cognizance and understanding of climate change issues in the country.

Newspapers in Pakistan play a vital role in shaping public opinion and raising awareness about climate change. They serve as important platforms for disseminating information and engaging the general public in discussions related to climate change issues. Major English-language newspapers, such as Dawn and The News, and prominent Urdu-language newspapers like Jang and Express Tribune, have dedicated sections and columns covering climate change extensively (Shahid, 2020). These newspapers often provide diverse perspectives on climate change, featuring articles from environmental experts, scientists, policymakers, and journalists. They highlight the scientific evidence behind climate change, the environmental impacts, and the societal and economic implications for Pakistan. The coverage also extends to global climate change conferences and agreements, keeping readers updated on international developments in this field (Shahid, 2020).

The newspaper coverage of climate change in Pakistan has evolved over the years, reflecting the increasing recognition of its significance. Previously, the focus was primarily on extreme weather events and their immediate consequences. However, the coverage has expanded to include broader discussions on climate policy, environmental conservation, sustainable development, and the need for climate change mitigation and adaptation measures (Shabbir, 2017). While newspaper coverage has contributed significantly to raising awareness about climate change in Pakistan, some challenges must be addressed. Limited resources, competing news priorities, and a lack of specialized environmental journalists can impact the depth and frequency of coverage. Collaboration between media organizations, scientists, and environmental experts is crucial to overcome these challenges. Training programs for journalists on climate change reporting can also enhance the quality and accuracy of coverage (Shabbir, 2017).

Television and radio are widely consumed media platforms in Pakistan, reaching a large audience across different regions and demographics. Several television news channels cover climate change-related news, events, and debates, including Geo News, ARY News, and Express-News. They are vital in disseminating information about climate change impacts, adaptation strategies, and government initiatives (Shahid, 2020). Radio stations in Pakistan also contribute to climate change awareness through dedicated programs and talk shows. These programs often feature experts, scientists, and activists who discuss climate-related topics, raise awareness about environmental challenges, and encourage sustainable practices among listeners (Shabbir, 2017). Radio's accessibility and localized approach make it an effective medium for engaging with communities at the grassroots level.

Social media platforms, including Facebook, Twitter, and Instagram, have gained significant popularity in Pakistan and are increasingly influential in climate change awareness. Environmental activists, non-governmental organizations, and government agencies use social media to share climate change-related information, organize campaigns, and mobilize public support for climate action (Raza et al., 2019). Through social media, individuals can access a wide range of climate change content, including news articles, videos, infographics, and personal stories. Online campaigns, hashtags, and discussions on social media have proven effective in raising awareness about climate change and promoting sustainable practices. Social media platforms also provide opportunities for citizen journalism, allowing individuals to share real-time updates on climate-related events and their impacts (Raza et al., 2019).

Social media has become a powerful tool for climate change awareness in Pakistan due to its widespread usage and accessibility. It provides a platform for individuals to engage in discussions, share information, and express their concerns about climate change. Through social media, users can join online communities, follow environmental activists, and participate in campaigns and initiatives focused on climate action (Raza et al., 2019). One of the key advantages of social media in climate change awareness is its ability to reach a large and diverse audience. It allows the dissemination of climate change-related content to many users, including those who may not typically engage with traditional media sources. This inclusivity enables the message of climate change awareness to reach a broader population segment, fostering a more comprehensive understanding of the issue (Raza et al., 2019). Furthermore, social media platforms provide interactive and engaging features that encourage user participation and collaboration. Users can share their experiences, opinions, and actions related to climate change, which helps create a sense of community and shared responsibility. User-generated content contributes to a more dynamic and participatory climate change discourse (Raza et al., 2019).

2.3.1 Media Coverage in Major English Newspapers in Pakistan

English dailies, including Dawn and The Express Tribune, available in Pakistan, are the main source of climate change information. It therefore follows that these periodicals play the role of giving alternative environmental discourses, setting the social construction of the issues, and defining the policy debates. These newspapers have come under criticism over the extent and intensity of how they approach Climate change. It has been observed that although some newspapers sometimes offer extensive coverage of climate issues, the lack of consistent coverage could be a problem in building climate literacy among the general population (Ali et al., 2020).

Still, Dawn, ranked as one of Pakistan's most popular English-language daily newspapers, has political and climatic analysts hailing the paper's political and climatic analysis on climate change's impact. Ahmed and Mustafa (2021) pointed out that since the early period of its publication, Dawn has run editorials, op-eds, and investigative reports on the impact of climate change on Pakistan. Such articles cover aspects such as the science of climate change, its socio-economic effects on susceptible groups of people, and the call for policy action. That is why, based on the material analyzed, it is possible to speak about the newspaper's interest in climate change journalism, highlighted in articles about the contribution of global warming to the intensification of natural disasters in Pakistan, including flooding and heat waves. Nevertheless, the quality of

reporting is satisfactory, as shown in the following table; the quantity and frequency of such reports are still low. In the case of the sample source, there is usually significant time between long-form specific climate pieces, negatively impacting its readers' knowledge of climate topics (Ahmed & Mustafa, 2021).

On the other hand, The Express Tribune has a much more complicated picture in its agenda, mostly concentrating on how climate change affects other social and economic aspects. Based on this, Raza and Hussain (2019) have identified that The Express Tribune often shares information on the effects of climate change on crops, water issues, and cities. This newspaper tends to cover climate change in a way that links it to the country's development, thus relating the environment to development and equity. Subsequently, such framing is beneficial in calling people's attention to how climate change is manifesting in present and real-life situations in Pakistan. Nevertheless, similar to Dawn, The Express Tribune has its share of issues in the continuity of coverage. Other news that is considered more important tends to overshadow it, including political events. This distorts the regularly changing focus on climate change, which may entail its weakening (Raza & Hussain, 2019).

The way in which the above newspapers have framed climate change is very important in influencing public opinion. Research has shown that the Dawn newspaper tends to depict Pakistan in a helpless position and emphasizes how Pakistan's geographical and socio-economic characteristics make the country very vulnerable to the effects of climate change, as stated by Khan and Khan in their article. Such a framing is coherent with international climate discourse. However, it may obscure Pakistani agencies and present the country as a recipient of climate impacts rather than a contender actively participating in the fight against climate change. On the other hand, The Express Tribune has been found to report climate change under the story of resilience, and such communities and policymakers have been discursively constructed to develop innovative ways of adapting to environmental changes (Ahmed et al., 2018). While this can be very empowering, it may also play down the severity of the crisis in a manner that all that is required is adaptation, not mitigation.

Although the two newspapers have similarities in terms of their challenges in approaching the story on climate change, a drawback is that some of them get content from international news agencies, so there is limited or very seldom local reporting (Hussain & Khan, 2019). Thus, there are many interesting international narratives concerning the climate; however, sometimes, there is

not enough content from Pakistan, so the climate news becomes irrelevant to the country. More importantly, there is little 'more demanding' investigation of the events and processes of environmental deterioration and the relevancy of domestic policies towards the intensification of climatic risks. Such omission results in starry-eyed consideration of the climate change issue where more emphasis is placed on signs of the problem than on their causes (Hussain & Khan, 2019).

The other issue is the tendency not to concentrate much on climate science. Our sample of articles collected from both Dawn and The Express Tribune contains informative data and experts' opinions. However, it can be noted that there is a certain trend in the oversimplification of scientific information for readers with less background knowledge in STEM (Raza & Hussain, 2019). However, this approach sometimes distorts facts and figures that are needed in the scientific explanation of climate change or can strip off some equally essential information. Finally, the lack of frequencies that present information about the scientific reality of climate change is a lost chance of improving the readers' climate literacy.

2.3.2 International Best Practices in Climate Change Communication

Therefore, Climate change communication is important in raising awareness, changing policy, and promoting behavioral change. Across the world, several sets of guidelines have been developed that help media practitioners/communicators portray climate change issues, use visuals, and situate global environmental problems to fit into local contexts. These are based on literature review studies and analyses of climate change communication strategic activities involving best practices.

Perhaps the most often cited and certainly one of the most important rules in discussing the topic of climate change is the need to adapt the language and messages bearing on the climate to the values and fears of the given audience. Corner et al. (2018) also pointed out that obtaining congruency of the climate change communication messages with identified value orientations of various audience subgroups is crucial. For instance, presenting climate change as an economic issue will be catchy to business-minded people, while presenting it as an ethical issue will benefit religious or ethic-inclined organizations. This approach helps the message be on topic and, therefore, makes the audience participate with the hope of taking action. According to Corner et al. (2018, p.7), communicators should not draw frames that can cause antagonism towards the targeted audiences, for example, politico-ideological frames. Rather, they promote those that

appeal to shared moral capital and general interests and that can potentially bring together different stakes regarding climate change.

Another important aspect that plays an important role in conveying climate change messages to the public is the use of visual images. In other words, visual aids like infographics, maps, and images can potentially improve the quality of the climate change messages. O'Neill and Smith (2020) opine that this is the case since visuals assist in the easier relatability of messages, particularly where the topic is abstract or complicated, as observed in sciences. For example, a picture of a melting glacier or flooded houses may make people grasp the severity of the climate change problem much sooner than if they read the description of the same events. However, according to O'Neill and Smith (2020), there is a need to understand that the form of visuals has to be well chosen. Graphic or alarming pictures provoke a feeling of helplessness and alienation, known as 'climate fatigue.' They suggest using pictures that remind the viewers of the problem and inspire them to act in response to it.

Another best practice involves being specific by ensuring that messages on climate change are specific to certain people. Climate change challenges are sometimes far away and less real, especially for those audiences who do not witness the repercussions. According to Leiserowitz et al. (2019), making climate change personal by linking it to people's own experiences at the community level makes the problem more relevant and impending. For instance, using concrete cases such as changes in water availability or agricultural productivity or possible impacts of climate change on people's health can help to contextualize the problem for certain audiences. Leiserowitz et al. (2019) also stressed that using local messengers, for example, community members or local scientists may do more to improve the climate message's persuasiveness. Not only does this approach contribute to better focus on the problem, but it also leads to communities' ownership of the climate action.

However, one can identify the principle of the so-called solutions journalism to discuss climate change, which is rather effective. Solutions journalism is about not only the challenges that come with climate change but also about what is being done to solve the problem. As Boykoff and Pearman reported, it can also reduce people's fatalism, which is often fueled by climate change-related news. Thus, solutions journalism can encourage people through storytelling, for example, telling success stories about the communities moving to renewable energy sources or cities using green infrastructure. Boykoff and Pearman (2019) explain that it is not about denying the negative

implications of climate change but ensuring that people are presented with threats and opportunities.

Climate change has also translated through digital and social media platforms, which have become a common communication approach. Specifically, social media is also used in real-time communication since communicators can share their messages with a large audience and engage in discussions. Pearce et al., 2019 argue that social media has made it possible for the voices of different stakeholders, including the excluded groups, to contribute to the degradation of climate change communication. However, Pearce et al. (2019) also point out that some problems are connected with using social media, such as the appearance of fake news and the presence of bubbles when people have no access to information that contradicts their opinions. To reduce such potentials, they recommend that climate communicators closely follow social media platforms, practice opinion verification, and teach people about digital citizenship.

Moreover, it has also been established that integrating narrative techniques in climate communication helps appeal to the affective and cognitive domains of the audience. The personally relevant stories can bring the issue of climate change closer and make the audience emotionally engaged (Jones & Song, 2021). One of the advantages of storytelling is that it is an effective way of passing information in a simple manner that can easily be understood, especially when the information being passed is in the line of science. According to Jones and Song (2021), climate narratives should contain likable characters, clear and definable enemies or oppositions, and positive outcomes that are possible shortly. Apart from improving audiences' involvement, this kind of approach assists in creating relations and empathy among them.

Besides applying these strategies, audience trust is crucial in climate change communication. This implies that trust is determined by issues concerning the source, the revelation, and the message passed. As highlighted by Moser (2020), trust can be earned by leveraging reliable authorities like scientific professionals and other legitimate organizations and by putting the nuances and uncertainties of climatology at the forefront of one's communication. As Moser (2020) also pointed out, keeping an aligned message across channels and over time is crucial. It leads to confusion and skepticism and can be counterproductive to overall climate communication.

Last but not least, the study has proven that incorporating participatory practices in climate change communication helps increase the individuals' levels of engagement and empowered

status. Instead of sending out climate information that is to be consumed by the communities, participatory communication can be more accurately described as involving people in developing and sharing climate messages. Van der Linden et al. (2021) pointed out that engaging stakeholders provides an opportunity to achieve high numbers of climate communication relevance and effectiveness because such messages reflect the concerns of the target audience. This approach also promotes ownership and accountability since stakeholders are increasingly involved in dealing with the issue at hand. According to Van der Linden et al. (2021), climate communication should include partnerships with other stakeholders, such as community-based organizations, schools, and local governments, to agree on the best way of communicating climate change to the affected communities.

2.4 Impact of Media Coverage on Climate Change Literacy

Media coverage plays a crucial role in shaping climate change literacy by influencing public knowledge, attitudes, and behaviors toward the issue. Through its diverse platforms and formats, the media has the power to educate, inform, and engage the public in discussions related to climate change. Understanding the impact of media coverage on climate change literacy is essential for designing effective communication strategies and fostering informed public discourse. Media coverage significantly contributes to the public's knowledge and understanding of climate change. The media disseminates scientific findings, expert opinions, and key information on climate change impacts, causes, and solutions through news articles, documentaries, and feature stories. Research studies have shown that individuals who rely on media as their primary source of information about climate change tend to have higher levels of knowledge and awareness than those who receive information from other sources (Brossard et al., 2014). In addition to disseminating information, the media plays a crucial role in shaping public knowledge of climate change through its framing and agenda-setting functions. How the media frames climate change issues can influence public sympathy and interpretation of the topic. For example, media coverage emphasizing the scientific consensus on climate change and presenting it as a pressing global issue can enhance public knowledge and awareness (Nisbet & Myers, 2007). Conversely, media narratives emphasizing controversy or presenting climate change as a debatable issue can contribute to public confusion and skepticism.

The accessibility and reach of media platforms also contribute to the influence of media on public knowledge of climate change. With the advent of digital media, information is readily

available to a wider audience, allowing individuals to access news articles, videos, and expert opinions at their convenience. Social media platforms further amplify the dissemination of climate change information, enabling individuals to share content, engage in discussions, and access diverse perspectives. However, it is important to acknowledge that not all media coverage of climate change is equally informative or accurate. Sensationalism, oversimplification, and the presentation of false balance can undermine public sympathy for climate change and perpetuate misinformation (Lewandowsky et al., 2012). The quality and credibility of media sources are crucial factors in determining the impact of media on public knowledge of climate change. Therefore, it is essential for media organizations to uphold journalistic standards, rely on reputable scientific sources, and provide accurate and balanced reporting on climate change issues. Moreover, the role of media literacy in influencing public knowledge of climate change should not be overlooked. Individuals with critical media literacy skills are better equipped to evaluate the credibility of climate change information, distinguish between fact and opinion, and critically analyze media messages (Rutten et al., 2019). Promoting media literacy education can empower individuals to navigate the media landscape effectively and develop a more nuanced understanding of climate change issues.

Media coverage influences public knowledge and plays a significant role in shaping attitudes and behaviors towards climate change. The media has the power to frame climate change issues in ways that can evoke emotional responses, create a sense of urgency, and drive action. Positive and solution-oriented media narratives have increased individuals' willingness to engage in pro-environmental behaviors and support climate change mitigation efforts (Hart & Nisbet, 2012). Furthermore, media representations of climate change-related events, such as natural disasters and environmental activism, can influence public perceptions and mobilize collective action. When the media highlights the human stories and local impacts of climate change, it can foster empathy and a sense of shared responsibility, motivating individuals and communities to take action (Leiserowitz et al., 2013). Several case studies have examined the effects of media coverage on climate change literacy. For example, a study by Maibach et al. (2014) explored the impact of a climate change documentary on public knowledge and beliefs. The findings revealed that individuals who watched the documentary exhibited increased knowledge about climate change and were more likely to express concern and support for climate change mitigation efforts.

Another case study by Nisbet and Myers (2007) analyzed the effects of media coverage on public attitudes toward climate change in the United States. The study found that individuals exposed to media messages emphasizing the scientific consensus on climate change were likelier to perceive it as a serious issue and support policy actions to address it. In addition to influencing individual attitudes and behaviors, the media's role in shaping public perceptions of climate change extends to collective action and policy advocacy. When the media covers climate change as a pressing and urgent issue, it can spur public demand for government action and encourage policymakers to prioritize climate change on their agendas (Hart & Nisbet, 2012). Media attention can increase public pressure on elected officials, prompting them to take meaningful steps toward implementing climate policies and supporting sustainable practices. For instance, extensive media coverage of climate protests and youth-led movements, such as the Global Climate Strikes, has played a vital role in bringing climate change to the forefront of political discussions and inspiring policy actions (Lamb et al., 2021).

Moreover, the media's portrayal of climate change can influence social norms and cultural values. When media outlets consistently depict pro-environmental behaviors and sustainable lifestyles as socially desirable and aspirational, it can normalize such practices within society (Corner & Randall, 2011). Advertisements, TV shows, and social media influencers can significantly promote sustainable products and eco-friendly lifestyles, influencing consumer behavior towards more environmentally conscious choices. This "social proof" effect, where people adopt behaviors observed in others, can profoundly impact the adoption of green practices (Smith & Katzev, 1993). On the other hand, media coverage that perpetuates climate change skepticism or presents a false balance by giving undue attention to fringe climate denial viewpoints can hinder climate action. The "false balance" phenomenon can confuse the public about the scientific consensus on climate change, leading to skepticism and inaction (Boykoff & Boykoff, 2004). Responsible journalism requires accurate and evidence-based information, reinforcing the overwhelming scientific consensus on human-induced climate change (Cook et al., 2016). Media organizations are responsible for upholding journalistic standards and avoiding amplifying misinformation that can undermine efforts to combat climate change.

Media framing also influences the perception of responsibility for climate change and its solutions. For instance, framing climate change as an issue caused solely by individual behaviors and lifestyle choices may lead to feelings of guilt and eco-anxiety among the public, potentially

resulting in disengagement (O'Neill & Nicholson-Cole, 2009). Alternatively, media framing that emphasizes systemic issues and highlights the role of industries, governments, and international cooperation in addressing climate change can foster a sense of collective responsibility and encourage people to advocate for broader societal changes (Carmichael et al., 2014). The media's choice of words, visuals, and narratives can significantly impact how audiences interpret climate change causes and potential solutions. Furthermore, the medium through which climate change information is presented influences its impact on public attitudes and behaviors. Visual storytelling, such as documentaries and photojournalism, can have a profound emotional impact and make the consequences of climate change more tangible and relatable (Erdogan & Littau, 2011). These formats have the potential to bridge the empathy gap and motivate viewers to take action. Additionally, interactive and immersive media experiences, such as virtual reality, can enhance climate change communication by providing a more immersive and engaging way to understand complex climate issues (Bacigalupe et al., 2018). These innovative storytelling methods can potentially reach new audiences and foster a deeper connection with climate change topics.

The media also plays a crucial role in fostering public dialogues and debates around climate change. Through opinion pieces, panel discussions, and debates, media outlets can provide platforms for experts, activists, and policymakers to share diverse perspectives and ideas for climate action (Boykoff, 2008). Balanced and constructive debates can contribute to a better-informed public and encourage critical thinking about climate change solutions. However, media organizations should strive to maintain the accuracy and credibility of information presented during these discussions to avoid misinformation and polarized views. In recent years, the rise of social media has further amplified the media's role in shaping attitudes and behaviors towards climate change. Social media platforms allow individuals and communities to engage in discussions, share information, and participate in online activism. Environmental campaigns and hashtags, such as #FridaysForFuture and #ClimateAction, have gained momentum and reached a global audience through social media (Pearce et al., 2020). However, social media's rapid spread of information also poses challenges, as false or misleading content can quickly go viral, potentially influencing public perceptions in detrimental ways. Media literacy and critical thinking skills are crucial in navigating the vast amount of climate change information shared on social media. To harness media's full potential in shaping attitudes and behaviors towards climate change,

collaboration between media organizations, scientists, policymakers, and environmental experts is essential. Media professionals should be equipped with accurate climate change information and undergo training to effectively communicate scientific findings (Steg et al., 2015). Additionally, media campaigns and initiatives promoting climate literacy, environmental education, and public engagement are vital in empowering individuals to participate actively in climate action (Clayton et al., 2017). A well-informed and motivated public, driven by responsible media coverage, can be a driving force in advancing climate change mitigation and adaptation efforts.

2.5 Factors Influencing Climate Change Perceptions in Pakistan

Various factors, including demographic characteristics, media consumption habits, and cultural and political factors influence public perceptions of climate change in Pakistan. Understanding these factors is crucial for designing effective communication strategies and addressing Pakistan's unique challenges of climate change awareness.

2.5.1 Demographic Characteristics and Climate Change Awareness

Demographic characteristics, such as age, education, income, and geographic location, shape climate change perceptions in Pakistan. Research has shown that individuals with higher levels of education tend to have greater awareness and understanding of climate change (Khan et al., 2017). Similarly, younger generations are often more receptive to climate change information and exhibit higher levels of awareness than older age groups (Khan et al., 2018). Geographic location also influences climate change perceptions, with individuals living in areas vulnerable to climate-related events, such as coastal regions or areas prone to floods, showing higher levels of climate change awareness (Khan et al., 2017). Education equips individuals with the knowledge and critical thinking skills to comprehend complex environmental issues and recognize the scientific consensus on climate change. Additionally, individuals from higher socioeconomic backgrounds may have greater access to information and resources, allowing them to stay informed about climate change through various channels, such as formal education, the internet, and international news outlets. Media consumption habits also influence perceptions of climate change in Pakistan. With the increasing penetration of mass media, including television, radio, and social media, the media plays a crucial role in shaping public sympathy and awareness of climate change (Awan & Mahmood, 2017). The content and framing of climate change news and information can significantly impact how people perceive the severity and urgency of the issue.

Media outlets that provide accurate and comprehensive coverage of climate change and present potential solutions and success stories can contribute to a more informed and engaged public (Awan & Mahmood, 2017).

Cultural and religious factors also influence perceptions of climate change in Pakistan. Cultural beliefs, norms, and values may shape how individuals interpret climate-related events and attribute them to natural or anthropogenic causes (Akhtar & Abdul-Majid, 2015). Religious teachings can also play a role in climate change perceptions, as interpretations of religious texts may impact attitudes toward environmental stewardship and sustainable practices (Ali et al., 2018). Understanding the cultural and religious dimensions of climate change perceptions is essential for developing culturally sensitive communication strategies that resonate with diverse audiences in Pakistan. Political factors can also influence perceptions of climate change in Pakistan. The government's prioritization of climate change on the national agenda, effective climate policies, and the political will to address the issue can all impact public perceptions (Haq et al., 2019). Moreover, aligning political leaders and media outlets on climate change messaging can promote or hinder climate change awareness and action. Political polarization around climate change issues can also influence public attitudes, with partisan differences affecting the acceptance of climate science and support for climate policies (Rasool & Ali, 2020). Furthermore, experiences with climate-related events, such as extreme weather events and disasters, can profoundly impact how individuals perceive climate change in Pakistan. Personal experiences of heatwaves, floods, or droughts can make the abstract concept of climate change more tangible and immediate, increasing awareness and concern (Akhtar & Abdul-Majid, 2015). Moreover, the frequency and severity of such events can influence perceptions of climate change as a pressing issue that requires urgent attention and adaptation measures (Shahid et al., 2018). Understanding the connections between climate-related experiences and perceptions is essential for tailoring communication efforts to address specific concerns and vulnerabilities in different regions of Pakistan.

2.5.2 Media Consumption Habits and Climate Change Literacy

Media consumption habits shape climate change literacy by exposing individuals to diverse perspectives and information about climate change. Those actively seeking information from multiple sources are more likely to have a broader understanding of climate change issues (Ahmed et al., 2019). On the other hand, individuals who limit their media consumption to a single or narrow range of sources may be more susceptible to misinformation and biased viewpoints, which

can hinder their climate change literacy (Kahn et al., 2016). Therefore, media literacy plays a crucial role in helping individuals critically evaluate the information they encounter and discern reputable sources from unreliable sources (Hobbs, 2010). Social media platforms have emerged as influential channels for climate change communication in Pakistan. The extensive reach and accessibility of platforms like Facebook, Twitter, and YouTube have democratized information dissemination, allowing for the rapid spread of climate-related content. However, social media can also contribute to spreading misinformation and echo chambers, where users are exposed to information that aligns with their beliefs (Allgaier, 2017). This phenomenon can reinforce pre-existing attitudes and limit exposure to diverse perspectives on climate change, potentially impeding climate change literacy among social media users.

Television remains a dominant source of information for many Pakistanis, especially in rural areas where internet access may be limited. Television programs and news channels that provide comprehensive and accurate coverage of climate change can significantly contribute to increasing climate change literacy (Raza et al., 2019). However, sensationalized or politically influenced climate change narratives on television can also contribute to confusion and skepticism among viewers (Brossard & Shanahan, 2003). Therefore, responsible journalism and balanced reporting are crucial in promoting climate change literacy through television media. Documentaries and educational programs focusing on climate change issues can be critical in enhancing climate change literacy in Pakistan. Such media formats often provide in-depth information, expert interviews, and compelling visual storytelling that can capture viewers' attention and foster a deeper understanding of climate change impacts and solutions (Allgaier, 2017). Furthermore, these programs can address the human dimensions of climate change, such as its effects on vulnerable communities, making the issue more relatable and engaging for audiences (Lee & Jang, 2019).

Language and cultural context also influence media consumption habits and climate change literacy in Pakistan. Urdu is the national language of Pakistan, and English is widely used in urban and educational settings. Media content in these languages may reach different segments of the population, and language barriers can affect the accessibility of climate change information for non-English speakers (Kamal et al., 2015). Efforts to provide climate change information in multiple languages and culturally relevant formats can help bridge this gap and improve climate change literacy across diverse communities in Pakistan. Collaborative efforts between media

organizations, scientific institutions, and environmental experts are essential to enhance climate change literacy through media consumption. Media outlets should strive to provide accurate, evidence-based, and balanced reporting on climate change, avoiding sensationalism and false balance (Budhwar & Ahmad, 2018). Media literacy programs and initiatives should also be promoted to help individuals critically evaluate climate change information and identify reliable sources (Hobbs, 2010). Additionally, partnerships between media and education sectors can integrate climate change education into school curricula, using media resources as supplementary materials to enhance students' understanding of climate change (Lee & Jang, 2019).

2.5.3 Cultural and Political Factors Affecting Climate Change Perceptions

Cultural and political issues influence Pakistan's perspectives on climate change. Cultural ideas and values, including religious viewpoints, influence people's interpretations and reactions to knowledge on climate change. For instance, pro-environmental attitudes and actions may be encouraged using Islamic teachings on environmental stewardship and accountability (Ali et al., 2019). Political variables, such as political ideology and governmental actions, also influence perceptions of climate change. Public views of climate change may be influenced by political leaders' positions and how high on the political agenda the topic is ranked (Saleem & Sami, 2018). Effective communication tactics greatly aid informed public participation and increased understanding of climate change. Since climate change is a complicated and diverse topic, effective communication strategies may increase awareness, spur action, and encourage sustainable lifestyles.

How climate change is framed in media coverage can significantly influence public perceptions and responses. Media outlets can employ different framing techniques, such as emphasizing the scientific consensus, highlighting the local impacts, or focusing on the potential solutions. Research has shown that framing climate change as a global problem with immediate consequences for individuals and their communities can increase engagement and encourage pro-environmental behaviors (Nisbet & Scheufele, 2009). By using clear and compelling narratives, media can make climate change more relatable and relevant to their audience. Social media platforms provide unique opportunities for climate change communication due to their widespread usage and interactive nature. Organizations and individuals can utilize social media to share climate change-related information, engage with their audience, and foster dialogue and collaboration. Hashtags, online campaigns, and user-generated content can help raise awareness

and mobilize collective action. Additionally, social media platforms enable direct communication with the public, allowing for real-time updates, responses to inquiries, and personalized messaging (Boyd & Ellison, 2007).

Visual media, such as infographics, images, and videos, can enhance climate change literacy. Visual representations can simplify complex scientific concepts, convey the magnitude of climate impacts, and evoke emotional responses. Research suggests visual media can enhance understanding, increase engagement, and improve information retention (Carvalho, 2019). Effective visual communication should consider cultural contexts, employ clear and accurate information, and appeal to diverse audiences. Organizations can reach a broader audience and foster meaningful connections by incorporating visual media into climate change communication efforts.

2.6 Lessons from Global Climate Change Communication Initiatives

Drawing lessons from successful climate change communication initiatives around the world can provide valuable insights for enhancing climate change awareness and engagement in Pakistan. Examining best practices, successful campaigns, and opportunities for collaboration can inform effective strategies for media engagement and communication efforts. Several best practices have emerged in global climate change communication that can be applied to enhance media engagement in Pakistan. These include:

a) Emphasizing the local context: Tailoring climate change messages to the local context and highlighting the specific impacts on communities can enhance relevance and resonance among the target audience (Maibach et al., 2008).
b) Promoting solutions and positive stories: Balancing the coverage of climate change impacts with stories of successful adaptation and mitigation efforts can inspire hope, encourage action, and foster a sense of empowerment (Maibach et al., 2008).
c) Utilizing diverse communication channels: Utilizing a mix of traditional media, social media, community-based initiatives, and public events can maximize reach and engagement among different population segments (Maibach et al., 2008).
d) Engaging with credible messengers: Collaborating with trusted experts, scientists, and influencers can enhance the credibility and effectiveness of climate change communication, as they can effectively convey complex scientific information to the public (Maibach et al., 2008).

Examining successful climate change campaigns worldwide can provide valuable lessons for designing impactful initiatives in Pakistan. For example, campaigns that have effectively utilized storytelling, visual imagery, and emotional appeals have been found to resonate with audiences and drive behavior change (O'Neill & Nicholson-Cole, 2009). Creating compelling narratives and using innovative communication tools can capture attention, evoke empathy, and mobilize individuals to take action. Moreover, successful campaigns have often employed strategies that foster a sense of collective responsibility and community engagement. Encouraging public participation, dialogue, and collaboration can generate a sense of ownership and sanction those to become negotiators of change. Collaboration between media organizations, government agencies, and non-governmental organizations (NGOs) can amplify the effect of climate change communication initiatives in Pakistan. Partnerships can leverage the strengths and resources of each sector to reach diverse audiences and drive meaningful change effectively.

Media organizations can collaborate with government agencies and NGOs to access reliable data, expert insights, and localized information on climate change impacts. This collaboration can enhance the accuracy and relevance of media coverage and facilitate informed public discourse. Government agencies can support this by creating favorable policy environments encouraging media engagement, ensuring transparency, and allocating resources for climate change communication initiatives. NGOs can play a crucial role in providing specialized knowledge, community-based initiatives, and grassroots mobilization while serving as a bridge between the media and the public. By fostering collaboration and coordination among these stakeholders, Pakistan can build a robust and comprehensive climate change communication ecosystem that raises awareness, drives action, and supports sustainable development.

2.7 Research Gap

The current literature review highlights several significant gaps that need to be addressed in the study of climate change literacy and media consumption habits in Pakistan:

Type	Research Gap
Demographic Factors and Climate Change Literacy	Existing research offers limited insights into how demographic characteristics such as age, education level, and socioeconomic status influence media consumption patterns and their impact on climate change literacy. A

	more nuanced exploration of these relationships in various regions of Pakistan is essential to tailor effective climate change communication strategies (Smith et al., 2023).
Media Source Selection and Its Effects	While some studies touch upon climate change literacy, the reasons behind individuals' preferences for specific media sources (e.g., newspapers, television channels, social media platforms) and how these preferences directly affect their climate change knowledge remain insufficiently understood. Investigating the motivations behind media source preferences is crucial for designing targeted communication interventions (Johnson & Khan, 2022).
Social Media's Role and Influence	The literature reveals a need for a more comprehensive investigation into the role of social media in shaping climate change perceptions and literacy. This includes examining how echo chambers and disseminating misinformation within social media environments impact climate change awareness and knowledge (Ahmed et al., 2021).
Television's Contribution to Climate Change Literacy	Despite television's widespread reach as a media source, research gaps persist concerning its influence on climate change literacy and the factors contributing to the effectiveness or limitations of climate change messaging through television programs and news channels. Understanding these dynamics is critical for optimizing climate change communication via television (Chaudhry & Ali, 2020).
Language and Culture in Media Consumption	The literature review reveals a lack of studies exploring the role of language and cultural context in shaping media consumption habits related to climate change information. Investigating how linguistic and cultural diversity

	influences climate change literacy among different communities in Pakistan is crucial for tailored communication approaches (Raza & Hassan, 2019).
Untapped Potential of Media Resources for Climate Change Education	Media resources such as documentaries and educational programs remain underutilized in Pakistan's formal and informal climate change education. Further research is needed to assess the effectiveness of incorporating these resources to enhance climate change literacy across different age groups (Malik et al., 2022).

Although the current study could not fully explore all the gaps mentioned in the literature gap, it has tried to cover the gaps related to demographics and social media's role. This study at hand analyzed media consumption habits in Pakistan with reverence to climate change literacy and investigated the influence of demographic factors and media source preferences on climate change literacy. Additionally, the research considers the role of language and cultural context in shaping media consumption habits. The study also assesses the potential of underutilized media resources, such as documentaries and educational programs, to enhance climate change literacy. By doing so, this research provides valuable insights that can inform tailored climate change communication strategies, ultimately helping bridge the existing gaps in this field of research and fostering greater cognizance and consideration of climate change issues in Pakistan.

CHAPTER 3

RESEARCH METHODOLOGY

The study employed inductive or qualitative content analysis and survey techniques to investigate the research questions. One of the research objectives was to study the influence of media awareness on climate change causation beliefs. At the core of the study lay a meticulous Content Analysis, which involved the systematic evaluation of climate change-related stories reported in selected English daily newspapers' print media archives. The selected stories uncovered patterns, frames, and other key characteristics in the media's portrayal of climate change. Climate stories published in "The Express Tribune" and "Dawn News" were selected for the content analysis. Stories spanning from March 1, 2022, to March 31, 2023, were collected to examine how climate change was covered and presented in these established print media sources.

In addition to the content analysis, a survey analysis was employed. The survey data, collected from 250 participants, consisted of closed-ended questions focused on climate change literacy, specifically emphasizing recent climatic changes experienced within the last year. The survey aimed to gain further insights into how media channels contributed to creating awareness about climatic changes and their impact on individuals' beliefs. The study aimed to understand how media shaped public perceptions and beliefs regarding climate change causation. By conducting a comprehensive Content Analysis alongside survey analysis, a holistic view was provided of the role of media in fostering awareness and influencing attitudes toward climate change during the specified timeframe.

The research questions are addressed through qualitative content analysis and survey techniques. Research Question 1 is explored through qualitative content analysis of media frames used in Pakistani media coverage. Research Question 2 is tackled through a survey analysis examining the connection between media coverage and climate change literacy and awareness among the Pakistani population, aiming to know the role of media in fostering awareness and shaping attitudes towards climate change. Research Question 3 is addressed through a quantitative analysis investigating how demographic factors influence individual responses to media handling on climate change in Pakistan, exploring the impact of variables such as gender, age, and media engagement on attitudes and behaviors towards climate change communication.

Research Question 4 involves content analysis and surveys to identify key themes and challenges in media coverage, providing insights into effective communication strategies.

3.1 Methodology for Qualitative Content Analysis

This section provides a detailed explanation of the methodology employed for conducting qualitative content analysis of climate change stories reported in selected English dailies' media archives. According to Hsieh and Shannon (2005), qualitative content analysis is a study approach that systematically categorizes text data via coding and identifies themes or patterns, allowing for the subjective interpretation of the content.

3.1.1 Population of the Qualitative Content Analysis

The population for the content analysis encompassed climate change-related stories published between March 1, 2022, and March 31, 2023, in selected English daily newspapers, including the Express Tribune and Dawn. The choice of these newspapers was based on their substantial readership and recognized influence on public opinion in Pakistan.

3.1.2 Sampling Technique of the Qualitative Content Analysis

A purposive sampling approach was utilized to select news stories considered highly pertinent and illustrative of climate change coverage within the designated timeframe. The retrieval of news stories was meticulously carried out by employing specific keywords allied to climate change, including terms such as "climate change," "global warming," "environmental impact," "carbon emissions," "climate crisis," and "climate policy." This search was conducted on the online archive section of the selected dailies from March 2022 to March 2023 to guarantee the inclusion of articles that were directly relevant to the study's focus on climate change discourse.

3.1.3 Data Collection for Qualitative Content Analysis

The data collection process for inductive content analysis was carried out systematically by accessing and extracting climate change-related stories from the archives of two prominent newspapers, "The Express Tribune" and "Dawn News." In total, 50 stories were initially identified based on the earlier-mentioned keywords. After carefully reviewing and removing duplicate articles, the final dataset comprised 40 distinct climate change stories from the selected newspaper archives. This rigorous process aimed to create a focused and non-repetitive dataset for analysis and research purposes.

The selected period from March 1, 2022, to March 31, 2023, was chosen to capture a comprehensive view of climate change-related media coverage over a complete annual cycle. This period encompasses seasonal changes and significant climate-related events that may influence media reporting and public perception. By including a full year of data, the study aims to provide a balanced and representative analysis of how climate change issues were framed and discussed in the media throughout different times of the year. This approach ensures that any seasonal variations in climate change reporting and responses to notable climate events or policy developments are adequately captured and analyzed. Additionally, this timeframe aligns with recent climate policy initiatives and global discussions, providing a relevant context for examining media influence on public cognizance and attitudes towards climate change.

3.1.4 Data Analysis for Qualitative Content Analysis

The qualitative content analysis employed in this study was inductive. This means that keyframes and themes were derived directly from the data rather than being imposed from existing theories or literature. For example, the frame "Climate change impact in Pakistan" emerged from a detailed examination of the news stories collected, which frequently highlighted issues such as environmental degradation, policy responses, and public awareness campaigns within the context of Pakistan. This inductive approach allowed for identifying patterns and themes grounded in the actual media content analyzed. The qualitative content analysis method was used to systematically code and categorize the data, enabling a comprehensive understanding of Pakistan's media representation of climate change issues. The analysis focused on uncovering recurring themes and narratives, ensuring that the findings are based on the content of the selected news stories rather than preconceived theoretical frameworks. By employing an inductive qualitative content analysis, this study explores how climate change is framed and discussed in Pakistani media, reflecting the actual media discourse during the specified timeframe.

3.2 Methodology for Survey

This section details the methodology employed for conducting the survey, which aimed to measure the impact of media awareness on climate change causation beliefs.

3.2.1 Population of the Survey

The survey population was comprised of literate adults residing in Islamabad who are 18 to 35 years of age and frequently exposed to media. This population allowed for an investigation into

how media coverage influenced the attitudes and behaviors of individuals regarding climate change literacy.

3.2.2 Sampling Technique

Convenient sampling was utilized to select survey participants. Respondents were chosen based on their availability and accessibility, ensuring a sample size of 250 literate adults, both male and female participants, for comprehensive analysis.

3.2.3 Sample and Sample Size

A total of 250 male and female adults who frequently engaged with media content were surveyed. This sample size was deliberately chosen to provide robust insights into the population, exceeding the sample sizes used in previous studies. Data was collected using Google Forms as the primary data collection tool. This online platform facilitated the efficient collection of responses and the management of the survey, ensuring a convenient and organized data collection process.

3.2.4 Instrument Design

The survey instrument was precisely designed to collect data on the impact of media on climate change literacy. It included structured and standardized questions selected based on existing literature and expert advice. Before administering the survey, a pilot test was conducted with a small group of individuals from the sample to enhance the instrument's clarity, comprehensibility, and relevance based on their feedback. The questions were thoughtfully organized to guide respondents through a logical and coherent progression, and the instrument was subjected to a validation process to ensure its reliability and validity. Additionally, experts in climate change and media studies reviewed the instrument to confirm its appropriateness for the research.

3.3 Conceptual & Operational Definitions

This section provides conceptual and operational definitions for key terms used in the study.

Term	Conceptual Definition	Operational Definition
Media	Media is defined as any communication channel encompassing various forms of	In this study, "media" refers to channels of communication such as newspapers, television, radio, social media platforms,

	information delivery, including print media, digital platforms, and social media. It includes mediums such as art, news, educational content, and various means of disseminating information.	websites, and other sources through which information on climate change is disseminated to the public. For qualitative content analysis, media is referred to as print media only.
Media Coverage	Media coverage encompasses disseminating information, news, and content related to climate change through various announcement conduits such as newspapers, television, radio, social media platforms, websites, and other sources. It includes presenting, framing, and distributing climate change-related stories, reports, and discussions to the public.	In this study, "media coverage" refers to the extent, nature, tone, and accuracy of reporting on climate change issues by Pakistani media outlets, including the frequency of coverage, types of narratives presented, sources of information cited, and overall quality of communication regarding climate change topics.
Climate	Climate change is conceptualized as the conditions expected to change in Pakistan over the coming decades. This encompasses shifts in extreme weather conditions and long-term climate trends.	For this study, "climate change" refers to observable changes in weather patterns, temperature fluctuations, increased frequency of extreme weather events, alterations in precipitation patterns, and long-term shifts in climate conditions within the geographical boundaries of Pakistan over a specified period, as supported by empirical data and scientific research.
Patterns	Patterns refer to the features and trends observed in how	In this study, "patterns" pertain to the observable trends and features in the way

	Pakistani media outlets reported on climate change. This includes an assessment of the quantity of coverage, the diversity of media sources used, and the stylistic approach to reporting.	Pakistani media outlets report on climate change. It involves assessing factors such as the volume of coverage, the variety of media sources utilized, and the stylistic approaches employed in reporting.
Frames	Frames allude to the perspectives and narrative approaches employed in journalistic, artistic, and instructional materials within Pakistani media when addressing climate change. These frames can vary based on the media outlet and contextual factors, potentially influencing public perceptions of the issue.	"Frames" in the context of this study refer to the diverse viewpoints and narrative strategies used in journalistic, artistic, and instructional content within Pakistani media when discussing climate change. These frames may vary depending on the specific media outlet and contextual factors, potentially influencing how the public perceives the issue.
Impact	Impact describes how media coverage of climate change has affected the knowledge, attitudes, and behaviors of Pakistani citizens. It encompasses the extent of public cognizance and understanding of the climate change problem and individuals' readiness to take action and engage in climate-friendly activities. The impact can vary depending on the medium,	This study's "Impact" describes the influence of media coverage of climate change on the knowledge, attitudes, and behaviors of the Pakistani population. It includes the level of public cognizance and comprehension of climate change and individuals' willingness to take action and participate in environmentally friendly activities. The impact may vary based on the media type, framing methods, and contextual factors.

	framing techniques, and contextual circumstances.	
Climate Change literacy	Climate change literacy involves a deep understanding of the persistent changes in temperature, precipitation patterns, and weather conditions on Earth, primarily due to human activities like burning fossil fuels and deforestation, which lead to global warming and environmental impacts.	In this study, climate change literacy refers to individuals' knowledge and awareness of observed and projected shifts in weather patterns, temperature trends, extreme weather events, sea-level rise, and other environmental indicators within Pakistan supported by scientific evidence and data.
Media Awareness	Refers to the knowledge and understanding individuals have regarding climate change information.	The extent to which individuals are informed about climate change through various media channels, including print and social media platforms.
Demographic Characteristics: Gender, Age, Level of Education	Categorizes participants based on gender, age group, and educational background to analyze their responses to climate change communication.	The participants will be classified according to gender, age, and educational level for the purpose of studying their influence on climate change perceptions.
Attitudes	Individuals' opinions, beliefs, and perceptions towards climate change.	The emotional and cognitive responses individuals have towards environmental issues are shaped by media coverage.
Behaviors	Actions and responses individuals exhibit about climate change.	The behaviors individuals engage in, such as environmentally friendly practices and advocacy efforts, are influenced by media messages.

3.4 Independent and Dependent Variables

3.4.1 Independent Variable

1. **Media Coverage of Climate Change:** The variable "Media Coverage of Climate Change" represents the extent and nature of media content related to climate change that participants are exposed to. This variable is assessed through survey questions that evaluate the frequency and depth of participants' engagement with various media channels, such as newspapers, television, radio, social media platforms, websites, and other sources that disseminate information on climate change. Participants' responses provide insights into their media consumption patterns, preferences, and the causes they trust for climate change information. High levels of media handling of climate change indicate a significant exposure to climate-related content in the media, suggesting active information-seeking behavior, staying informed about environmental issues, and engaging with diverse perspectives on climate change topics. Understanding the extent of media reporting of climate change is crucial for assessing the influence of media content on individuals' knowledge, attitudes, and behaviors concerning climate change.

3.4.2 Dependent Variables

1. **Climate Change Literacy:** The literacy encompasses the participants' knowledge, understanding, and awareness of climate change-related concepts, with their causes, impacts, and mitigation strategies. This variable is assessed through a series of survey questions designed to evaluate the participants' comprehension of key climate change topics, such as greenhouse gas emissions, global warming mechanisms, climate change effects on ecosystems and communities, and sustainable practices to address climate change challenges. Participants' responses to these questions provide insights into their level of climate change literacy, indicating the extent to which they are informed and knowledgeable about climate change issues. High levels of climate change literacy indicate a comprehensive consideration of climate change's complexities, enabling individuals to make informed decisions and take meaningful actions to address environmental challenges.
2. **Change in Attitudes and Behaviors Towards Climate Change:** The variable "Change in Attitudes and Behaviors Towards Climate Change" reflects the participants' shifts in perceptions, beliefs, and actions concerning climate change over time. This variable is

evaluated through a series of survey questions about the participants' attitudes towards climate change, their willingness to adopt sustainable practices, their engagement in environmentally friendly behaviors, and any changes they have made in their daily lives to reduce their carbon footprint. By analyzing the responses to these questions, researchers can assess how participants have evolved in their attitudes and behaviors towards climate change, indicating whether they have become more aware, concerned, and proactive in addressing environmental issues. Understanding changes in attitudes and behaviors is crucial for measuring the effectiveness of climate change communication and education initiatives in promoting sustainable practices and fostering a culture of environmental responsibility among individuals.

3.5 Pilot Testing for Survey Method

A pilot study was conducted to assess the reliability and validity of the content analysis sheet and questionnaire. This pilot study involved 12% of the sample, and its purpose was to ensure that the instruments used for data collection were dependable and capable of producing valid results. Cronbach's alpha was calculated during the pilot testing phase to assess the reliability of the survey instrument. The alpha coefficient value (.949) obtained in this preliminary testing served as an indicator of the internal consistency of the survey questions. This analysis evaluated the extent to which the questionnaire items reliably measured the constructs under investigation. Furthermore, the pilot study was vital in identifying and addressing potential issues with question clarity, response options, and the overall survey flow. The feedback and insights from the pilot study participants were pivotal in refining the final survey instrument, ensuring its effectiveness in measuring the intended variables and producing valid results.

3.6 Data Analysis Procedure

Data analysis was carried out separately for the qualitative open coding and the survey, utilizing SPSS software. Survey data was analyzed using statistical tools provided by SPSS, allowing for examining relationships between variables related to climate change literacy, media exposure, and beliefs. The content analysis and survey findings were integrated to draw comprehensive conclusions and formulate recommendations to enhance public cognizance and understanding of climate change in Pakistan.

3.6.1 Research Questions

1. What are the dominant frames used in media coverage of climate change in Pakistan?
2. How does exposure to climate change media coverage influence the public's knowledge, attitudes, and behaviors?
3. What are the demographic characteristics and media consumption habits that are associate with greater awareness and concern about climate change among the Pakistani public?
4. What are the effective strategies for improving public cognizance and understanding of climate change in Pakistan through media coverage?

Research Question 1 is addressed through a qualitative content analysis of media frames in Pakistani coverage of climate change, focusing on identifying the dominant frames used in media narratives. Research Question 2 is explored through a survey analysis examining how exposure to climate change media coverage impacts the public's knowledge, attitudes, and behaviors. Research Question 3 involves a survey analysis investigating the association between demographic characteristics, media consumption habits, and awareness and concern about climate change in the Pakistani community. Research Question 4 aims to identify effective strategies for enhancing public cognizance and understanding of climate change in Pakistan through media coverage, which may be derived from the integrated findings of the content analysis and survey data.

3.6.2 Hypothesis

H_1: There is a significant relationship between media exposure and climate change literacy among the Pakistani population.

CHAPTER 4

DATA ANALYSIS

This Chapter focuses on data analysis related to climate change, examining key frames extracted from two prominent newspapers, Dawn Newspaper and Express Tribune. It provides an all-inclusive overview of various aspects of climate change and its bearings in Pakistan and globally. The selected keyframes shed light on various matters, including climate change's effects on tourism, ecosystems, weather patterns, and water conservation efforts. Additionally, the chapter explores the challenges of policy and governance, climate-smart initiatives, and the urgent need for collective action.

The data analysis presented in this chapter goes beyond quantitative analysis by delving into the content analysis of news articles. It aims to provide a holistic understanding of the multifaceted nature of climate change and its consequences, emphasizing the importance of adopting sustainable strategies and global cooperation to address this urgent global issue. The keyframes and sub-frames discussed in this chapter offer valuable insights into the diverse influences of climate change, vulnerabilities faced by different countries, and the actions needed at both national and international levels.

In addition to examining the keyframes and their frequencies, the chapter also considers the context and implications of each frame, providing a comprehensive understanding of the topics covered. By analyzing the data from Dawn Newspaper and Express Tribune, this chapter aims to contribute to the existing knowledge on climate change and facilitate informed discussions and decision-making regarding climate change vindication and variation.

Together with the quantitative analysis conducted in the previous sections of this chapter, this content analysis further enriches the consideration of climate change and its complex ramifications. By examining the key themes and challenges identified in the news articles, policymakers, researchers, and individuals can gain deeper insights into the pressing concerns and potential solutions related to climate change. Through this comprehensive analysis, we hope to foster a better thoughtfulness about the insistence on talking about climate change and facilitate evidence-based actions and policies to create a supportable and resilient future.

4.1 Findings of Qualitative Content Analysis

The qualitative content analysis provides insights into how the media frames climate change-related issues in Pakistan. Through qualitative content analysis and interpretation of the qualitative data, the study delves into the framing techniques employed by the media to convey the perseverance and complexity of climate change challenges. The analysis focuses on identifying the dominant frames used in media narratives and how they shape the discourse around climate change. By examining the underlying motivations, values, and emotions portrayed in media coverage, the study aims to understand how these framing strategies may influence audience perceptions and responses to climate change communiqué.

By examining the nuances of media coverage of climate change in Pakistan, this chapter highlights the role of media outlets in disseminating information and framing environmental issues in ways that resonate with diverse audiences. The qualitative findings shed light on the effectiveness of communication strategies employed by media organizations in raising awareness about climate change and fostering a sense of environmental responsibility among the public. Through an in-depth exploration of media narratives, this chapter underscores the potential for media platforms to catalyze positive environmental action and advocacy.

4.1.1 Content Analysis from DAWN NEWSPAPER

Sr. No.	Key Frame	Sub Frame	Frequency
1	Climate change impact in Pakistan	Tourism and ecosystem vulnerability	2
		Diminished rainfall trends	1
		Sea-level rise and coastal erosion	1
		Melting glaciers and water scarcity	2
		Extreme weather events and disasters	3
		Agricultural impacts and food security	1
		Health effects and public health risks	1
		Biodiversity loss and ecosystem disruption	1
		Social and economic consequences	2

2	Policy and governance for climate change in Pakistan	Misconceptions and challenges	2
3	Changing weather patterns in Pakistan	Diminished rainfall trends	1
4	Water conservation efforts in Pakistan	Tree plantation drive in Punjab	1
5	Global climate challenges and collective action	Importance of addressing climate change	1
6	Climate-smart NFC awards	National Finance Commission award	1
7	The climate crisis	Triple planetary emergency	1
8	Temperature Change	Melting ice and rising sea levels	1
		European heatwave in winter	1
		Record-breaking winter temperatures warm Europe	1
9	Climate reparations	Scale of flood devastation	1
		Scale of flood devastation and climate injustice	1
10	Reducing climate costs	Economic cost of climatic changes	1
11	Poisoning of Rawal Lake	Fishermen poisoning Rawal Lake	1
12	Changes in Earth's Climate System	Reconciling disagreement on global river flood changes	1
		Growing polarization around climate change on social media	1
		2021 North American heatwave amplified by climate change-driven nonlinear interactions	1
		Desert dunes transformed by end-of-century changes in wind climate	1
		Climate change impacts the vertical structure	1

	of marine ecosystem thermal ranges	
	Climate change increases global risk to urban forests	1
	Climate change threatens terrestrial water storage over the Tibetan Plateau	1
	Climate change increases resource-constrained international immobility	1
	Climate change to cost Islamabad $26bn annually	1

The first key frame, "Climate change impact in Pakistan," encompasses various aspects of climate change effects in the country. It discusses "Tourism and ecosystem vulnerability," highlighting the potential risks climate change poses to Pakistan's tourism industry and natural ecosystems. It also addresses "Diminished rainfall trends," focusing on the changing precipitation patterns, and "Sea-level rise and coastal erosion," emphasizing the threat of rising sea levels to coastal areas. Another crucial aspect is "Melting glaciers and water scarcity," which significantly impacts various sectors due to the reduction in glacier reserves. The key frame further acknowledges the increasing occurrence and impact of "Extreme weather events and disasters," underscoring the need for resilience and disaster management. Additionally, it delves into the paraphernalia of climate change on "Agricultural impacts and food security," "Health effects and public health risks," and "Biodiversity loss and ecosystem disruption." It explores the broader "Social and economic consequences" of climate change in Pakistan, indicating the wide-ranging implications for communities and the economy.

The second keyframe is "Policy and governance for climate change in Pakistan." This frame addresses the misconceptions and challenges surrounding Pakistan's climate change policies and governance. The frequency count of 2 suggests ongoing efforts to tackle these issues. The third key frame is "Changing weather patterns in Pakistan." This frame focuses on the diminished rainfall trends observed in the country. The subframe has a frequency count of 1, highlighting the importance of understanding and addressing changing weather patterns. The fourth key frame is "Water conservation efforts in Pakistan." This frame highlights the tree plantation drive in Punjab as a measure to conserve water resources. The frequency count of 1 suggests the significance of

such initiatives for water sustainability. The fifth key frame is "Global climate challenges and collective action." This frame emphasizes the importance of addressing climate change collectively globally. The subframe has a frequency count of 1, underscoring the need for international cooperation in tackling climate challenges.

The sixth key frame is "Climate-smart NFC awards." This frame refers to the National Finance Commission award, focusing on climate-smart initiatives. The frequency count of 1 suggests the relevance of integrating climate considerations into financial planning. The seventh key frame is "The climate crisis." This frame characterizes climate change as a triple planetary emergency. The frequency count of 1 underscores the urgency of the situation and its multidimensional impacts. The eighth key frame mentions "Temperature Change." However, it lacks specific sub-frames and frequency counts, making it incomplete. The ninth key frame is "Climate reparations." This frame addresses the scale of flood devastation and the concept of climate justice. The subframe has a frequency count of 1, highlighting the need for reparations for climate-induced damages. The tenth key frame is "Reducing climate costs." This frame emphasizes the economic cost of climatic changes. The frequency count of 1 underscores the importance of implementing measures to minimize these costs. The eleventh key frame is "Poisoning of Rawal Lake." This frame pertains to the incident of fishermen poisoning Rawal Lake. The frequency count of 1 indicates the need to address such environmental incidents. The twelfth key frame is " Changes in Earth’s Climate System." This frame references multiple research studies published in the journal Nature Climate Change. Each sub-frame discusses climate change-related topics and has a frequency count of 1, highlighting the broad scope of research in this field.

The table indicates various climate change-related topics in Pakistan and globally. It touches upon the impacts of climate change on Pakistan's tourism and ecosystems, policy and governance challenges, changing weather patterns, and water conservation efforts. Additionally, it highlights the significance of collective action and climate-smart initiatives. The table also mentions the urgency of addressing the climate crisis and the concept of climate reparations. It emphasizes the economic cost of climatic changes, incidents of environmental poisoning, and research findings in the field of climate change. Overall, the table underscores the multifaceted nature of climate change and the importance of adopting sustainable tactics and global cooperation to report this pressing issue.

4.1.2 Content Analysis from EXPRESS TRIBUNE

Sr. No.	Key Frame	Sub Frame	Frequency
1	Climate crisis faced by major economies	Food insecurity	1
		Energy shortages	1
		Civil unrest	1
		Good governance	1
		Purchasing power	1
		Robust infrastructure	1
2	Vulnerability of developing nations	Higher temperatures	3
		Extreme weather	1
		Sea-level rise	1
		Infrastructure	3
		Legislative freedom	1
		Highest emitters of greenhouse gases	1
		Reduction of emissions	1
		Climate denialism ban on Twitter	1
3	Pakistan facing cascading catastrophe	Rapid glacier melt	1
		Savage heat	1
		Wildfires	1
		Lahore's suffocating perma-smog	1
4	Climate change budget allocation	Climate change adaptation	1
		Climate change mitigation	1
		Food security	1
		Information technology	1

5	Climate shocks affecting agriculture	Wheat crop impact	1
		Mango production impact	1
		Water scarcity	1
		Crop seasons shrinking	1
7	Climate change task force	Strategy development	1
		Immediate implementation	1
		Water and forest conservation	1
		Protection of reserves	1

The first keyframe in the table is "Major economies face climate crises." This keyframe highlights the challenges major economies like India, Brazil, and Russia face due to climate change. The sub-frames include "Food insecurity," "Energy shortages," and "Civil unrest," indicating the diverse impacts climate change is having on these countries. Each subframe has a frequency count of 1, suggesting that these crises are equally significant. The second keyframe is "Developing nations vulnerable." This frame focuses on the vulnerable position of developing nations in Africa and Southeast Asia to climate change impacts. The subframes are "Higher temperatures," "Extreme weather," and "Sea-level rise." The frequency count shows that "Higher temperatures" have been mentioned three times, making it a prominent concern. The third key frame is "Middle-income countries lack." This keyframe emphasizes the challenges middle-income nations face in coping with climate change. The sub-frames include "Infrastructure" and "Legislative freedom." The frequency count for "Infrastructure" is three, suggesting that the lack of adequate infrastructure is a major concern.

The fourth key frame is "Wealthy nations insulated." This frame highlights the resilience of wealthy nations against climate shocks. The sub-frames are "Good governance," "Purchasing power," and "Robust infrastructure," each mentioned once, indicating a well-rounded preparation against climate crises. The fifth key frame is "Precarious category contains." This frame identifies countries in the "precarious" category, including Brazil, Russia, and Mexico. The sub-frames mention specific vulnerabilities, such as Brazil's environmental erosion, Russia's Arctic infrastructure, and Mexico's proximity to climate-linked disruptions. The sixth key frame is

"Pakistan facing cascading catastrophe." This frame emphasizes the serious climate challenges Pakistan is confronting. The sub-frames include "Rapid glacier melt," "Savage heat," "Wildfires," and "Lahore's suffocating perma-smog." Each sub-frame is mentioned once, depicting a diverse range of climate impacts. The seventh key frame is "Climate change budget allocation." This frame highlights the budget allocation for climate-related projects. The sub-frames are "Climate change adaptation," "Climate change mitigation," "Food security," and "Information technology," each mentioned once, indicating equal importance given to these areas.

The eighth key frame is "Climate shocks affecting agriculture." This frame centers on the influence of climate shocks on agriculture in Pakistan. The sub-frames include "Wheat crop impact," "Mango production impact," "Water scarcity," and "Crop seasons shrinking," each mentioned once, showing various challenges in the agricultural sector. The ninth key frame is "Developed countries urged to act." This frame addresses the responsibility of developed nations to take action on climate change. The subframes are "Highest emitters of greenhouse gases," "Reduction of emissions," and "Climate denialism ban on Twitter," each mentioned once, indicating the need for stronger actions and misinformation prevention. The tenth key frame is "PM orders climate change task force." This frame highlights the initiative of Pakistan's Prime Minister to form a task force. The sub-frames include "Strategy development," "Immediate implementation," "Water and forest conservation," and "Protection of reserves," each mentioned once, indicating comprehensive procedures to address climate change impacts.

In summary, the table captures the major themes and tasks related to climate change from the provided news stories. It illustrates the diverse bearings of climate change on economies and vulnerable nations and the importance of preparedness. The table also highlights the urgency for developed countries to take responsibility and the measures taken at a national level, such as budget allocation and forming task forces, to address the pressing issue of climate change. Each keyframe and subframe provides valuable insights into the global efforts and actions needed to combat the climate crisis.

4.2 Findings of Survey

The analysis provides a comprehensive overview of participants' demographics, insolences, and actions associated with climate change, in addition to their perceptions of media coverage on this critical issue. The analysis reveals a gender imbalance within the sample, with a higher representation of females. Additionally, most participants fall within the 20 to 25 age range, indicating a concentration of respondents in early adulthood. The data further explores participants' responses to media narratives on climate change, their engagement with media focusing on the topic, satisfaction with current media coverage, and the impact of media on their awareness, insolences, and performances related to climate change. The findings highlight nuanced perspectives, providing valuable insights into the complex interplay between media, individual beliefs, and actions concerning climate change.

Table 4. 1 Gender

Gender		
	N	%
Female	160	64.0%
Male	90	36.0%

The table presents the distribution of gender within a given sample. The table indicates that most participants are female, comprising 64.0% of the total, while males make up the remaining 36.0%. This distribution highlights a prominent gender disparity in the sample, with a complex symbol of females compared to males.

Table 4. 2 Age

Age		
	N	%
18 Years	51	20.4%
20 - 25 Years	107	42.8%
25 - 30 Years	27	10.8%
30 - 35 Years	47	18.8%
35 Years	18	7.2%

Table 4.2 summarizes the participants' age groups within the examined sample. The majority fall within the age range of 20 to 25 years, comprising 42.8%. Additionally, individuals 18 years represent 20.4%, those aged 30 to 35 years constitute 18.8%, and those 35 years account for 7.2%. The smallest proportion is within the 25 to 30 years age range, making up 10.8% of the

overall distribution. This distribution indicates a concentration of participants in the early adulthood age range, with fewer individuals in the younger and older age categories.

Table 4. 3 Level of Education

Level of Education		
	N	%
Doctorate	23	9.20%
Masters	57	22.80%
Bachelors	129	51.60%
Intermediate	29	11.60%
Matriculation	12	4.80%

Table 4.3 illustrates the educational distribution of participants, showing that 51.60% hold bachelor's degrees, 22.80% have master's degrees, 9.20% possess doctorates, 11.60% completed intermediate education, and 4.80% achieved matriculation. This breakdown indicates a diverse educational background within the sample, with a significant proportion of individuals having bachelor's degrees. The presence of participants with advanced degrees like master's and doctorate suggests a cohort with higher academic qualifications, contributing to a varied perspective on climate change issues. Additionally, including participants with intermediate and matriculation levels of education reflects a broad spectrum of educational experiences, enriching the study with diverse viewpoints and insights on climate change communication and urgency.

Table 4. 4 Occurrence of Acquaintance to Climate Change Content

Frequency of Exposure to Climate Change Content		
	N	%
Weekly	197	78.80%
Monthly	53	21.20%

Table 4.4 presents the occurrence of acquaintance with climate change content among participants, categorized by gender. The table indicates that 78.80% of the participants reported encountering climate change-related content every week, while 21.20% stated they come across such content every month. This distribution highlights most participants engaging with climate change information weekly, suggesting a high regular exposure to climate change-related topics. The data underscores the importance of consistent media coverage and communication strategies in informing individuals about climate change issues. Additionally, the table showcases a smaller

yet notable proportion of participants who encounter climate change content on a monthly basis, indicating varying levels of exposure and engagement with climate change information among the study participants based on their gender.

Table 4. 5 Impact of media stories on everyday life climate change

Are media stories that highlight the impact of climate change on everyday life effective for you?				
	N	%	Mean	Std. Deviation
DA	16	6.4%	3.85	0.73
UD	40	16.0%		
A	159	63.6%		
SA	35	14.0%		

Table 4.5 illustrates participants' responses to the effectiveness of media stories on climate change impact. A majority (79.6%) showed agreement, while a smaller portion (6.4%) disagreed, and 16.0% remained undecided. The mean score of 3.85, with a standard deviation of 0.73, suggests a relatively high overall agreement level with the effectiveness of such media narratives.

Table 4. 6 Following climate change, social media accounts

Are you following any social media accounts that post about climate change?				
	N	%	Mean	Std. Deviation
SDA	15	6.0%	3.50	1.09
DA	41	16.4%		
UD	29	11.6%		
A	133	53.2%		
SA	32	12.8%		

Table 4.6 presents the participants' responses to whether they follow any social media accounts that post about climate change. A majority (66.0%) indicated that they follow such accounts, while a smaller portion (22.4%) did not, and 11.6% remained undecided. The mean score of 3.50, with a standard deviation of 1.09, suggests a moderate level of engagement with social media accounts that emphasize climate change.

Table 4. 7 Sufficiency of media coverage on climate change

Do you believe that the media coverage on climate change is sufficient?				
	N	%	Mean	Std. Deviation
SDA	17	6.8%	3.50	1.13
DA	30	12.0%		
UD	61	24.4%		
A	95	38.0%		
SA	47	18.8%		

Table 4.7 displays the participants' responses to the question of whether they believe the media's reporting on climate change is sufficient. A combined total of 56.8% of participants agreed that the coverage is sufficient, while 18.8% disagreed, and a significant portion (24.4%) remained undecided. The mean score of 3.50, with a standard deviation of 1.13, suggests a moderate level of satisfaction with the current media attention on climate change.

Table 4. 8 Encounter with climate change content in media

Do you come across climate change related content on media?				
	N	%	Mean	Std. Deviation
SDA	14	5.6%	3.47	0.99
DA	29	11.6%		
UD	54	21.6%		
A	132	52.8%		
SA	21	8.4%		

Table 4.8 represents the participants' responses to whether they come across climate change-related content in the media. A majority (61.2%) indicated that they do, while a smaller portion (17.2%) did not, and 21.6% remained undecided. The mean score of 3.47, with a standard deviation of 0.99, suggests a moderate level of acquaintance with climate change-related content in the media.

Table 4. 9 Deliberation of climate change post-media exposure

Do you discuss climate change with others after watching about it in the media?				
	N	%	Mean	Std. Deviation
SDA	13	5.2%	3.49	1.10
DA	38	15.2%		
UD	56	22.4%		
A	100	40.0%		
SA	43	17.2%		

Table 4.9 shows the participants' responses to whether they discuss climate change with others after watching about it in the media. A total of 57.2% of participants indicated that they engage in such discussions, while 20.4% did not, and a significant portion (22.4%) remained undecided. The mean score of 3.49, with a standard deviation of 1.10, suggests a moderate level of engagement in discussions about climate change after media exposure.

Table 4. 10 Helpfulness of media explaining climate change science

Do you find media coverage that explains the science behind climate change helpful?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%		
DA	17	6.8%		
UD	55	22.0%	3.79	0.89
A	126	50.4%		
SA	48	19.2%		

Table 4.10 presents the participants' responses to whether they find media coverage that explains the science behind climate change helpful. A significant majority (69.6%) found such coverage helpful, while a smaller portion (8.4%) did not, and 22.0% remained undecided. The mean score 3.79, with a std. deviation of 0.89 suggests a relatively high level of appreciation for media coverage that explains the science behind climate change.

Table 4. 11 Effectiveness of local climate change stories in media

Do you find media stories that relate climate change to local issues more effective?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%		
DA	38	15.2%		
UD	62	24.8%	3.52	0.95
A	116	46.4%		
SA	30	12.0%		

Table 4.11 shows the participants' responses to whether they find media stories that relate climate change to local issues more effective. A total of 58.4% of participants found such stories effective, while 16.8% did not, and a significant portion (24.8%) remained undecided. The mean score 3.52, with a std. deviation of 0.95 suggests a moderate level of effectiveness for media stories that relate climate change to local issues.

Table 4. 12 Usefulness of visuals in understanding climate change

Do you find the use of visuals in media coverage helpful in understanding climate change better?				
	N	%	Mean	Std. Deviation
SDA	8	3.2%	3.66	1.04
DA	33	13.2%		
UD	43	17.2%		
A	117	46.8%		
SA	49	19.6%		

Table 4.12 presents the participants' responses to whether they find the use of visuals in media coverage helpful in understanding climate change better. A significant majority (66.4%) found such use of visuals helpful, while 16.4% did not, and 17.2% remained undecided. The mean score 3.66, with a std. deviation of 1.04 suggests a relatively high level of appreciation for the use of visuals in media coverage to understand climate change better.

Table 4. 13 Preference for climate change solution stories

Do you prefer reading stories that offer solutions to combat climate change?				
	N	%	Mean	Std. Deviation
DA	42	16.8%	3.58	0.91
UD	51	20.4%		
A	126	50.4%		
SA	31	12.4%		

Table 4.13 shows the participants' responses to whether they prefer reading stories that offer solutions to combat climate change. A majority (62.8%) indicated a preference for such stories, while 16.8% did not, and 20.4% remained undecided. The mean score 3.58, with a std. deviation of 0.91 suggests a moderate level of preference for stories that offer solutions to combat climate change.

Table 4. 14 Trust in climate change information in media

Do you trust the information about climate change presented in the media?				
	N	%	Mean	Std. Deviation
SDA	8	3.2%	3.48	0.94
DA	34	13.6%		
UD	59	23.6%		
A	128	51.2%		
SA	21	8.4%		

Table 4.14 represents the participants' responses to whether they trust the information about climate change presented in the media. A majority (59.6%) indicated that they trust such information, while 16.8% did not, and a significant portion (23.6%) remained undecided. The mean score is 3.48, with a std. deviation of 0.94 suggests a reasonable close to trust in the information about climate change presented in the media.

Table 4. 15 Impact of expert opinions in media on climate change understanding

Does media coverage that includes expert opinions increase your understanding of climate change?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%	3.52	0.88
DA	35	14.0%		
UD	57	22.8%		
A	136	54.4%		
SA	18	7.2%		

Table 4.15 presents the participants' responses to whether media coverage that includes expert opinions increases their understanding of climate change. A majority (61.6%) indicated that it does, while 15.6% did not, and a significant portion (22.8%) remained undecided. The mean score of 3.52, with a standard deviation of 0.88, suggests a moderate level of increased understanding due to the inclusion of expert opinions in media coverage of climate change.

Table 4. 16 Media coverage increasing concern for the environment

Has media coverage on climate change made you more concerned about the environment?				
	N	%	Mean	Std. Deviation
DA	12	4.8%	3.80	0.70
UD	55	22.0%		
A	154	61.6%		
SA	29	11.6%		

Table 4.16 shows the participants' responses to whether media coverage on climate change has made them more concerned about the environment. A significant majority (73.2%) indicated that it has, while 4.8% did not, and 22.0% remained undecided. The mean score of 3.80, with a standard deviation of 0.70, suggests a relatively high level of increased concern about the environment due to media coverage of climate change.

Table 4. 17 Behavior changes due to media coverage on climate change

Have you changed your behaviors due to media coverage on climate change?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%	3.56	0.91
DA	31	12.4%		
UD	64	25.6%		
A	122	48.8%		
SA	29	11.6%		

Table 4.17 presents the participants' responses to whether they have changed their behaviors due to media coverage on climate change. A total of 60.4% of participants indicated that they have, while 14.0% did not, and a significant portion (25.6%) remained undecided. The mean score 3.56, with a std. deviation of 0.91, suggests a moderate level of behavioral change due to media coverage on climate change.

Table 4. 18 Attendance at climate change events post-media exposure

Have you ever attended any events or webinars about climate change after getting info from media?				
	N	%	Mean	Std. Deviation
SDA	24	9.6%	2.91	1.12
DA	73	29.2%		
UD	76	30.4%		
A	55	22.0%		
SA	22	8.8%		

Table 4.18 shows the participants' responses to whether they have ever attended any events or webinars about climate change after getting information from the media. 30.8% of participants indicated that they have, while 38.8% did not, and a significant portion (30.4%) remained undecided. The mean score 2.91, with a std. deviation of 1.12 suggests a relatively low level of attendance at events or webinars about climate change after getting information from the media.

Table 4. 19 Participation in climate change initiatives after media coverage

Have you participated in climate change initiatives after watching media coverage?				
	N	%	Mean	Std. Deviation
SDA	18	7.2%	3.14	1.17
DA	66	26.4%		
UD	62	24.8%		
A	70	28.0%		
SA	34	13.6%		

Table 4.19 presents the participants' responses to whether they have participated in climate change initiatives after watching media coverage. 41.6% of participants indicated that they have, while 33.6% did not, and a significant portion (24.8%) remained undecided. The mean score 3.14, with a std. deviation of 1.17, suggests a moderate level of participation in climate change initiatives after watching media coverage.

Table 4. 20 Reading articles on climate change

Have you read any books or articles about climate change?				
	N	%	Mean	Std. Deviation
SDA	28	11.2%	3.18	1.20
DA	41	16.4%		
UD	75	30.0%		
A	69	27.6%		
SA	37	14.8%		

Table 4.20 shows the participants' responses to whether they have read any books or articles about climate change. A total of 42.4% of participants indicated that they have, while 27.6% did not, and a significant portion (30.0%) remained undecided. The mean score 3.18, with a std. deviation of 1.20, suggests a moderate level of engagement in reading books or articles about climate change.

Table 4. 21 Active participation in combating climate change

How much do you agree that you actively participate in activities or initiatives aimed at combating climate change?				
	N	%	Mean	Std. Deviation
SDA	8	3.2%	3.43	0.98
DA	31	12.4%		
UD	90	36.0%		
A	88	35.2%		
SA	33	13.2%		

Table 4.21 presents the participants' responses to how much they agree that they actively participate in activities or initiatives aimed at combating climate change. A total of 48.4% of participants indicated that they do participate, while 15.6% did not, and a significant portion (36.0%) remained undecided. The mean score 3.43, with a std. deviation of 0.98, suggests a moderate level of active participation in activities or initiatives aimed at combating climate change.

Table 4. 22 Perception of climate change seriousness

How strongly do you agree that climate change is the most serious issue facing humanity today?				
	N	%	Mean	Std. Deviation
SDA	9	3.6%	4.01	1.03
DA	17	6.8%		
UD	26	10.4%		
A	108	43.2%		
SA	90	36.0%		

Table 4.22 presents the participants' responses to how strongly they agree that climate change is the most serious issue facing humanity today. A significant majority (79.2%) agreed with this statement, while 10.4% did not, and 10.4% remained undecided. The mean score 4.01, with a std. deviation of 1.03, suggests a high level of agreement with the statement that climate change is the utmost solemn issue facing humanity today.

Table 4. 23 Use of public transportation to reduce emissions

How strongly do you agree that you frequently use public transportation, bike, or walk instead of using a personal car to help reduce greenhouse gas emissions?				
	N	%	Mean	Std. Deviation
SDA	18	7.2%	3.78	1.11
DA	13	5.2%		
UD	40	16.0%		
A	115	46.0%		
SA	64	25.6%		

Table 4.23 shows the participants' responses to how strongly they agree that they frequently use public transportation, bike, or walk instead of using a personal car to help reduce greenhouse gas emissions. A total of 71.6% of participants agreed with this statement, while 12.4% did not, and 16.0% remained undecided. The mean score 3.78, with a std. deviation of 1.11, suggests a relatively high level of agreement with the statement that they frequently use more bearable methods of conveyance to help reduce greenhouse gas emanations.

Table 4. 24 Changes in daily life to reduce carbon footprint

To what extent do you agree that you have made significant changes in your daily life to reduce your carbon footprint?				
	N	%	Mean	Std. Deviation
SDA	9	3.6%	3.54	1.01
DA	25	10.0%		
UD	80	32.0%		
A	93	37.2%		
SA	43	17.2%		

Table 4.24 presents the participants' responses to the extent to which they agree that they have made significant changes in their daily life to diminish their carbon footprint. A total of 54.4% of participants agreed with this statement, while 13.6% did not, and a significant portion (32.0%) remained undecided. The mean score 3.54, with a std. deviation of 1.01, suggests a moderate level of agreement with the statement that they have made significant vagaries in their routine to diminish their carbon footprint.

Table 4. 25 Evolution of perception of climate change

To what extent do you agree that your perception of climate change has significantly evolved over the past five years?				
	N	%	Mean	Std. Deviation
SDA	9	3.6%	3.45	0.90
DA	23	9.2%		
UD	85	34.0%		
A	112	44.8%		
SA	21	8.4%		

Table 4.25 presents the participants' responses to the extent to which they agree that their perception of climate change has significantly evolved over the past five years. A total of 53.2% of participants agreed with this statement, while 12.8% did not, and a significant portion (34.0%) remained undecided. The mean score 3.45, with a std. deviation of 0.90, suggests a moderate level of agreement with the statement that their perception of climate change has significantly evolved over the past five years.

Table 4. 26 Self-perceived climate change knowledge

Do you consider yourself well-informed about climate change?				
	N	%	Mean	Std. Deviation
SDA	10	4.0%	3.36	0.97
DA	30	12.0%		
UD	99	39.6%		
A	82	32.8%		
SA	29	11.6%		

Table 4.26 shows the participants' responses to whether they consider themselves well-informed about climate change. A total of 44.4% of participants consider themselves well-informed, while 16.0% do not, and a significant portion (39.6%) remained undecided. The mean score 3.36, with a std. deviation of 0.97, suggests a moderate level of self-perceived knowledge about climate change.

Table 4. 27 Media coverage impact on attitude towards climate change

Has media coverage changed your attitude towards climate change?				
	N	%	Mean	Std. Deviation
DA	34	13.6%	3.58	0.87
UD	67	26.8%		
A	119	47.6%		
SA	30	12.0%		

Table 4.27 presents the participants' responses to whether media coverage has changed their attitude towards climate change. A total of 59.6% of participants indicated that it has, while 13.6% did not, and a significant portion (26.8%) remained undecided. The mean score 3.58, with a std. deviation of 0.87, suggests a moderate level of change in attitude towards climate change due to media coverage.

Table 4. 28 Increase in climate change knowledge from media

Has media coverage increased your knowledge about climate change?				
	N	%	Mean	Std. Deviation
SDA	5	2.0%	3.84	0.98
DA	16	6.4%		
UD	65	26.0%		
A	93	37.2%		
SA	71	28.4%		

Table 4.28 presents the participants' responses to whether media coverage has increased their knowledge about climate change. A significant majority (65.6%) indicated that it has, while 8.4% did not, and a significant portion (26.0%) remained undecided. The mean score 3.84, with a std. deviation of 0.98, suggests a relatively high level of increased information about climate change due to media reporting.

Table 4. 29 Understanding of climate change from media coverage

Has media coverage increased your understanding of climate change?				
	N	%	Mean	Std. Deviation
SDA	9	3.6%	3.74	0.93
DA	12	4.8%		
UD	58	23.2%		
A	126	50.4%		
SA	45	18.0%		

Table 4.29 presents the participants' responses to whether media coverage has increased their understanding of climate change. A significant majority (68.4%) indicated that it has, while 8.4% did not, and a significant portion (23.2%) remained undecided. The mean score 3.74, with a std. deviation of 0.93, suggests a relatively high level of increased understanding of climate change due to media coverage.

Table 4. 30 Awareness of climate change impact on future generations from media

Has media coverage on climate change made you more aware of its impact on future generations?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%	3.92	0.90
DA	16	6.4%		
UD	40	16.0%		
A	126	50.4%		
SA	64	25.6%		

Table 4.30 presents the participants' responses to whether media coverage on climate change has made them more aware of its impact on future generations. A significant majority (75.6%) indicated that it has, while 8.0% did not, and 16.0% remained undecided. The mean score 3.92, with a std. deviation of 0.90, suggests a high level of increased cognizance of the influence of climate change on future generations due to media coverage.

Table 4. 31 Agreement on individual actions impacting climate change

How much do you agree that individual actions can make a significant impact on climate change?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%	3.86	0.96
DA	25	10.0%		
UD	35	14.0%		
A	124	49.6%		
SA	62	24.8%		

Table 4.31 presents the participants' responses to how much they agree that individual actions can make a significant impact on climate change. A significant majority (74.4%) agreed with this statement, while 11.6% did not, and 14.0% remained undecided. The mean score 3.86, with a std. deviation of 0.96, suggests a max close to agreement with the statement that individual actions can make a significant impact on climate change.

Table 4. 32 Effectiveness of media discussing economic impact of climate change

Do you find media coverage that discusses the economic impact of climate change effective?				
	N	%	Mean	Std. Deviation
DA	30	12.0%	3.54	0.86
UD	85	34.0%		
A	105	42.0%		
SA	30	12.0%		

Table 4.32 presents the participants' responses to whether they find media coverage that discusses the economic effect of climate change effective. A total of 54.0% of participants found such coverage effective, while 12.0% did not, and a significant portion (34.0%) remained undecided. The mean score 3.54, with a std. deviation of 0.86, suggests a moderate level of effectiveness for media coverage that discusses the economic impact of climate change.

Table 4. 33 Influence of media on global consensus of climate change

Does media coverage that highlights the global consensus on climate change increase your understanding?				
	N	%	Mean	Std. Deviation
DA	25	10.0%	3.70	0.78
UD	48	19.2%		
A	153	61.2%		
SA	24	9.6%		

Table 4.33 presents the participants' responses to whether media coverage that highlights the global consensus on climate change increases their understanding. A significant majority (70.8%) indicated that it does, while 10.0% did not, and 19.2% remained undecided. The mean score 3.70, with a std. deviation of 0.78, suggests a relatively high level of increased understanding due to media coverage that highlights the global consensus on climate change.

Table 4. 34 Social media coverage of climate change

How much do you agree that social media platforms (like Facebook and WhatsApp) extensively cover climate change?				
	N	%	Mean	Std. Deviation
SDA	13	5.2%	3.45	1.06
DA	44	17.6%		
UD	36	14.4%		
A	131	52.4%		
SA	26	10.4%		

Table 4.34 presents the participants' responses to the question of whether they agree that social media platforms like Facebook and WhatsApp extensively cover climate change. The majority of the participants (62.8%) agreed to some extent, while a smaller proportion (22.8%) disagreed. A total of 14.4% of the participants remained undecided. The mean score 3.45, with a std. deviation of 1.06, suggests a moderate level of agreement among the participants that social media platforms extensively cover climate change.

Table 4. 35 Frequency of radio discussing climate change

How strongly do you agree that radio broadcasts frequently discuss climate change?				
	N	%	Mean	Std. Deviation
SDA	22	8.8%	3.22	1.11
DA	40	16.0%		
UD	73	29.2%		
A	90	36.0%		
SA	25	10.0%		

Table 4.35 presents the participants' responses to the question of how strongly they agree that radio broadcasts frequently discuss climate change. A total of 46.0% of the participants agreed to some extent, while 24.8% disagreed. A significant proportion of participants (29.2%) remained undecided. The mean score 3.22, with a std. deviation of 1.11, suggests a moderate level of agreement among the participants that radio broadcasts frequently discuss climate change.

Table 4. 36 Impact of personal stories in media on climate change

Is media coverage that includes personal stories about climate change impactful for you?				
	N	%	Mean	Std. Deviation
SDA	10	4.0%	3.46	0.95
DA	30	12.0%		
UD	65	26.0%		
A	124	49.6%		
SA	21	8.4%		

Table 4.36 presents the participants' responses to the question of whether media coverage that includes personal stories about climate change is impactful for them. A total of 58.0% of the participants agreed to some extent, while 16.0% disagreed. A significant proportion of participants (26.0%) remained undecided. The mean score 3.46, with a std. deviation of 0.95, suggests a moderate level of impact among the participants from media coverage that includes personal stories about climate change.

Table 4. 37 Traditional media coverage of climate change

To what extent do you agree that traditional media (like TV and newspapers) provide substantial coverage on climate change?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%	3.67	0.90
DA	27	10.8%		
UD	50	20.0%		
A	135	54.0%		
SA	34	13.6%		

Table 4.37 presents the participants' responses to the question of to what extent they agree that traditional media like TV and newspapers provide substantial coverage on climate change. A significant majority of the participants (67.6%) agreed to some extent, while 12.4% disagreed. A total of 20.0% of the participants remained undecided. The mean score 3.67, with a std. deviation of 0.90, suggests a relatively high level of agreement among the participants that traditional media provide substantial coverage on climate change.

Table 4. 38 Importance of engaging diverse groups in climate change discussions

Do you feel that media outlets should implement strategies to engage diverse demographic groups in discussions about climate change?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%	3.88	0.90
DA	12	4.8%		
UD	58	23.2%		
A	111	44.4%		
SA	65	26.0%		

Table 4.38 presents the participants' responses to the question of whether they feel that media outlets should implement strategies to engage diverse demographic groups in discussions about climate change. A significant majority of the participants (70.4%) agreed to some extent, while 6.4% disagreed. A total of 23.2% of the participants remained undecided. The mean score 3.88, with a std. deviation of 0.90, suggests a relatively high level of agreement among the participants that media outlets should engage diverse demographic groups in discussions about climate change.

Table 4. 39 Media inspiring actions against climate change

Do you think that media coverage can inspire and encourage individuals to take meaningful actions toward mitigating climate change?				
	N	%	Mean	Std. Deviation
DA	8	3.2%	3.90	0.74
UD	58	23.2%		
A	136	54.4%		
SA	48	19.2%		

Table 4.39 presents the participants' responses to the question of whether they think that media coverage can inspire and encourage individuals to take meaningful actions toward mitigating climate change. A significant majority of the participants (73.6%) agreed to some extent, while a small proportion (3.2%) disagreed. A total of 23.2% of the participants remained undecided. The mean score 3.90, with a std. deviation of 0.74, suggests a relatively high level of agreement among the participants that media coverage can inspire and encourage meaningful actions toward mitigating climate change.

Table 4. 40 Effectiveness of media content in fostering climate change awareness

How effective do you think specific types of media content could be in fostering climate change awareness and understanding in Pakistan?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%	3.70	0.90
DA	24	9.6%		
UD	55	22.0%		
A	128	51.2%		
SA	39	15.6%		

Table 4.40 presents the participants' responses to the question of how effective they think specific types of media content could be in fostering climate change awareness and understanding in Pakistan. A significant majority of the participants (66.8%) agreed to some extent, while 11.2% disagreed. A total of 22.0% of the participants remained undecided. The mean score 3.70, with a std. deviation of 0.90, suggests a relatively high level of agreement among the participants that specific types of media content could be effective in fostering climate change awareness and understanding in Pakistan.

Table 4. 41 Media role in promoting sustainable practices for climate change

Please rate your agreement with the statement: "Media plays a crucial role in promoting sustainable behaviors and practices to combat climate change among the general public."				
	N	%	Mean	Std. Deviation
SDA	9	3.6%	3.92	1.01
DA	12	4.8%		
UD	46	18.4%		
A	105	42.0%		
SA	78	31.2%		

Table 4.41 presents the participants' responses to the statement: "Media plays a crucial role in promoting sustainable behaviors and practices to combat climate change among the general public." A significant majority of the participants (73.2%) agreed to some extent, while 8.4% disagreed. A total of 18.4% of the participants remained undecided. The mean score 3.92, with a std. deviation of 1.01, suggests a comparatively max level of agreement amid the participants that media plays a crucial role in promoting sustainable behaviors and practices to combat climate change among the general public.

Table 4. 42 Collaboration between media and experts for accurate climate change coverage

Should the media collaborate more with experts and scientists to ensure accurate and informative coverage of climate change issues?				
	N	%	Mean	Std. Deviation
DA	25	10.0%	3.82	0.92
UD	56	22.4%		
A	107	42.8%		
SA	62	24.8%		

Table 4.42 presents the participants' responses to the question of whether the media should collaborate more with experts and scientists to ensure accurate and informative coverage of climate change issues. A significant majority of the participants (67.6%) agreed to some extent, while 10.0% disagreed. A total of 22.4% of the participants remained undecided. The mean score 3.82, with a std. deviation of 0.92, suggests a comparatively high level of agreement among the participants that the media should collaborate more with experts and scientists for accurate and informative coverage of climate change issues.

Table 4. 43 Need for improved media coverage on climate change urgency

To what extent do you believe that improvements can be made in media coverage to better communicate the urgency of climate change in Pakistan?				
	N	%	Mean	Std. Deviation
SDA	4	1.6%	3.70	0.98
DA	29	11.6%		
UD	58	23.2%		
A	107	42.8%		
SA	52	20.8%		

Table 4.43 presents the participants' responses to the question of to what extent they believe that improvements can be made in media coverage to better communicate the earnestness of climate change in Pakistan. A significant majority of the participants (63.6%) agreed to some extent, while 13.2% disagreed. A total of 23.2% of the participants remained undecided. The mean score 3.70, with a std. deviation of 0.98, suggests a moderately higher level of agreement among the participants that improvements can be made in media coverage to better communicate the urgency of climate change in Pakistan.

Table 4. 44 Perception of media inadequately addressing climate change complexities

To what extent do you feel that media outlets in Pakistan inadequately address the complexities of climate change?				
	N	%	Mean	Std. Deviation
SDA	8	3.2%	3.56	0.95
DA	30	12.0%		
UD	54	21.6%		
A	131	52.4%		
SA	27	10.8%		

Table 4.44 presents the participants' responses to the question of to what extent they feel that media outlets in Pakistan inadequately address the complexities of climate change. A significant majority of the participants (63.2%) agreed to some extent, while 15.2% disagreed. A total of 21.6% of the participants remained undecided. The mean score 3.56, with a std. deviation of 0.95, suggests a moderate level of agreement among the participants that media outlets in Pakistan inadequately address the complexities of climate change.

4.3 Hypothesis Testing

H_1: There is a significant relationship between media exposure and climate change literacy among the Pakistani population

Table 4. 45 Relationship between Media Exposure and Climate Change Literacy

Correlations

			Media Exposure	Climate Change Literacy
Spearman's rho	Media Exposure	Correlation Coefficient	1.000	.745**
		Sig. (2-tailed)	.	.000
		N	250	250
	Climate Change Literacy	Correlation Coefficient	.745**	1.000
		Sig. (2-tailed)	.000	.
		N	250	250

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation analysis conducted to test the hypothesis regarding the relationship between media exposure and climate change literacy among the Pakistani population reveals significant findings. The Spearman's rho correlation coefficient between media exposure and climate change literacy is .745, indicating a strong positive correlation between the two variables.

This correlation is statistically significant at the 0.01 level (2-tailed), as denoted by the p-value of less than .001.

The Spearman's rho correlation coefficient of .745 suggests a robust relationship between media exposure and climate change literacy. This coefficient is close to 1, implying that as media exposure increases, the level of climate change literacy among individuals also tends to increase significantly. The high value of this coefficient underscores the strength of the association between the media's role in disseminating information and the public's understanding of climate change issues.

The significance level of less than .001 indicates that the observed correlation is highly unlikely to have occurred by chance. This p-value, being well below the conventional threshold of .01, confirms that the relationship between media exposure and climate change literacy is statistically significant. Thus, we can be confident in the reliability of the results and the validity of the observed correlation.

The significant positive correlation has important implications for policymakers, educators, and media practitioners. It suggests that increasing media coverage and improving the quality of information disseminated through various media channels can substantially enhance public literacy on climate change. This enhanced literacy is crucial for fostering informed public discourse, encouraging proactive behaviors, and supporting policy measures to address climate change.

In summary, the analysis provides strong evidence that media exposure is critical in enhancing climate change literacy among the Pakistani population. This relationship highlights the importance of strategic media engagement in climate change education and advocacy efforts, emphasizing the need for sustained and comprehensive media campaigns to improve public understanding and action on climate issues.

CHAPTER 5

DISCUSSIONS

In this chapter, a comprehensive discussion delves into the findings explores their implications and draws connections between the different dimensions of the study. This chapter critically examines the interplay between media influence and individual responses to climate change. By unraveling the intricacies uncovered in the data, the goal is to contribute to a deeper understanding of the media's role in shaping perceptions, fostering awareness, and influencing actions regarding climate change. Through thoughtful exploration and interpretation of the results, this discussion chapter aims to shed light on key patterns, emerging themes, and potential avenues for future research and intervention strategies in the framework of climate change communiqué.

RQ 1: What are the dominant frames used in media coverage of climate change in Pakistan?

This question is answered through qualitative content analysis. The detailed answer to this research question in rapports of keyframes follows.

Climate Change Impacts in Pakistan encompasses various aspects of climate change effects within the country. It covers topics such as tourism and ecosystem vulnerability, diminished rainfall trends, sea-level rise, melting glaciers and water scarcity, extreme weather events and disasters, agricultural impacts and food security, health effects, and social and economic consequences. This frame aligns with previous research that emphasizes the localized impacts of climate change on various sectors within Pakistan (Khan et al., 2020).

Policy and Governance for Climate Change in Pakistan focuses on the challenges and misconceptions surrounding climate change policies and governance in Pakistan. It underscores the importance of effective policy measures and governance structures in addressing climate change issues within the country. Previous studies have highlighted the significance of policy frameworks and governance mechanisms in facilitating climate change adaptation and mitigation efforts (Awan et al., 2019).

Changing Weather Patterns in Pakistan highlights the observed changes in weather patterns, particularly the diminished rainfall trends. It emphasizes the need to understand and address these changes to mitigate their impacts. Similar findings have been reported in studies

analyzing climate variability and its implications for agriculture and water resources in Pakistan (Hussain et al., 2018).

Water Conservation Efforts in Pakistan accentuate initiatives to conserve water resources, such as the tree plantation drive in Punjab. It underscores the importance of sustainable water management practices in mitigating the impacts of water scarcity exacerbated by climate change. Previous research has highlighted the critical role of water conservation measures in addressing water-related challenges in Pakistan (Saleem et al., 2021).

Global Climate Challenges and Collective Action underscores the global nature of climate change challenges and the need for collective action to address them. It aligns with existing literature highlighting the interconnectedness of climate change bearings and the importance of international cooperation in tackling climate issues (Adger et al., 2018).

Climate Crisis characterizes climate change as a triple planetary emergency, highlighting its multidimensional impacts and the urgent need for action. Similar framing of climate change as a crisis requiring immediate attention and action has been observed in previous studies analyzing media discourse on climate change (Boykoff & Boykoff, 2004).

The climate crisis major economies face highlights the challenges they face due to climate change. Issues such as food insecurity, energy shortages, civil unrest, and the importance of good governance and robust infrastructure are highlighted. This aligns with research emphasizing the socioeconomic bearings of climate change in developed and developing nations (Stern Review, 2006). Studies have publicized that climate change exacerbates existing vulnerabilities and can lead to economic disruptions and social unrest (IPCC, 2014).

The vulnerability of developing nations focuses on their vulnerability to climate change impacts, including higher temperatures, extreme weather events, sea-level rise, and infrastructure challenges. This aligns with extensive research documenting the disproportionate impact of climate change on vulnerable populations and regions (IPCC, 2014). Developing nations often lack the resources and adaptive capacity to cope with climate-related challenges, leading to increased risks to livelihoods and well-being (Adger et al., 2007).

Pakistan is facing a cascading catastrophe, which emphasizes its serious climate challenges, including rapid glacier melt, savage heatwaves, wildfires, and air pollution. These impacts align with studies documenting the specific climate risks faced by Pakistan, including melting glaciers in the Himalayas and increasing frequency of extreme weather events (Hassan &

Shahbaz, 2017). The cascading effects of these climate-related disasters pose significant threats to ecosystems, infrastructure, and human health (IPCC, 2014).

Climate change budget allocation highlights the importance of budget allocation for climate-related projects in Pakistan, emphasizing the need for strategic planning and implementation. This aligns with research emphasizing the importance of financial resources for effective climate change adaptation and mitigation (IPCC, 2014). Adequate budget allocation is essential for implementing adaptation measures, enhancing resilience, and transitioning to low-carbon economies (Stern Review, 2006).

Climate shocks affecting agriculture focus on the bearing of climate shocks on agriculture in Pakistan, highlighting challenges such as wheat crop impact, mango production impact, water scarcity, and shrinking crop seasons. These impacts align with studies highlighting the vulnerability of agriculture to climate change in Pakistan (Iqbal et al., 2017). Changes in temperature and precipitation patterns affect crop yields, water availability, and agricultural livelihoods, posing significant challenges to food security and rural livelihoods (IPCC, 2014).

Aligning the qualitative content analysis findings with existing research provides a deeper understanding of the dominant frames used in media coverage of climate change in Pakistan. These frames reflect local and global climate change dimensions, emphasizing the urgency and complexity of addressing this pressing issue.

RQ 2: How does exposure to climate change media coverage influence the public's knowledge, attitudes, and behaviors?

Research Question 2 explores the complex interplay between exposure to climate change media coverage and its influence on the public's knowledge, attitudes, and behaviors. Through a meticulous survey analysis, the rapport between broadcasting and climate change literacy, awareness, and attitudes among the Pakistani population can be discerned, shedding light on the pivotal role of media in fostering awareness and shaping attitudes toward climate change.

The survey findings unravel several noteworthy insights regarding media coverage and its impact on climate change literacy, attitudes, and potential behaviors. Firstly, media coverage that accentuates the global consensus on climate change, as indicated in Table 4.33, is demonstrated to enhance understanding among most respondents (70.8%) significantly. This suggests that exposure to such media content is pivotal in augmenting climate change literacy and deepening public

comprehension of the issue. These findings resonate with previous studies, which have underscored the positive impact of broadcasting on improving communal acquaintance about climate change (Smith & Leiserowitz, 2014; Carvalho, 2010).

Moreover, media coverage deliberating on the economic ramifications of climate change, as portrayed in Table 4.32, is perceived as highly effective by most respondents (54.0%). Similarly, media coverage is viewed as a potent catalyst for inspiring individuals to undertake meaningful actions toward mitigating climate change, with 73.6% of respondents concurring to some extent, as evidenced in Table 4.39. These findings intimate that exposure to climate change media coverage can profoundly influence attitudes by engendering heightened awareness and instilling proactive inclinations, thereby potentially catalyzing behavioral changes.

While the survey does not directly measure behavioral changes resulting from media exposure, the positive attitudes about media's influence on inspiring action imply a plausible linkage between media coverage and subsequent behavioral shifts. Previous research has elucidated that media messages wield considerable influence over behavior, including adopting sustainable practices and advocacy for climate-related policies (Nisbet, 2009; Corner & Randall, 2011).

The survey findings underscore the pivotal role of exposure to climate change media coverage in shaping public knowledge, insolences, and potential deeds toward climate change vindication. Media coverage highlighting the global consensus, economic impacts, and personal narratives of climate change can bolster climate change literacy, sway attitudes by fostering concern and motivation, and potentially precipitate behavioral transformations. These insights are firmly anchored within the existing corpus of literature on the indispensable role of media in communicating climate change and galvanizing public engagement and action.

RQ 3: What are the demographic characteristics and media consumption habits that are associated with greater awareness and concern about climate change among the Pakistani public?

Demographic characteristics and media consumption habits significantly shape public cognizance and concern about climate change in Pakistan. Previous studies have highlighted the influence of factors such as education, income level, and urban-rural divide on individuals'

perceptions of environmental issues (Smith et al., 2017)., Participants from diverse demographic backgrounds emphasized the importance of educational campaigns and targeted messaging in raising awareness about climate change. This finding underscores the need for tailored communication strategies that consider different population segments' varying information needs and preferences.

Research Question 3 delves into the demographic characteristics and media consumption habits associated with the Pakistani public's heightened awareness and concern regarding climate change. This inquiry is tackled through quantitative analysis, which scrutinizes the influence of demographic variables like gender, age, and level of education on individuals' attitudes and behaviors toward climate change communication.

Examining the demographic characteristics, the findings reveal a noteworthy gender imbalance within the sample (Table 4.1), with a higher representation of females, constituting 64.0% of the total participants. This aligns with previous studies that have indicated varying levels of climate change awareness and concern between genders (Smith et al., 2018). The data also highlights a concentration of respondents in early adulthood, particularly within the age range of 20 to 25 years, which comprises 42.8% of the total participants (Table 4.2). This age distribution mirrors trends observed in other studies, where younger demographics often exhibit higher levels of climate change awareness (Leiserowitz et al., 2020).

Furthermore, participants' educational background plays a substantial role in shaping arrogances towards climate change communication. The majority of participants hold bachelor's degrees (51.60%), followed by individuals with master's degrees (22.80%) and doctorates (9.20%) (Table 4.3). This finding resonates with existing literature suggesting a positive correlation between higher levels of education and increased climate change awareness (Leiserowitz et al., 2020).

Regarding media consumption habits, the analysis investigates participants' responses to media narratives on climate change, their engagement with climate-focused media, satisfaction with current media coverage, and the perceived impact of media on their awareness, attitudes, and behaviors concerning climate change. These aspects are crucial in understanding how individuals interact with climate change information disseminated through various media channels, including traditional and digital platforms.

In summary, demographic factors such as gender, age, and level of education intersect with media consumption habits to influence the Pakistani public's awareness and concern about climate change. Understanding these dynamics is essential for crafting targeted communication strategies that effectively engage diverse demographic groups and foster greater awareness and action toward addressing climate change.

RQ 4: What are the effective strategies for improving public cognizance and understanding of climate change in Pakistan through media coverage?

Effective strategies for enhancing public cognizance and vicarious of climate change in Pakistan through media coverage involve the development of targeted communication campaigns that address the diverse information needs and preferences of different population segments. Previous research has highlighted the importance of tailoring messaging to resonate with specific audiences and promote engagement with environmental issues (Smith & Brown, 2018). Media outlets can create compelling narratives that capture viewers' attention and foster a deeper understanding of climate change impacts and solutions by employing educational content, visual storytelling, and interactive platforms.

Moreover, qualitative insights suggest that collaboration between media organizations, environmental experts, and community stakeholders is essential for delivering accurate and informative exposure to climate change issues. By leveraging the expertise of scientists, policymakers, and grassroots activists, media outlets can provide audiences with credible information and diverse perspectives on climate-related topics (Jones et al., 2020). This collaborative approach enhances the quality of media content and builds trust and credibility among viewers, encouraging them to take meaningful actions to address climate change.

Quantitative data further support the importance of interactive and participatory media strategies in improving public cognizance and understanding of climate change in Pakistan. Participants who reported engaging with multimedia content, such as documentaries, webinars, and social media campaigns, demonstrated higher levels of knowledge and interest in environmental issues. This finding underscores the potential of multimedia platforms to reach diverse audiences and facilitate interactive learning experiences that promote climate change literacy (Garcia & Smith, 2017).

Additionally, the quantitative analysis highlights the role of media literacy programs and educational initiatives in enhancing public sympathy for climate change. Participants who had access to formal or informal educational resources on environmental topics exhibited greater cognizance and concern about climate change, indicating the positive impact of educational interventions on shaping attitudes and behaviors (Brown et al., 2019). Media outlets can build a more informed and environmentally conscious society by integrating climate change education into school curricula, public cognizance campaigns, and community outreach programs.

The findings from both the qualitative and quantitative analyses align with existing literature on effective strategies for improving public cognizance and understanding of climate change through media coverage. Studies have emphasized the importance of targeted messaging, collaboration with experts, and multimedia engagement in enhancing climate change literacy and promoting sustainable behaviors (Leiserowitz et al., 2018). Our research further underscores the need for comprehensive and inclusive communication approaches that empower individuals to make informed decisions and take action on climate change.

Moreover, integrating qualitative insights on the role of collaboration and targeted messaging with quantitative data on the impact of multimedia engagement and educational interventions provides a holistic view of effective strategies for climate change communication. Research has highlighted the potential of interactive media campaigns, community partnerships, and educational initiatives in fostering climate change awareness and action (Smith & Garcia, 2020). By combining these approaches and tailoring communication strategies to the specific needs of diverse audiences, media outlets can play a crucial role in advancing climate change literacy and driving positive social change.

5.1 Delimitations

One of the primary delimitations of this study was the decision to refrain from applying a wider number of hypotheses. Several factors influenced this choice:

1. **Scope and Depth**: The study aimed to provide a detailed analysis of the relationship between media exposure and climate change literacy among the Pakistani population. Including a broader range of hypotheses could have diluted the focus and depth of the analysis, making it challenging to provide comprehensive insights into specific relationships.

2. **Clarity and Manageability**: Keeping the number of hypotheses manageable ensured that the study remained clear and concise. It allowed for a more focused approach to data collection and analysis, making it easier to draw meaningful conclusions and provide actionable recommendations.
3. **Initial Findings and Literature Review**: The initial literature review and preliminary findings suggested that a focused examination of the media's role in climate change literacy would yield the most significant insights. As a result, the study prioritized depth over breadth, concentrating on the most critical aspects identified during the initial research phase.

5.2 Conclusion

In conclusion, this study has delved into the part of media in creating climate change literacy in Pakistan, focusing on analyzing media coverage, public perceptions, and the impact of communication strategies. Valuable insights have been gained by investigating the dominant frames used in climate change media coverage, assessing the influence of media exposure on public knowledge and attitudes, examining factors shaping public perceptions, and developing recommendations for enhancing awareness through media.

The analysis of keyframes in climate change media coverage highlighted the diverse topics covered, reflecting the multifaceted nature of climate change discourse in Pakistan. This understanding is crucial for shaping effective communication strategies that resonate with the public and drive engagement on environmental issues.

The study also underscored the momentous impact of climate change media coverage on public knowledge, attitudes, and behaviors. Media emerged as a powerful tool for raising awareness, initiating discussions, and influencing perceptions about climate change among Pakistanis. By leveraging the reach and influence of media platforms, opportunities exist to enhance climate change literacy and foster sustainable behaviors.

Moreover, identifying demographic characteristics and media consumption habits influencing public perceptions of climate change provides valuable insights for targeted communication approaches. Tailoring messages to different audience segments based on these factors can help bridge knowledge gaps and cultivate a more informed and concerned citizenry regarding climate change issues.

The recommendations in this study aim to guide media practitioners and policymakers in improving climate change awareness through strategic communication efforts. By incorporating expert perspectives, explaining scientific concepts, emphasizing local relevance, and highlighting the urgency of climate action, the media can play a pivotal role in driving positive change and promoting sustainable practices in Pakistan.

Overall, this research contributes to the upward body of knowledge on climate change communication and underscores the decisive role of media in influential public sympathy and engagement on environmental issues. By fostering climate change literacy through effective media coverage, we can work towards building a more environmentally conscious and resilient society in Pakistan, equipped to address the challenges of a changing climate.

5.3 Recommendations

This section engages in a comprehensive discussion of the findings presented in the previous section, analyzing the implications and significance of the results in the context of climate change communication in Pakistan. Synthesizing the key findings on media frames, public perceptions, and communication strategies aims to uncover underlying patterns, challenges, and opportunities that can inform strategic interventions and policy decisions. Through critically examining the interplay between media representations, public sympathy, and behavioral responses to climate change, this discussion seeks to unravel the complexities of climate change communiqué dynamics in the Pakistani context. By exploring the nuances of how media narratives shape public perceptions and drive engagement on environmental issues, leverage points for enhancing the effectiveness of climate change communication efforts can be identified. Additionally, this discussion sets the stage for proposing actionable recommendations and charting a course for future research and practice in advancing climate change literacy and fostering sustainable behaviors in Pakistan. Subsequently, the section will present targeted recommendations aimed at enhancing climate change literacy, fostering sustainable practices, and mobilizing collective action in the context of Pakistan. Some recommendations are concluded below.

1. **Diversification of Climate Change Frames**: Media outlets in Pakistan should strive to diversify the frames used in climate change coverage to encompass a wide range of topics, such as impacts on ecosystems, policy challenges, weather patterns, and conservation efforts. By presenting a comprehensive picture of climate change issues, media can engage a broader audience and foster a more nuanced understanding of the complexities involved.

2. **Interactive and Engaging Content**: To enhance the impact of climate change media coverage on public knowledge and insolences, media platforms should consider incorporating interactive and engaging content formats. Utilizing visuals, infographics, videos, and interactive tools can make climate change information more accessible and compelling to diverse audiences, increasing engagement and retention of key messages.
3. **Tailored Communication Strategies**: Understanding the demographic characteristics and media consumption habits influencing public perceptions of climate change is essential for tailoring communication strategies. Media practitioners should segment their audience based on these factors and tailor messages to resonate with different groups. By addressing specific concerns and interests, the media can effectively reach and engage a wider spectrum of the Pakistani public.
4. **Collaboration with Experts and Scientists**: Media outlets should prioritize collaboration with experts and scientists to ensure accurate and informative coverage of climate change issues. By consulting with credible sources, media can enhance the quality and credibility of their content, providing audiences with reliable information and fostering trust in climate change narratives.
5. **Promotion of Local Solutions and Actions**: Media coverage should highlight local solutions and actions that individuals and communities can take to address climate change. By showcasing success stories, initiatives, and practical steps that people can implement daily, the media can empower the public to contribute to climate resilience and sustainability at the grassroots level.
6. **Advocacy for Policy Change and Collective Action**: Media platforms have the potential to advocate for policy change and collective action on climate change. By amplifying the voices of activists, policymakers, and community leaders advocating for environmental protection, the media can mobilize public support for impactful policy measures and collective initiatives to address climate challenges effectively.
7. **Continuous Monitoring and Evaluation**: Media organizations must continuously monitor and evaluate the impact of their climate change coverage on public cognizance and attitudes. By collecting feedback, conducting surveys, and analyzing audience engagement metrics, media outlets can assess the effectiveness of their communication strategies and make informed adjustments to optimize their impact.

8. **Increase the effectiveness of Pre and Post-Disaster programs:** To understand the need for improving climate change communication in Pakistan, one of the first primary discoveries is the lack of pre and post-disaster reportage. From the content analysis, it was observed that media in Pakistan provides extensive coverage of disasters after they have occurred, while prevention messages and messages regarding events after disasters are insufficiently covered. Thus, future research must fill the gap by detailing and practicing ways of enhancing pre and post-disaster media reporting. This can be done by both the survey method and the content analysis and interview method with the personnel in the organizations. Such studies would help to discern the factors that at present hinder complete disaster coverage and establish ways of overcoming these difficulties. In this way, the media can become more proactive regarding disasters and thus become a significant factor in improving a society's disaster preparedness and mitigations.
9. **Specialized Journalist Training Programs here include the following:** The next recommendation is to promote and encourage offering specific courses relevant to environment and climate change for the journalists. Climate change is a multifaceted phenomenon; therefore, journalists need to have adequate knowledge of matters concerning the environment and how to present the information to society. Such training programs should enable the various media practitioners to train them on how to report climate change. It should comprise a wide area of climate change communication, which may comprise the science behind climate change and its impacts economically and socially, as well as policy and governance. Furthermore, the significance and processes of these training programs should be widely publicized to make the media outlets pay much attention to the skills improvement of their journalists in the field.
10. **Addressing Information Deficiency:** To remedy the problem of information imbalance in climate change communication, further research should establish the existing ignorance or lack of adequate information in the general populace. This may be accomplished by developing a more easily consumable and processable climate information product properly segmented for target populations. For instance, messages can be portrayed through refreshed infographics, brief videos, or app-like content to pass scientific messages in a more relatable manner to the common public. However, it is also pointed out that for all the segments of society to receive the right and appropriate information regarding the

climate, targeted communication strategies should also be implemented. By adopting this approach, one will be able to address the shortcomings of communicating complex climatological information to the public and increase climate literacy.

11. **Application of Qualitative Research Designs:** Based on the diverse and accentuated nature of climate change, it is suggested that future research acquire quantitative research approaches and methodologies, including interviews, focus group discussions, and thematic analysis. These methods are more suitable, especially when discovering people's attitudes, perceptions, and beliefs about climate change. Illustration: Exploration research methods such as interviewing key stakeholders such as the community heads, policymakers, and environmentalists of the society in question can research important facts about the barriers/facilitators to climate change communication. In the same manner, focus group discussions can be employed to collect multiple views on climate problems and organize discussions on the efficacy of various communication approaches. On the other hand, thematic analysis may aid in understanding the recurrences and patterns in the data, hence the social and cultural aspects of communicating climate change.
12. **Building Effective Climate Change Messaging Strategies:** As climate change communication is a complex concept, means, measures, and strategies should be implemented towards achieving the goal and objectives of communicating climate change by establishing effective communication frameworks that suit the needs of the target groups. These frameworks should be informed by literature on effective practice in climate change communication and emerging research. Some of these frameworks should include instantiation with clear and coherent messages and incorporating locally familiar examples, visuals, and narratives. Also, the frameworks should consider stating that natural and post-calamity communication should be accommodated in the framework with the key message of building trust and engaging the audience through media.
13. **Boosting the Function of Media in Climate Education:** Last but not least, it is suggested that the media organizations working in Pakistan should assertively play a role in raising awareness of the climate in Pakistan. These can be attained by expanding content production in terms of both the number of climate-related products and by educating more people through the partnerships between media and educational organizations about climate change. It is also important that media organizations hire NGOs, government

bodies, and independent climate experts to produce better qualitative content that is informative and engaging at the same time. Through increasing activists and extensiveness, the media actively makes people knowledgeable about climate change and encourages individual and collective action.

By implementing these recommendations, media outlets in Pakistan can play a pivotal role in creating climate change literacy, fostering informed discussions, and mobilizing collective action toward a more sustainable and resilient future.

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Appendix

National University of Modern Languages Islamabad

DEPARTMENT OF MASS COMMUNICATION

Dear Respondent,

I am working on a research project titled **"ROLE OF MEDIA IN CREATING CLIMATE CHANGE LITERACY: A CASE STUDY OF PAKISTAN".** This research cannot be completed without your cooperation and help. I therefore, request you to provide necessary information by filling the following questionnaire. I assure you that all the information provided by you will be kept confidential and used for research purpose only.

Your honest and objective response will be highly appreciated.

Section I: Personal Information

Gender:	☐ Male	☐ Female	☐ Other
Age:	☐ 18 Years	☐ 20 – 25 Years	☐ 25 – 30 Years
	☐ 30 – 35 Years	☐ 35 Years	
Level of Education:	☐ Doctorate	☐ Masters	☐ Bachelors
	☐ Intermediate	☐ Matriculation	
Frequency of Exposure to Climate Change Content:		☐ Weekly	☐ Monthly
			☐ None

Section II:

Please indicate your views by making a tick with the box of your choice against each statement.

SA= Strongly Agree, A= Agree, UD= Undecided, DA= Disagree, SDA = Strongly Disagree

Sr.#	Statement	SDA	DA	UD	A	SA
1.	Are media stories that highlight the impact of climate					

	change on everyday life effective for you?					
2.	Are you following any social media accounts that post about climate change?					
3.	Do you believe that the media coverage on climate change is sufficient?					
4.	Do you come across climate change related content on media?					
5.	Do you discuss climate change with others after watching about it in the media?					
6.	Do you find media coverage that explains the science behind climate change helpful?					
7.	Do you find media stories that relate climate change to local issues more effective?					
8.	Do you find the use of visuals in media coverage helpful in understanding climate change better?					
9.	Do you prefer reading stories that offer solutions to combat climate change?					
10.	Do you trust the information about climate change presented in the media?					
11.	Does media coverage that includes expert opinions increase your understanding of climate change?					
12.	Has media coverage on climate change made you more concerned about the environment?					
13.	Have you changed your behaviors due to media coverage on climate change?					
14.	Have you ever attended any events or webinars about climate change after getting info from media?					
15.	Have you participated in climate change initiatives after watching media coverage?					
16.	Have you read any books or articles about climate change?					
17.	How much do you agree that you actively participate in activities or initiatives aimed at combating climate change?					
18.	How strongly do you agree that climate change is the most serious issue facing humanity today?					
19.	How strongly do you agree that you frequently use public transportation, bike, or walk instead of using a personal car to help reduce greenhouse gas emissions?					
20.	To what extent do you agree that you have made significant changes in your daily life to reduce your carbon footprint?					
21.	To what extent do you agree that your perception of climate change has significantly evolved over the past five years?					
22.	Do you consider yourself well-informed about climate change?					

23.	Has media coverage changed your attitude towards climate change?					
24.	Has media coverage increased your knowledge about climate change?					
25.	Has media coverage increased your understanding of climate change?					
26.	Has media coverage on climate change made you more aware of its impact on future generations?					
27.	How much do you agree that individual actions can make a significant impact on climate change?					
28.	Do you find media coverage that discusses the economic impact of climate change effective?					
29.	Does media coverage that highlights the global consensus on climate change increase your understanding?					
30.	How much do you agree that social media platforms (like Facebook and WhatsApp) extensively cover climate change?					
31.	How strongly do you agree that radio broadcasts frequently discuss climate change?					
32.	Is media coverage that includes personal stories about climate change impactful for you?					
33.	To what extent do you agree that traditional media (like TV and newspapers) provide substantial coverage on climate change?					
34.	Do you feel that media outlets should implement strategies to engage diverse demographic groups in discussions about climate change?					
35.	Do you think that media coverage can inspire and encourage individuals to take meaningful actions toward mitigating climate change?					
36.	How effective do you think specific types of media content could be in fostering climate change awareness and understanding in Pakistan?					
37.	Please rate your agreement with the statement: "Media plays a crucial role in promoting sustainable behaviors and practices to combat climate change among the general public."					
38.	Should the media collaborate more with experts and scientists to ensure accurate and informative coverage of climate change issues?					
39.	To what extent do you believe that improvements can be made in media coverage to better communicate the urgency of climate change in Pakistan?					
40.	To what extent do you feel that media outlets in Pakistan inadequately address the complexities of climate change?					