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Language, Social Media, and Climate Change: The Role of Language in Driving Climate Awareness in the Digital Age

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Abstract

Objectives: This study examines the impact of linguistic choices on enhancing climate awareness in the modern digital environment, focusing specifically on social media platforms within the Indonesian sphere. The motivation for this research stems from the urgent nature of climate change, which has significantly affected public health, economic stability, and the sustainability of ecosystems throughout Indonesia. With Indonesia's number of social media users exceeding 191 million as of 2023, these online platforms hold tremendous potential for disseminating knowledge and raising awareness about climate issues. However, the frequent use of arcane language in climate change discussions often escapes the understanding of the general populace, thus hindering the generation of an effective response.

Methods: The study employed a quantitative survey approach with 120 participants, selected through stratified random sampling, to examine social media interaction patterns, climate change perceptions, and linguistic frameworks in climate-related discourse.

Results: The results of this investigation indicate a preference among many participants, especially young adults, to use social media primarily for entertainment rather than for environmental education. Despite this inclination, social media remains a crucial source of climate change information for a significant portion of those surveyed. It is observed that straightforward and contextually appropriate language is significantly more effective in conveying climate change information than employing intricate, specialized terminology.

Conclusion: This study highlights the critical need for comprehensible language to promote a more comprehensive understanding and involvement with climate change matters, thus aiding the collective effort toward environmental conservation.

Keywords: Climate awareness; climate change; communication; language; social media

اللغة ووسائل التواصل الاجتماعي وتغير المناخ: دور اللغة في زيادة الوعي بالمناخ في العصر الرقمي

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ملخّص

الأهداف: تهدف هذه الدراسة إلى فحص تأثير الاختيارات اللغوية في تعزيز الوعي بالمناخ في البيئة الرقمية الحديثة، مع التركيز بشكل خاص على منصات وسائل التواصل الاجتماعي في الساحة الإندونيسية. تنبع دوافع هذا البحث من الطبيعة الملحة للتغير المناخي، والذي أثر بشكل كبير على الصحة العامة، واستقرار الاقتصاد، واستدامة النظم البيئية في مختلف أنحاء إندونيسيا. ومع تجاوز عدد مستخدمي وسائل التواصل الاجتماعي في إندونيسيا 191 مليون مستخدم بحلول عام 2023، تمتلك هذه المنصات إمكانيات هائلة لنشر المعرفة وزيادة الوعي حول القضايا المناخية. إلا أن الاستخدام المتكرر للغة معقدة في مناقشات التغير المناخي غالبًا ما يخرج عن نطاق فهم العامة، مما يعيق توليد استجابة فعالة

المنهجية: اعتمدت الدراسة على نهج المسح الكمي بمشاركة 120 فرداً تم اختيارهم من خلال العينة العشوائية الطبقية، وذلك لدراسة أنماط التفاعل مع وسائل التواصل الاجتماعي، وتصوراتهم حول التغير المناخي، والأطر اللغوية المستخدمة في الخطاب المتعلق بالمناخ.

النتائج: تشير نتائج هذا البحث إلى تفضيل العديد من المشاركين، وخاصة الشباب، لاستخدام وسائل التواصل الاجتماعي أساسًا لأغراض الترفيه بدلاً من التثقيف البيئي. ورغم هذا الميل، تظل وسائل التواصل الاجتماعي مصدرًا مهمًا للمعلومات حول التغير المناخي لجزء كبير من المستطلعين. وقد لوحظ أن استخدام لغة بسيطة ومناسبة للسياق يكون أكثر فعالية بشكل ملحوظ في نقل معلومات التغير المناخي مقارنةً باستخدام المصطلحات المعقدة والمتخصصة

الخلاصة: تسلط هذه الدراسة الضوء على الحاجة الملحة لاستخدام لغة مفهومة لتعزيز الفهم الشامل والمشاركة في قضايا التغير المناخي، مما يسهم في دعم الجهود الجماعية نحو الحفاظ على البيئة

الكلمات المفتاحية: الوعي المناخي، التغير المناخي، التواصل، اللغة، وسائل التواصل الاجتماعي

Introduction

The phenomenon of climate change has emerged as a pressing global concern, exerting profound effects on myriad facets of existence, encompassing public health, economic stability, and the integrity of ecosystems (Bosone & Nocca, 2022; Granderson, 2017; Irwin, 2021; Park, 2020; Pendergrass et al., 2019; Poberezhskaya, 2018). Within the confines of Indonesia, the ramifications of climate change are palpable, manifesting in the augmented frequency of natural calamities, alterations in meteorological patterns, and the encroachment of rising sea levels upon coastal territories (Luqman, 2021; Nurbawa et al., 2015; Zein et al., 2024). Despite a burgeoning consciousness regarding climate change, concerted action remains imperative to tackle this challenge holistically.

The advent of the digital epoch presents a formidable avenue for amplifying awareness and galvanizing collective endeavors via social media platforms. Indonesia is a preeminent nation in social media utilization, boasting an expansive user base. Data from We Are Social and Hootsuite indicates the presence of over 191 million active social media participants in Indonesia, representing 69.3% of the nation's populace (Social & HootSuite, 2021). Platforms such as Instagram, YouTube, TikTok, and Facebook enjoy considerable popularity, particularly within the younger demographic, underscoring the immense potential of social media as a medium for disseminating information and cultivating awareness about climate change.

The employment of language is pivotal in the communication of climate change on social media (Fernández-Vázquez & Sancho-Rodríguez, 2020; Loureiro & Alló, 2020; Ruyffelaert, 2022). Language serves not merely as a vehicle for transmitting information but also as a molder of comprehension and a determinant of individual attitudes and behaviors. In the Indonesian context, the judicious selection of language in the climate change discourse is paramount, given the nation's cultural heterogeneity and the spectrum of literacy levels. Utilizing specialized terminology, such as "carbon emissions" and "carbon footprint," may not resonate with the lay audience, potentially impeding understanding and eliciting desired responses.

This scholarly inquiry endeavors to elucidate the role of language in enhancing climate awareness in the digital era, with a particular focus on social media within Indonesia. Our perception of the world is inextricably linked to how information is articulated and assimilated. For instance, prior studies have demonstrated that straightforward, comprehensible, and contextually pertinent language is more efficacious in imparting messages about climate change and spurring individuals to action than language laden with technical complexity.

An extensive body of scholarly work exists on the discourse surrounding climate change; however, there remains a notable absence of knowledge regarding the impact of specific linguistic choices employed on social media platforms on the perceptions and subsequent actions related to climate change, particularly within the Indonesian milieu. The preponderance of extant studies concentrates on a global scale or is confined to Western nations, frequently neglecting the unique circumstances of locales such as Indonesia.

Scholarly inquiries by Moser (2010, 2016, 2017) and Sabherwal et al. (2021) have elucidated that language steeped in technical and scientific jargon frequently fails to resonate with the lay public. Nonetheless, an absence of comprehensive understanding remains concerning the employment of simplified, contextually pertinent language to surmount this barrier. Furthermore, investigations by León et al. (2022), Diehl et al. (2021), and Schäfer & Painter (2021) have underscored the pivotal function of social media as a conduit for disseminating climate change information, yet comprehensive research into the linguistic attributes on these platforms and their influence on Indonesian users' perceptions and behaviors is conspicuously lacking.

Recent analyses have again underlined communication as one of the key tools in effectively engaging the public with their climate concerns. For instance, Wang et al. (2023) prove that messages tailored without complex jargon improve awareness about climate across different groups. Similarly, Roberts & Emmett (2022) have discussed the role of simplified language in improving public engagement with climate information on social media. They surmised that personalizing the content and placing it into region-specific social media forums allows one to better engage an audience located within a non-Western context. Furthermore, Gupta et al. (2023) and Zarei et al. (2022) indicate that climate discourse on social media has a number of specific challenges and some opportunities in the Global South, especially in multilingual and

multicultural settings-as in Indonesia-where linguistic and cultural nuances result in differential reception of information.

These recent findings indicate a need to conduct research on smaller scales in Indonesia. While exploratory analyses have been carried out on the results of such usage-working pieces include those by León et al. (2022) and Diehl et al. (2021) - the general understanding of exactly how specific linguistic choices influence Indonesian users in terms of perceptions and actions related to climate change remains limited. The indication of existing gaps, as projected in recent literature, might provide a quite improved redevelopment of communication strategies toward raising climate awareness and encouraging behavior change in Indonesian audiences.

Addressing this lacuna is imperative for formulating more efficacious, tailored communication strategies that enhance cognizance and catalyze action regarding climate change within Indonesia. Comprehending the influence of language on social media regarding climate change perceptions and actions enables the crafting of messages that resonate with diverse demographic segments, augmenting public comprehension and spurring the tangible actions requisite for addressing this pressing issue. Indonesia's pivotal position in the global climate change dialogue further magnifies the significance of bridging this knowledge gap. As a nation with the highest carbon emissions and an archipelago acutely susceptible to climate change ramifications, Indonesia's endeavors to elevate awareness and instigate action bear profound national and international consequences.

Employing a quantitative survey methodology, this investigation will amass data to yield profound insights into the patterns of social media utilization in Indonesia, the populace's climate change perceptions, and the linguistic characteristics of related communications. Anticipated outcomes of this study include identifying optimal communication strategies to bolster public awareness and engagement in climate change mitigation initiatives.

Moreover, this research aspires to proffer pragmatic recommendations for policymakers, environmental advocates, and communication experts endeavoring to galvanize collective action via social media. Considering the pivotal role of social media as a communicative instrument in Indonesia, the findings of this study are poised to contribute significantly to the advancement of more potent and consequential strategies in elevating awareness and action on climate change among the Indonesian populace.

Methods

The study employs quantitative research methodology, complemented by a survey technique, to examine the influence of linguistic constructs on the augmentation of climate consciousness in the contemporary digital epoch via social media platforms. The selection of a survey design is predicated on its capacity to facilitate the acquisition of expansive and representative datasets about patterns of social media utilization, the public's perceptions regarding climate alteration, and the linguistic modalities employed in the discourse surrounding this pertinent topic.

Participants

This study incorporated 120 individuals selected via a stratified random sampling methodology. The criteria for inclusion were meticulously designed to encompass a broad spectrum of ages, genders, and educational backgrounds, thereby ensuring a heterogeneous sample (See Table 1). Analysis of the demographic data revealed a preponderance of participants within the 21-30-year age bracket, constituting 35% of the total cohort. This predominance of young adults may indicate a more pronounced engagement with social media platforms and, consequently, a greater likelihood of encountering information about climate change.

Gender distribution among the participants was skewed towards females, with 43 male participants (36%) and 77 female participants (64%). This disparity may reflect a tendency for women to participate more frequently or to exhibit more significant interest in research concerning linguistics, social media, and environmental issues. Educational attainment among the respondents was predominantly at the high school (33%) and bachelor's degree (34%) levels, suggesting that individuals with secondary and higher education are more inclined to engage in academic studies.

Before participating, each respondent received a comprehensive briefing on the research objectives, the methodologies employed, and their respective rights and responsibilities. They were required to consent by signing a document that

affirmed their comprehension of an agreement to participate in the research endeavor.

Data Collection

The data collection was meticulously executed through a digital questionnaire for this study. This questionnaire was segmented into distinct principal divisions. The initial division garnered demographic data encompassing the age, gender, and educational attainment of the participants. Subsequently, the second division ascertained the daily duration of social media engagement, the platforms most frequently patronized, and the primary objectives for utilizing social media.

In the third division, the assessment focused on the participants' perceptions of climate change. This included the regularity with which they encountered content related to climate change, their evaluation of the issue's significance, and the predominant sources from which they derived information on the subject. The subsequent division scrutinized the utilization of language within communications about climate change, emphasizing the frequency with which technical terminology was employed, the comprehensibility of the language utilized, and the influence of climate change content on the participants' conduct.

The final division delved into the attitudes and behaviors exhibited by participants after their exposure to climate change content on social media platforms. The questionnaire was administered online to ensure ease of access and expand the spectrum of potential respondents. Data collection spanned one month, deemed sufficient to secure a comprehensive and representative compilation of responses.

Data Analysis

The gathered data was examined using the most recent iteration of the SPSS software, an acronym for Statistical Package for the Social Sciences. The analytical process was segmented into distinct phases for precision. Initially, a descriptive analysis was employed to delineate the demographic attributes of the participants, delineate the usage patterns of social media, and elucidate perceptions about climate change. The data were systematically displayed in frequency tables and illustrative diagrams to explain the distribution of the participant responses.

Subsequently, a correlation analysis was undertaken to ascertain the association between the utilization of social media and the degree of cognizance and proactive measures concerning climate change. The Pearson correlation coefficient was utilized to quantify the magnitude and trajectory of the interrelation among the variables under scrutiny. Following this, a regression analysis was executed to pinpoint the determinants that significantly influence the awareness and initiatives related to climate change. Linear regression models were applied to assess the impact of each independent variable on the dependent variable, thereby elucidating their respective contributions.

Lastly, an in-depth qualitative analysis of the open-ended responses furnished by the respondents was carried out to acquire a profound understanding of their perspectives and experiences concerning climate change issues and the role of social media in communicating these concerns. The qualitative data were scrutinized using the thematic analysis to distill salient themes and discernible patterns.

Results

Demographical Information

The research encompassed a cohort of 120 participants, encompassing various ages, genders, and educational backgrounds. The demographic information garnered comprehensively depicts the population's attributes pertinent to the investigation. This inquiry delves into the correlation between the utilization of language on social media platforms and the consciousness of climate change issues (see Table 1).

Table 1. Demographical Information of Respondent

Age	Quantity	Percentage
10 -- 20	31	26%
21 -- 30	42	35%
31 -- 40	25	21%

Age	Quantity	Percentage
41 -- 50	13	11%
> 50	9	8%
	120	
Gender	**Quantity**	**Percentage**
Male	43	36%
Female	77	64%
	120	
Latest Education	**Quantity**	**Percentage**
Elementary School	12	10%
Secondary School	17	14%
Senior High School	39	33%
Undergraduate	41	34%
Postgraduate	11	9%
	120	

The preponderance of participants falling within the 21–30-year age bracket signifies a pronounced inclination towards social media utilization and a potential increase in awareness of climatic alterations among the young adult demographic. Regarding gender distribution, more females participated, delineating 43 male respondents (36%) contrasted with 77 female respondents (64%). This data indicates a propensity for females to engage more actively or participate more frequently in inquiries concerning linguistics, social media, and climatic variations. Additionally, a substantial segment of the participants possessed educational qualifications at the secondary and tertiary levels, comprising 33% and 34% of the total participants, respectively. This indicates a more substantial representation of individuals with high school and undergraduate education within the confines of this research.

Social Media Usage

The data presented a series of intriguing correlations concerning the daily duration of social media engagement, the predominant platforms utilized, and the principal motivations behind social media interaction. This segment will elucidate these observations within the interplay among linguistic expression, social media, and the discourse on climate change.

Examining the duration of social media engagement among participants reveals a noteworthy diversity. A plurality of respondents, representing 33%, engage with social media for a period ranging from one to two hours daily. This is closely followed by individuals who allocate two to four hours daily, accounting for 29%. Meanwhile, 23% of participants limit their social media usage to less than one hour per day, and the remaining 16% are immersed in social media for more than four hours daily. The substantial period dedicated to social media underscores its pivotal role in the fabric of contemporary society, serving as a conduit for the expeditious and expansive exchange of information and interpersonal communication (see Figure 1).

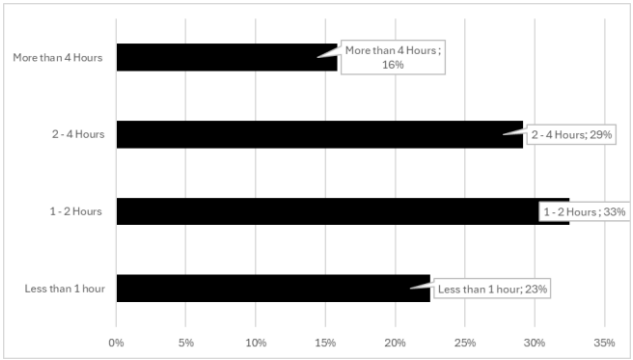

Figure 1. Daily Social Media Usage Duration

Regarding the prevalence of social media platforms, Instagram emerges as the predominant choice, with 31% of participants identifying it as their principal platform. YouTube, garnering 19%, TikTok with 18%, and Facebook at 14%, similarly exhibit significant favor among participants. Twitter, also at 14%, maintains a comparable utilization level, whereas LinkedIn commands a more modest constituency, representing 4% of users. The pronounced engagement with Instagram, YouTube, and TikTok may be ascribed to their inherently visual and dynamic nature, which resonates particularly with the younger adult demographic (see Figure 2).

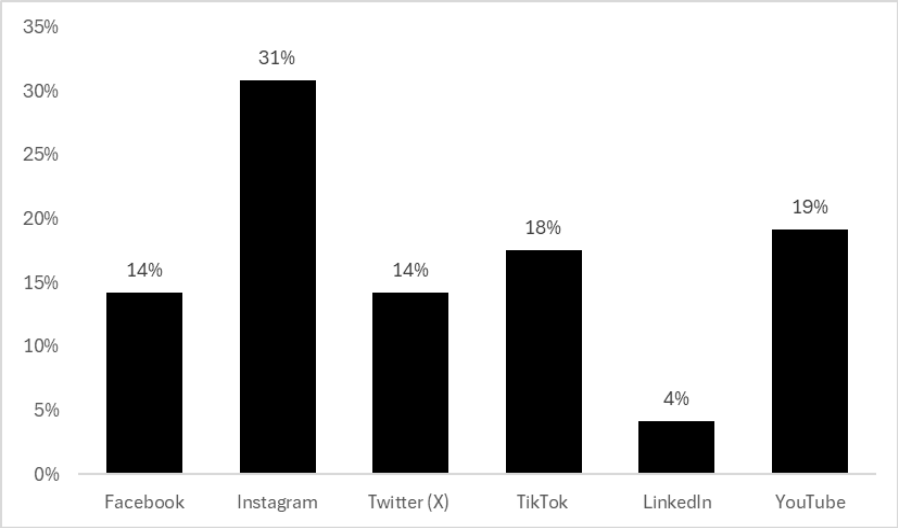

Figure 2. Most Frequently Used Social Media Platforms

The utilization of social media serves diverse purposes. A significant proportion of individuals, approximately 39%, engage with these platforms primarily for amusement, indicating that such digital spaces are frequently sought for leisure activities. Furthermore, 29% of the participants use social media to acquire information, highlighting its pivotal function as a knowledge repository. Additionally, 18% of the respondents employ social media as a conduit for maintaining connections with friends and relatives, while a modest 14% harness these networks to advocate for social and environmental initiatives. Despite the comparatively lower percentage of users championing societal and ecological concerns, this figure reflects a conscious engagement and willingness to contribute to salient issues via the digital realm (see Figure 3).

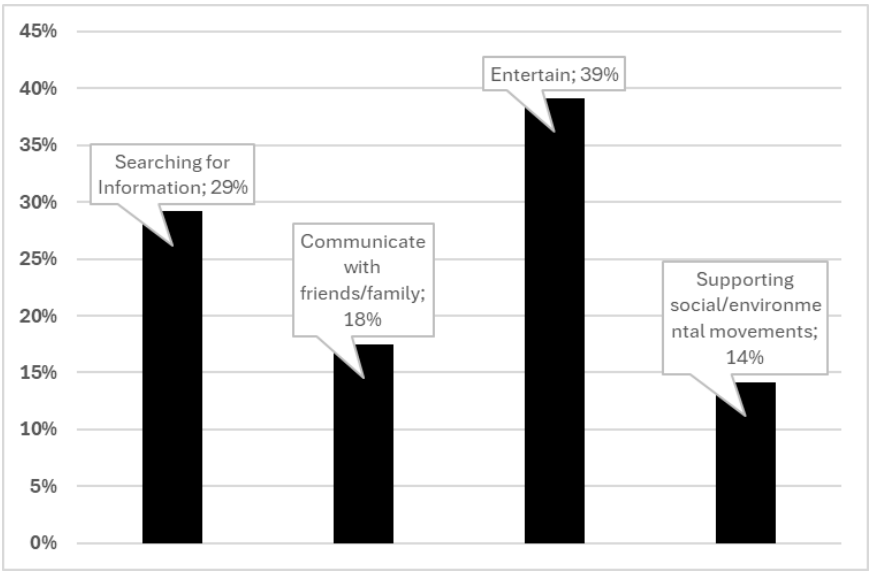

Figure 3. The Main Purpose of Using Social Media

Examining current trends indicates that social media exerts a considerable influence on the fabric of everyday life, with a pronounced emphasis on entertainment and the pursuit of knowledge. Platforms such as Instagram, YouTube, and TikTok command a significant presence among survey participants, presenting a prime opportunity for deploying climate change awareness initiatives that capitalize on visual and interactive content. Given the substantial proportion of individuals who resort to these networks for informational purposes, social media emerges as a potent instrument for educational endeavors.

While the employment of social media as a lever for social and environmental advocacy is not yet prevalent, its capacity for impact is noteworthy. This highlights the criticality of devising an adept communication strategy to enhance public consciousness and engagement with ecological matters via the channels most frequented by the intended demographic. Through judiciously crafted campaigns, social media harbors the potential to catalyze behavioral shifts conducive to environmental stewardship and advancing sustainable practices.

Public Perception of Climate Change

The survey's findings elucidate the variegated perceptions of climate change among social media users, contingent upon their frequency of exposure to pertinent content, the weight they accord to the issue, and their preferred sources of information. The data from this inquiry sheds light on the public's understanding of climate change matters and the instrumental role social media fulfills in propagating information on the subject.

An analysis of the frequency with which individuals encounter climate change discourse on social media platforms reveals that a plurality, constituting 41%, encounters such content several times a month. A smaller segment, 22%, engages with climate change narratives several times a week, and a mere 6% encounter them daily. Conversely, 32% of those surveyed seldom come across content related to climate change. These statistics suggest that although there is a degree of regular exposure to climate change discourse on social media, it does not feature prominently in the daily information consumption of most users. This underscores the imperative to augment climate change content's frequency and prominence, extending its reach to a broader and more consistently engaged audience (see Figure 4).

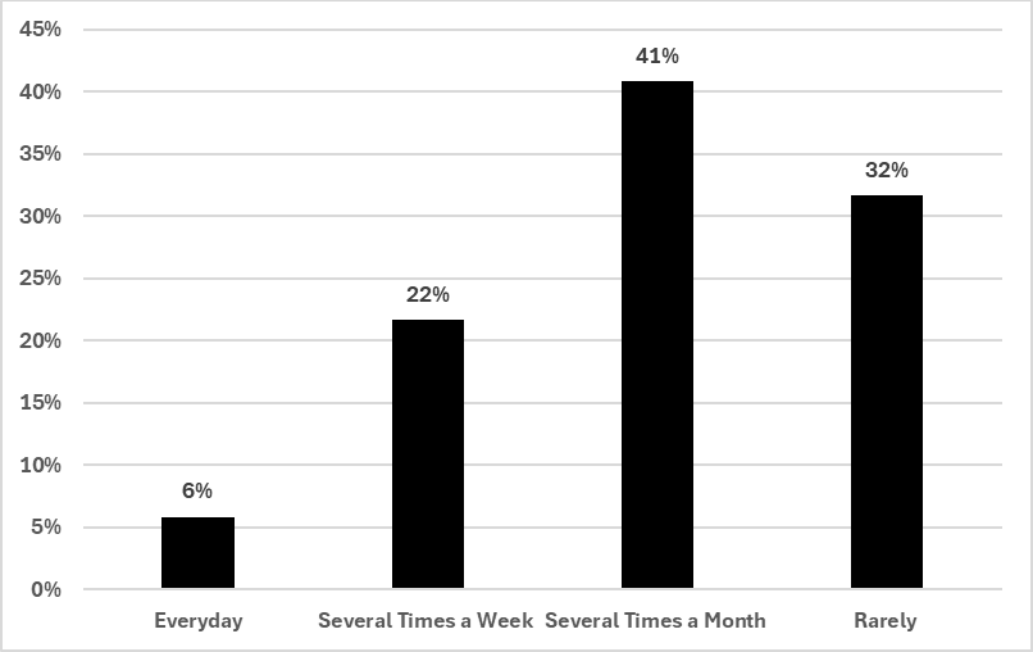

Figure 4. Frequency of Viewing Climate Change Content on Social Media

The perception of the gravity of climate change issues exhibits considerable variation among the populace. A measured 38% of survey participants deem climate change to be of substantial significance, while a further 28% regard it as moderately significant. In contrast, a minority of 14% of the respondents express that the issue is paramount, and an

additional 19% perceive it to be negligible. These statistics indicate that, despite a notable level of recognition regarding the importance of climate change, a considerable segment of the citizenry has yet to comprehend or acknowledge the pressing nature of the matter fully. This observation underscores the imperative for more efficacious communicative approaches to enhance the collective awareness and understanding of the ramifications of climate change (see Figure 5).

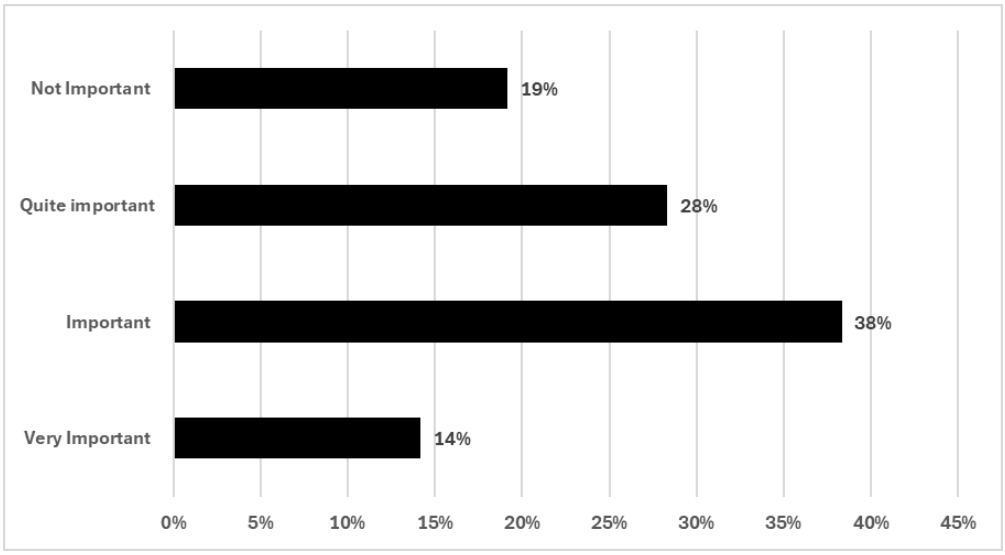

Figure 5. Perception of Climate Change Issues

The origins of information about climate change differed among the participants surveyed. A plurality, constituting 34%, cited social media as their principal source, while 27% indicated a preference for online news outlets. Television was the chosen medium for 18% of respondents, scientific periodicals accounted for 13%, and traditional print media was favored by 9%. The preeminence of social media in disseminating knowledge on climate change underscores its pivotal role. Owing to its engaging and readily available characteristics, social media harbors a significant capacity to heighten consciousness and shape societal viewpoints regarding climate change phenomena (see Figure 6).

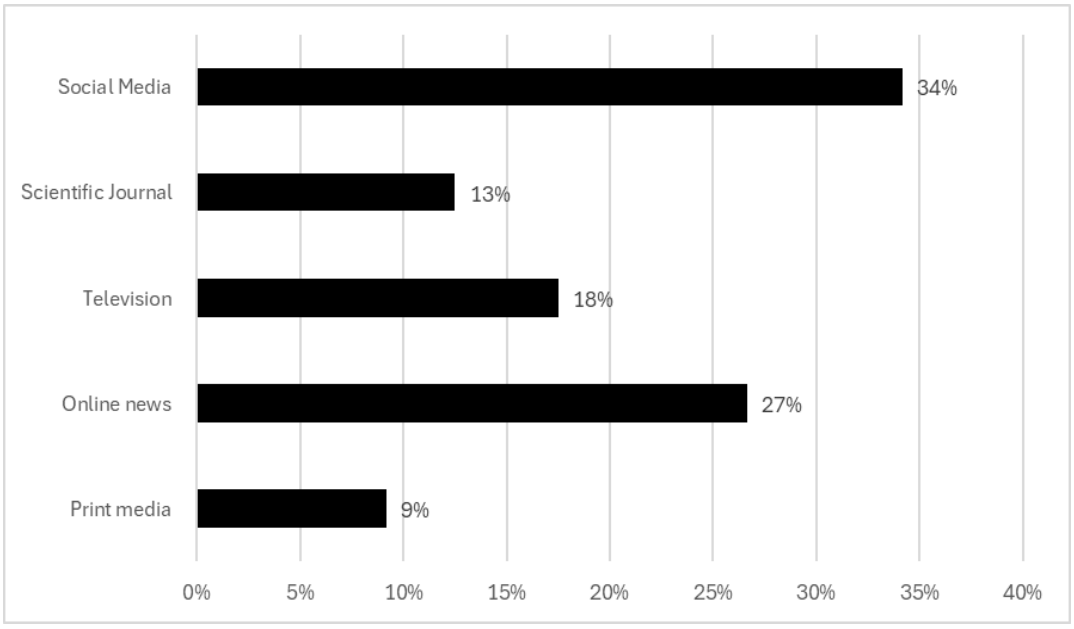

Figure 6. The Primary Source of Information on Climate Change

The examination of the data suggests that social media serves as a pivotal conduit for propagating knowledge about climate change. However, augmenting the regularity with which users encounter such content is necessary. Moreover, despite a considerable number of individuals acknowledging the significance of climate change, a segment of the population remains unaware of its pressing nature. Consequently, it is imperative to devise communication strategies that are both productive and enduring to enhance the cognizance and comprehension of climate change phenomena among the residents of social media platforms. Such strategies might encompass the amplification of both the volume and caliber of climate-related discourse, coupled with the employment of captivating and intelligible methods of communication to captivate a more expansive demographic.

Language in Climate Change Communication

Examining linguistic practices within the climate change discourse on digital platforms underscores the complexities and potentialities inherent in augmenting collective cognizance and comprehension. The collated data furnishes a panoramic view of the prevalence of specialized lexicon, the accessibility of linguistic constructs, and the influence of digital content on user conduct.

The prevalence of specialized climate-related lexicon on social networks is modest; terminologies such as "carbon emissions," "global warming," and "carbon footprint" are infrequently woven into the fabric of daily dialogue. A mere 10% of participants acknowledged frequent encounters with or utilization of these expressions, whereas 18% encountered them with moderate frequency. A plurality, 33%, conceded to occasional engagement with such specialized terms, and 34% experienced them sparingly. A negligible 6% professed to seldom witnessing or employing these terms. These findings suggest that specialized terms permeate social media, but they have not yet seamlessly integrated into mainstream discourse. This underscores the imperative for concerted endeavors to meld technical vernacular with language that resonates more profoundly with the lay public (see Figure 7).

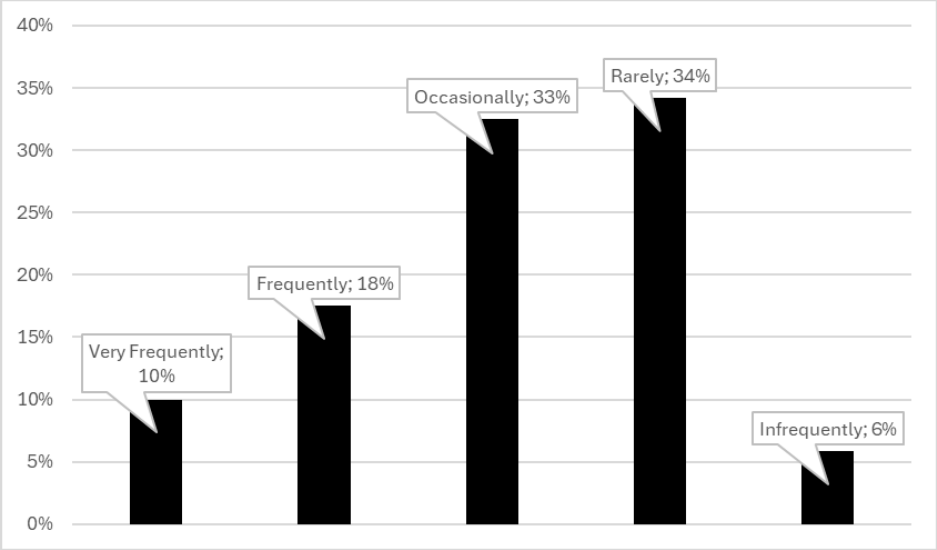

Figure 7. Frequency of Use of Climate Change Technical Terms on Social Media

The comprehensibility of the vernacular employed in disseminating information about climate change via social media platforms presents a significant impediment. A mere 6% of the surveyed individuals perceived the language as exceedingly lucid, whereas 10% deemed it comprehensible. An aggregate of 20% of participants adjudged the language fairly intelligible. In contrast, a predominant % of the respondents, 38%, encountered difficulties in understanding the language, and 26% described it as exceedingly challenging to comprehend. These findings indicate that despite the accessibility of climate change data on social media, the language's intricacy may obstruct the general populace's broad comprehension. Consequently, distilling the language and incorporating more universally understood terms is imperative to engage an expansive audience (see Figure 8).

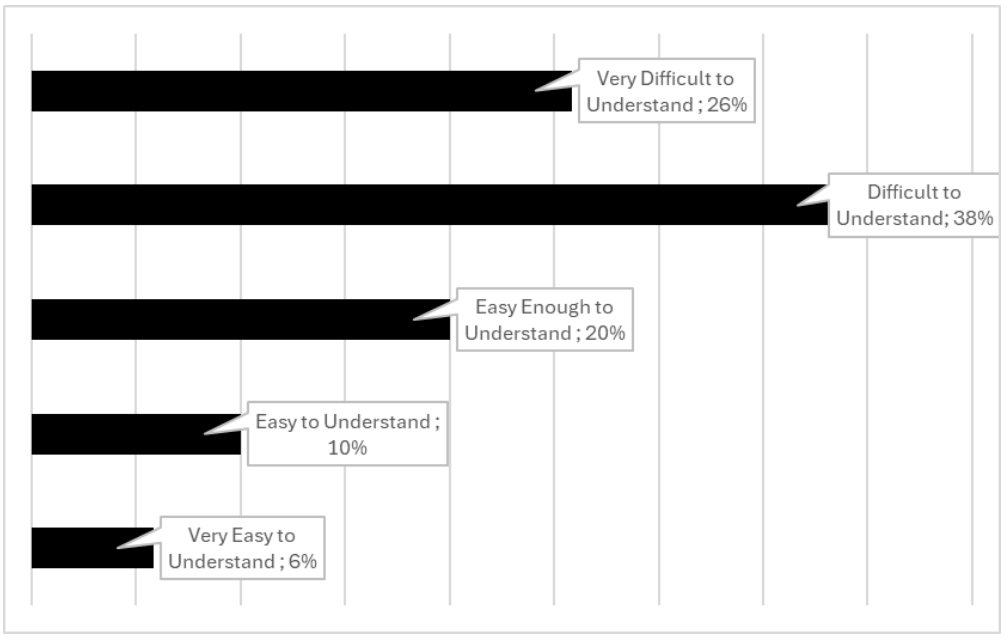

Figure 8. Ease of Understanding Language in Climate Change Communication on Social Media

The influence of content about climate change on the conduct of individuals utilizing social media platforms has yielded heterogeneous outcomes. A mere 18% of participants acknowledged that their behavior transformed after engaging with climate change-related content on these networks. Conversely, 33% of the respondents avowed their conduct remained unaltered, while 49% expressed uncertainty regarding potential behavioral modifications. These statistics indicate that, notwithstanding the accessibility and potential comprehension of information on climate change, its efficacy in catalyzing behavioral change is circumscribed. This underscores the criticality of not solely disseminating information in a readily intelligible manner but also employing methodologies that can galvanize and incite tangible action (see Figure 9).

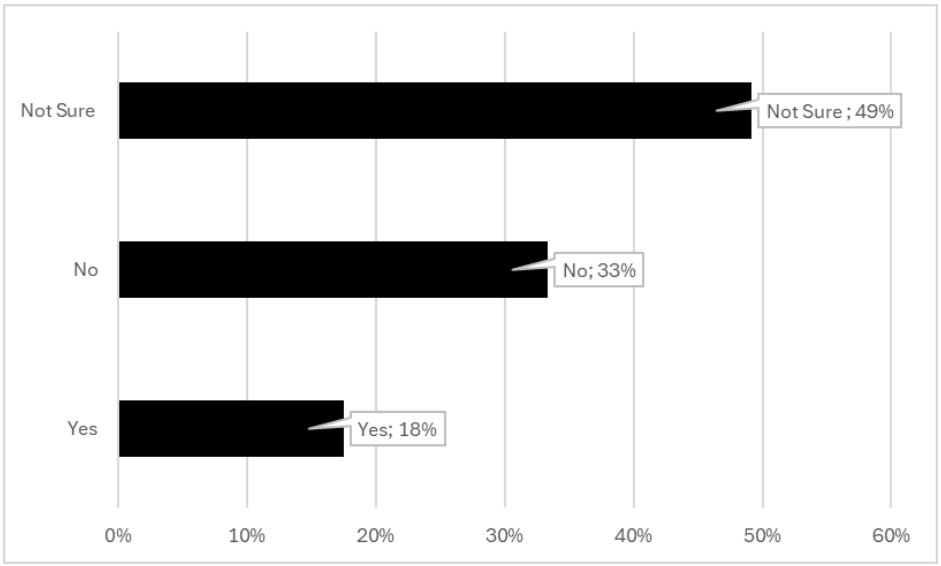

Figure 9. The Effect of Climate Change Content on Social Media on Behavior Change

The findings indicate that the lexicon employed in disseminating information about climate change on social media platforms requires refinement, particularly concerning the regularity with which specialized terminology is utilized and the comprehensibility of the content. Enhanced strategies for communication ought to prioritize the employment of more accessible language and concentrate on crafting messages with the potential to sway individual conduct. Incorporating robust storytelling, persuasive imagery, and tangible illustrations may serve to reconcile the divide between intricate data and the grasp of the general populace. Consequently, social media could become a significantly more potent instrument in promoting cognizance, comprehension, and proactive engagement with the issue of climate change.

Attitudes and Actions

The comportment and reactions of individuals utilizing social media concerning climate change serve as significant barometers for gauging the efficacy of communications concerning this pressing issue within the digital realm. The collated data reveals a spectrum of interactions, ranging from passive engagement to active participation and tangible measures users undertake after their exposure to climate change discourse on social media platforms.

Regarding the propensity to subscribe to entities or profiles concentrating on climate change, 28% of those surveyed acknowledged their subscription to such sources. Conversely, 48% of the participants disclosed their non-subscription to climate change-centric accounts or pages, while 24% expressed uncertainty regarding their subscription status. This information points to a modest degree of involvement in seeking specialized information on climate change through social media channels. It underscores the potential to amplify the prominence and attractiveness of climate change-related accounts, aiming to broaden their reach and bolster public engagement in this critical conversation (see Figure 10).

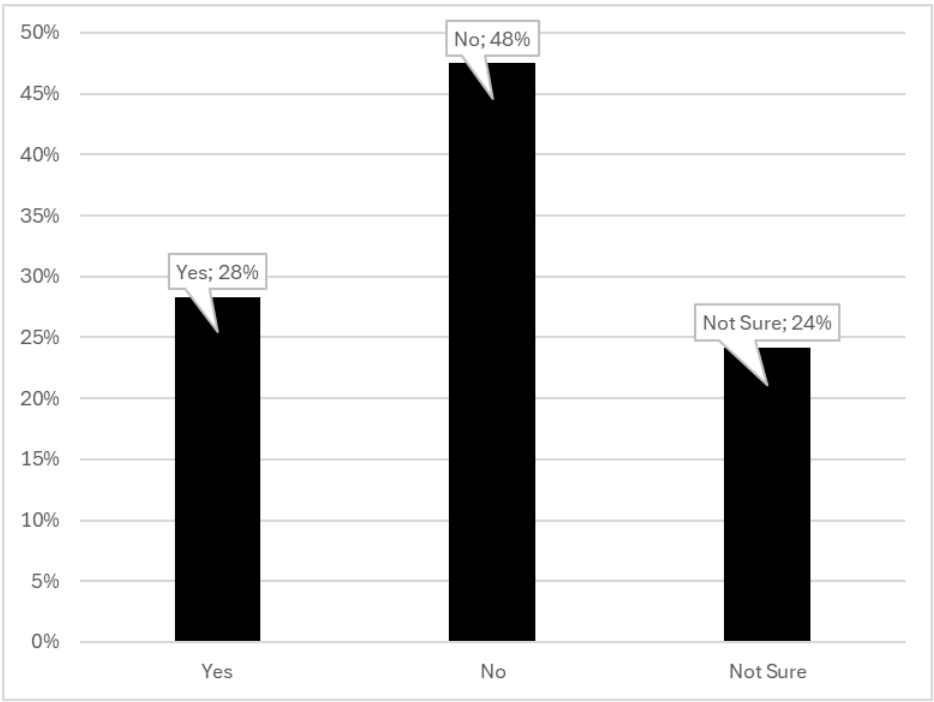

Figure 10. Engagement to Follow a Climate Change Account on Social Media

Upon inquiry regarding disseminating climate change-related content on social media platforms, 23% of participants affirmed their engagement in sharing such material, whereas 44% acknowledged occasional sharing. Conversely, a third of the respondents, representing 33%, indicated a complete abstention from distributing information about climate change. It is evident that while a segment of the population is proactive in sharing content, a substantial majority exhibit infrequent or non-existent sharing behaviors. This phenomenon implies that, notwithstanding the prevalence of climate change discourse, sharing remains relatively uncommon among social media users. The formulation of methodologies aimed at incentivizing a broader spectrum of users to

partake in the circulation of climate change content may prove to be a pivotal element in amplifying the impact of communicative efforts and enhancing collective consciousness on the subject (see Figure 11).

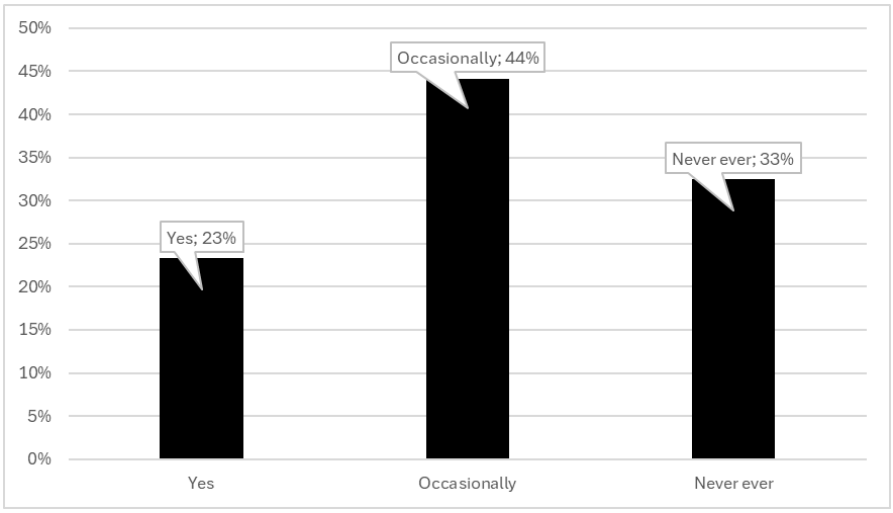

Figure 11. Sharing Climate Change Content on Social Media

The array of measures individuals adopt in response to the inspiration derived from social media content exhibits considerable diversity. Precisely 28% of the participants indicated a diminution in their plastic consumption, whereas a marginally smaller proportion, 25%, acknowledged efforts towards energy conservation. The adoption of eco-friendly modes of transportation was affirmed by 19% of the respondents, and a closely aligned 18% have engaged with environmental collectives. A mere 9% of the participants cited additional measures not encompassed by the abovementioned categories. The evidence presented herein suggests that, although a subset of the population is indeed undertaking commendable initiatives, the overall percentage of individuals actively participating in such endeavors remains modest. This underscores the necessity for a more productive strategy to galvanize tangible actions via social media platforms, particularly in climate change mitigation (see Figure 12).

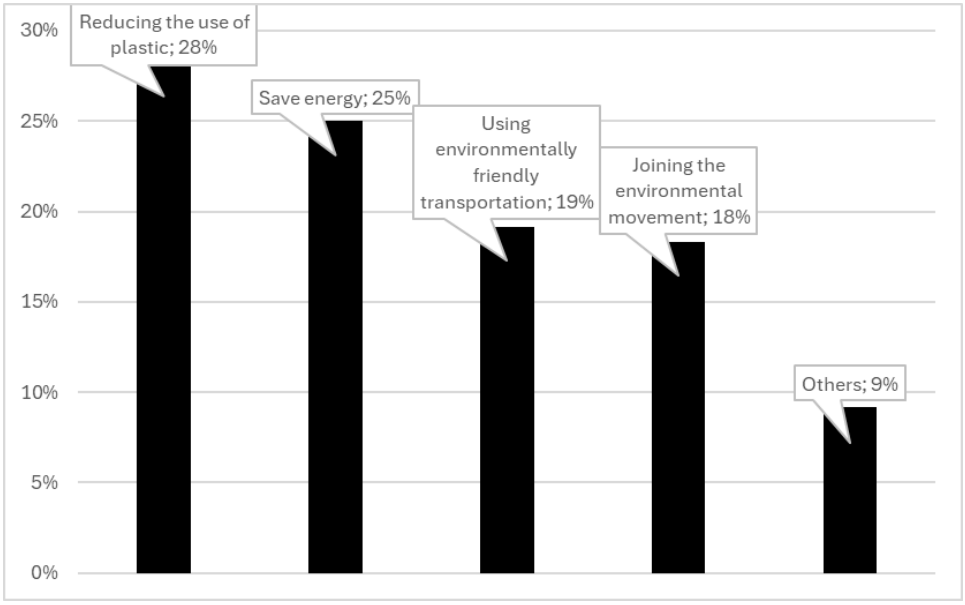

Figure 12. Climate Change Actions Motivated by Social Media Content

The findings indicate that, although there is a discernible level of consciousness and engagement with climate change discourse on social media platforms, the extent of user participation remains somewhat constrained. This underscores the imperative for developing more sophisticated and compelling communication tactics to amplify engagement and catalyze proactive measures. Robust, empirically substantiated, and context-sensitive communications, augmented by persuasive storytelling, can potentially transform individuals' attitudes and conduct on social media regarding climate change.

Initiatives aimed at bolstering public cognizance and involvement in climate-related matters via social media should transcend mere dissemination of information. They ought to encompass strategies that galvanize individuals into action. Such a plan may encompass interactive campaigns, partnerships with prominent social media figures, and the provision of accessible tools that facilitate user participation in climate-positive actions. Through such multifaceted approaches, social media may truly become an instrumental force in rallying collective efforts to confront the difficulties posed by climate change.

Discussion

The study has yielded significant insights into using language on social media platforms and the consciousness of climate change. Demographic scrutiny reveals that the preponderance of participants falls within the young adult category, with a substantial segment aged between 21 and 30 years, constituting 35%. This suggests a predominant engagement by the younger demographic in social media usage, thereby possessing a heightened likelihood of encountering climate change information. A majority of the respondents, accounting for 64%, were female, which implies a greater propensity among women to participate in surveys concerning language, social media, and climate change. The educational attainment of most respondents was at the high school and undergraduate levels, indicative of a more pronounced involvement from individuals with secondary and tertiary education backgrounds.

An analysis of respondents' dedication to daily social media engagement reveals that a significant portion of respondents, 33%, dedicate 1-2 hours, while 29% allocate 2-4 hours. Instagram is the most prevalently utilized platform at 31%, with YouTube at 19% and TikTok at 18%. The primary motivation for social media usage is entertainment, at 39%, succeeded by pursuing information at 29%, maintaining connections with peers and family at 18%, and endorsing social and environmental initiatives at 14%. Regarding perceptions of climate change, a majority witness climate change content several times monthly, 41%, and a considerable number deem climate change a critical issue at 38%, or of moderate significance at 28%. Social media is the principal source of climate change information for 34% of the respondents, underscoring its pivotal function in disseminating knowledge on the subject.

The articulation employed in climate change communications indicates a scarcity of technical terminology such as "carbon emissions" and "global warming." Most respondents perceive the language in climate change communications as either challenging to comprehend, at 38%, or exceedingly so, at 26%. The influence of climate change content on the behavior of social media users appears limited, with a mere 18% reporting behavioral modifications after engaging with pertinent content. Attitudes and actions of social media users towards climate change are diverse; only 28% subscribe to dedicated climate change accounts or pages, and 23% disseminate climate change-related content. Undertaken actions encompass reducing plastic usage at 28%, conserving energy at 25%, opting for eco-friendly transportation at 19%, and participating in environmental movements at 18%.

These findings concur with prior research indicating the active participation of the younger generation in social media and their potential to engage with environmental issues. Sabherwal et al. (2021) also observed that millennials exhibit heightened concern for climate change and frequently use digital platforms for related information. Nonetheless, this study accentuates the communicative challenge of technical language in climate change discourse. Moser (2010, 2016, 2017) identified the complexity of scientific vernacular as a barrier to the public's comprehension of climate change, a finding corroborated by our research confirming the obscurity of technical terms for general audiences. Consequently, there is a need to simplify language and employ more accessible terminology.

Additional studies corroborate the role of social media as a primary information source on climate change. León et al.

(2022) found that social media has become a key conduit for many to access news and information on climate change, highlighting its strategic importance in enhancing public awareness and understanding of environmental concerns. Despite the notable awareness of climate change's significance, the study reveals that the actions of social media users remain circumscribed. This aligns with Nisbet and Kotcher (2009), who found that awareness does not invariably lead to tangible actions. Thus, a more compelling and motivational approach is imperative to foster widespread behavioral change and promote sustainability.

The study's outcomes offer invaluable perspectives on the strategic employment of language and social media to elevate awareness and initiate action on climate change. With an apt communication strategy, social media can be a productive instrument in galvanizing collective efforts to confront the climate change challenge. Further inquiry is essential to devise innovative and engaging methodologies to catalyze genuine action among social media users.

Research Limitations and Suggestions for Future Research

This study acknowledges certain constraints that merit consideration to contextualize the findings and the interpretation thereof. Initially, the research employed an online survey methodology, which may influence the representativeness of the participant cohort. Despite implementing a random sampling technique, the exclusive use of an online medium may inadvertently exclude individuals with limited technological proficiency or insufficient internet resources. Such exclusion could introduce a skew in the data, particularly concerning demographic variables and patterns of social media engagement.

Furthermore, the study engaged a modest cohort of 120 participants. While this quantity is adequate for rudimentary analysis, inquiries with more extensive participant bases may yield findings with greater generalizability and enhanced statistical robustness. Moreover, the research did not incorporate contextual factors such as geographic locale, cultural influences, and socioeconomic status, potentially affecting social media utilization and the perception of climate change.

Additionally, the data procured is cross-sectional, capturing a singular temporal snapshot. This design restricts the capacity to track temporal shifts in the behaviors and perceptions of the respondents. Investigations of a longitudinal nature, gathering data at successive intervals, could offer more profound insights into the evolution of climate change perceptions and behaviors.

The instrument of inquiry, namely the questionnaire, may also possess limitations in its validity and reliability. Despite undergoing a preliminary testing and refinement phase, there remains the possibility that specific queries may not adequately encapsulate the intricacies of the subject matter or could be subject to misinterpretation by the participants.

Given these limitations, subsequent research endeavors should undertake several corrective measures. Expanding the participant pool and ensuring it encompasses a broader spectrum of demographic, geographic, and economic backgrounds would enhance the generalizability of the results and furnish a more holistic understanding of social media's role in climate awareness across diverse populations.

Pursuing longitudinal studies to monitor temporal variations in behavior and perceptions would prove invaluable. Such studies could elucidate the determinants of these changes and inform the tailoring of communication strategies to augment their efficacy. Additionally, employing a variety of data collection methodologies, including qualitative approaches like in-depth interviews and focus groups, could enrich the quantitative findings and shed light on individual motivations, obstacles, and experiences about the discourse of climate change on social media platforms. Finally, further refinement and validation of the questionnaire are imperative to confirm its accuracy and dependability. This could be achieved through broader pilot testing and subsequent modifications based on feedback from both participants and subject matter experts.

Conclusion

The study delineates the pivotal function of linguistic expression in conveying climate change discourse via social media within the Indonesian context. The utility of social media as a formidable conduit for the propagation of information and the enhancement of consciousness about climate change is well-documented. The study's findings elucidate that the linguistic choices employed significantly influence the audience's perceptions and subsequent behaviors about this pressing global concern. In Indonesia, the preponderance of social media engagement is attributed to the younger demographic, with

platforms such as Instagram, YouTube, and TikTok garnering widespread popularity. Despite recognizing climate change as a matter of considerable import, the propensity for utilizing social media as entertainment supersedes its use as a medium for environmental enlightenment.

The research posits that language that is straightforward and resonates with the contextual experiences of the audience surpasses the efficacy of jargon-laden discourse in transmitting climate change narratives. The employment of compelling storytelling, arresting visuals, and tangible exemplifications ameliorates the comprehension deficit. Although social media's role as a principal vector for climate change information is acknowledged, its influence in catalyzing behavioral transformation is observed to be circumscribed.

To augment engagement and catalyze proactive measures, there is a call for the formulation of innovative and captivating communication methodologies. The insights garnered from this research are of paramount importance to policymakers, environmental advocates, and communication experts in crafting potent strategies to elevate awareness and instigate action against climate change in Indonesia. With a judiciously crafted approach, social media harbors the potential to actuate collective endeavors in surmounting the challenges posed by climate change.

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