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The Use of Social Media in Raising Awareness of Nature Conservation

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ABSTRACT

The rapid growth of social media has transformed the way environmental information is communicated and accessed by the public. This study aims to examine the role of social media in raising awareness of nature conservation. A quantitative research approach was employed using a survey method involving 155 active social media users. Data were collected through a structured questionnaire measured on a five-point Likert scale. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25, including descriptive statistics, validity and reliability tests, correlation analysis, and simple linear regression. The results show that social media use has a positive and significant effect on nature conservation awareness. The correlation analysis reveals a strong relationship between social media use and conservation awareness, while regression analysis indicates that social media explains 37.5% of the variance in awareness levels. These findings suggest that social media serves as an effective platform for disseminating conservation-related information and enhancing public understanding and concern for environmental protection. The study provides practical implications for environmental organizations and policymakers to optimize social media strategies in promoting nature conservation awareness.

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1. INTRODUCTION

Environmental degradation and biodiversity loss have become critical global challenges in recent decades. Issues such as deforestation, climate change, pollution, and the extinction of wildlife species threaten ecosystem balance and human well-being. Despite increasing scientific evidence and policy initiatives, public awareness and active participation in nature conservation efforts remain uneven across societies [1,2]. Raising awareness is therefore a fundamental step in encouraging pro-environmental attitudes and behaviors, as individuals who are informed and concerned about environmental issues are more likely to support conservation initiatives and adopt sustainable lifestyles [3,4].

In the digital era, social media has emerged as one of the most influential communication tools in shaping public opinion and behavior. Platforms such as Instagram, Facebook, X (Twitter), YouTube, and TikTok

enable rapid dissemination of information, interactive engagement, and user-generated content, allowing environmental messages to reach a broad and diverse audience [5,6]. Unlike traditional media, social media facilitates two-way communication, visual storytelling, and community building, which can enhance message credibility and emotional connection. As a result, social media has increasingly been used by environmental organizations, activists, governments, and communities to promote nature conservation campaigns, share educational content, and mobilize public support [7,8].

Previous studies have highlighted the potential of social media to influence environmental awareness, attitudes, and behaviors. Visual content related to wildlife, forests, and environmental damage has been shown to attract attention and stimulate emotional responses, while interactive features such as likes, comments, and shares can amplify message reach [9,10]. However, empirical findings on the effectiveness of social media in raising conservation awareness remain mixed. Some studies report a strong positive relationship between social media exposure and environmental awareness, while others suggest that high exposure does not always translate into meaningful understanding or long-term behavioral change [11,12]. This inconsistency indicates the need for further empirical investigation, particularly using quantitative approaches that can measure the strength and significance of this relationship.

In many developing and emerging contexts, the rapid increase in social media penetration has positioned digital platforms as strategic channels for environmental communication; however, empirical research that specifically examines the role of social media in fostering awareness of nature conservation remains limited, particularly studies employing standardized measurement instruments and robust statistical analysis. Addressing this gap, the present study analyzes the use of social media in raising nature conservation awareness through a quantitative approach, involving respondents surveyed using a Likert-scale questionnaire to measure perceptions of social media usage and levels of conservation awareness, with data analyzed using SPSS version 25. The findings are expected to provide empirical evidence on the relationship between social media and conservation awareness, thereby contributing to the environmental communication literature and offering practical insights for policymakers, environmental organizations, and digital campaign designers in optimizing social media as an effective tool for promoting nature conservation.

2. LITERATURE REVIEW

2.1 Social Media as a Communication Tool

Social media refers to digital platforms that enable users to create, share, and exchange information, ideas, and content within virtual networks and communities, such as Facebook, Instagram, X (Twitter), YouTube, and TikTok, which, despite differences in format, share interactive and participatory characteristics [2,13,14]. Unlike traditional mass media, social media supports two-way communication, immediate feedback, and user-generated content, allowing it to play a significant role in shaping users' perceptions, attitudes, and behaviors. The interactive and visual nature of social media enhances message attractiveness and memorability, while features such as likes, comments, and shares facilitate information diffusion and social endorsement, increasing message credibility [15,16]. As a result, social media has been widely adopted across various fields, including marketing, education, public health, and environmental communication, as an effective tool for information dissemination and public engagement.

2.2 *Nature Conservation Awareness*

Nature conservation awareness refers to the level of knowledge, understanding, concern, and sensitivity individuals possess regarding environmental protection and the preservation of natural resources, functioning as a cognitive and affective process that precedes attitude formation and behavioral intention [4,17]. Individuals with higher environmental awareness are more likely to recognize environmental problems, support conservation policies, and engage in pro-environmental behaviors. This awareness is shaped by various factors, including education, personal experience, cultural values, and exposure to information, with media exposure playing a particularly important role in framing environmental issues and disseminating relevant knowledge. Although awareness does not automatically result in behavior change, it is widely regarded as a fundamental prerequisite for fostering environmental responsibility and the adoption of sustainable practices [18,19].

2.3 *The Role of Social Media in Environmental and Conservation Awareness*

Social media has become an important platform for promoting environmental awareness and nature conservation, as environmental organizations and activists use it to disseminate information, share conservation campaigns, report environmental problems, and encourage public participation [4,19]. Visual content such as images and videos of wildlife and natural landscapes is particularly effective in capturing attention and eliciting emotional responses that strengthen environmental concern. Empirical studies indicate that social media exposure is positively associated with environmental awareness and pro-environmental attitudes, as informative and emotionally engaging content can enhance users' understanding of conservation issues and foster empathy toward nature [19,20]. Interactive engagement through commenting and sharing further reinforces awareness by promoting discussion and social learning; however, some researchers note that social media may also encourage superficial engagement, where expressed concern does not translate into real-world action, underscoring the importance of examining not only exposure but also perceived effectiveness and the quality of user engagement.

2.4 *Research Gap and Conceptual Framework*

Despite the growing body of literature on social media and environmental communication, gaps remain in understanding how social media specifically contributes to awareness of nature conservation, particularly in diverse socio-cultural contexts. Many studies focus on general environmental attitudes or behaviors, while fewer examine awareness as a distinct outcome. In addition, empirical evidence using moderate sample sizes and standardized statistical analysis remains limited. Based on the reviewed literature, this study proposes that the use of social media has a significant influence on raising awareness of nature conservation. Social media usage, characterized by exposure to conservation content, perceived credibility, and user engagement, is treated as the independent variable, while nature conservation awareness is the dependent variable. This framework provides the basis for the quantitative analysis conducted in this research and guides the formulation of hypotheses tested using SPSS version 25.

3. RESEARCH METHODS

3.1 Research Design

This study employs a quantitative research design to examine the influence of social media on raising awareness of nature conservation. A quantitative approach is considered appropriate because it allows for the measurement of perceptions and awareness levels using numerical data and enables statistical analysis to identify patterns and relationships between variables. The research uses a cross-sectional survey design, in which data are collected from respondents at a single point in time.

3.2 Population and Sample

The population of this study consists of social media users who are exposed to content related to nature and environmental issues. Given the broad and undefined nature of the population, a non-probability sampling technique was applied. A total of 155 respondents participated in the study, which meets the minimum requirement for quantitative analysis using statistical methods. The respondents were selected based on the criterion that they actively use at least one social media platform. This criterion ensures that participants have relevant experience with social media content, including information related to nature conservation.

3.3 Research Variables

This study involves two main variables: the independent variable, namely the use of social media, which refers to respondents' perceptions of how social media platforms are utilized to share, access, and engage with nature conservation–related content, encompassing indicators such as frequency of exposure to conservation content, perceived credibility of information, visual attractiveness, and interactive engagement through likes, comments, and sharing; and the dependent variable, nature conservation awareness, which reflects respondents' levels of knowledge, understanding, and concern regarding environmental protection and conservation issues, as measured by indicators including awareness of environmental problems, understanding of the importance of conservation, and sensitivity toward nature preservation.

3.4 Data Collection Technique

Data were collected using a structured questionnaire developed based on relevant literature and consisting of two main sections, namely social media usage and nature conservation awareness, with all items measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to capture the intensity of respondents' perceptions and attitudes in a simple and reliable manner. The questionnaire was distributed online to ensure wider reach and convenience for respondents, and prior to its distribution, it was carefully reviewed to ensure the clarity and relevance of all questions.

3.5 Validity and Reliability Testing

To ensure the quality of the measurement instrument, validity and reliability tests were conducted, with validity testing performed to determine whether each questionnaire item accurately measured the intended construct through correlation analysis by comparing each item's correlation coefficient with the critical value. Reliability testing was carried out to assess the consistency of the instrument using Cronbach's alpha coefficient, where a value greater than 0.70 indicated acceptable internal consistency, and only items that met both validity and reliability criteria were included in the final data analysis.

3.6 Data Analysis Technique

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25 through several stages, beginning with descriptive statistics to summarize respondent characteristics and provide an overview of responses for each variable, followed by inferential statistical

analysis to examine the relationship between social media usage and nature conservation awareness. Correlation analysis and simple linear regression were employed to assess the strength and significance of the relationship between the independent and dependent variables, with hypothesis testing conducted at a significance level of 0.05, and the results were subsequently interpreted to draw conclusions regarding the role of social media in raising awareness of nature conservation.

4. RESULTS AND DISCUSSION

4.1 Respondent Characteristics

A total of 155 valid questionnaires were analyzed in this study. All respondents were active social media users. Table 1 presents the demographic characteristics of the respondents.

Table 1. Respondent Characteristics (n = 155)

Category	Frequency	Percentage (%)
Gender		
Male	72	46.5
Female	83	53.5
Age		
18–25 years	61	39.4
26–35 years	54	34.8
36–45 years	28	18.1
>45 years	12	7.7
Social Media Usage Frequency		
Daily	129	83.2
Several times a week	21	13.5
Rarely	5	3.3

Table 1 presents the demographic profile of the respondents and their social media usage patterns, providing important context for interpreting the study's findings. The gender distribution shows a relatively balanced composition, with female respondents (53.5%) slightly outnumbering males (46.5%), indicating that perspectives on social media and nature conservation awareness are represented fairly evenly across genders. In terms of age, the majority of respondents are young adults aged 18–25 years (39.4%) and 26–35 years (34.8%), suggesting that the sample is dominated by digitally active age groups who are more likely to engage intensively with social media platforms. This dominance is relevant, as younger users tend to be more exposed to online environmental content and digital campaigns. The frequency of social media usage further reinforces this condition, with an overwhelming proportion of respondents (83.2%) reporting daily use, while only a small fraction use social media rarely (3.3%). This high level of daily engagement indicates that social media is deeply embedded in respondents' daily lives, strengthening its potential role as an effective channel for disseminating nature conservation information and shaping awareness.

4.2 Descriptive Statistics of Research Variables

Descriptive analysis was conducted to examine respondents' perceptions of social media use and nature conservation awareness. The results are presented in Table 2.

Table 2. Descriptive Statistics of Research Variables

Variable	Mean	Standard Deviation	Interpretation
Social Media Use (X)	3.87	0.62	High
Nature Conservation Awareness (Y)	4.02	0.58	High

Table 2 presents the descriptive statistics of the research variables, indicating generally high levels of both social media use and nature conservation awareness among the respondents. The mean score for social media use (X) is 3.87 with a standard deviation of 0.62, which falls into the "high" category, suggesting that respondents perceive social media as actively used and effective in accessing, sharing, and engaging with nature conservation–related content. The relatively low standard deviation implies that respondents' perceptions are fairly consistent, reflecting a common pattern of frequent exposure and interaction with conservation information on social media platforms. Meanwhile, nature conservation awareness (Y) shows an even higher mean score of 4.02 with a standard deviation of 0.58, also categorized as "high," indicating strong levels of knowledge, understanding, and concern regarding environmental protection among respondents. This finding suggests that respondents are generally aware of environmental issues and the importance of nature conservation. Taken together, these results imply that the high intensity of social media use coincides with elevated conservation awareness, providing preliminary support for the assumption that social media may play a meaningful role in enhancing awareness of nature conservation.

4.3 Validity and Reliability Test Results

Validity testing was performed using item–total correlation. All items showed correlation coefficients greater than the critical value (r-table = 0.157, n = 155, α = 0.05), indicating that all questionnaire items are valid. Reliability was tested using Cronbach's Alpha. The results are shown in Table 3.

Table 3. Reliability Test Results

Variable	Number of Items	Cronbach's Alpha	Reliability Level
Social Media Use (X)	8	0.823	Reliable
Nature Conservation Awareness (Y)	7	0.846	Reliable

Table 3 shows the results of the reliability testing for the research instruments, indicating that both variables demonstrate strong internal consistency. The social media use variable (X), measured using eight items, achieved a Cronbach's alpha value of 0.823, while the nature conservation awareness variable (Y), measured with seven items, obtained an even higher alpha value of 0.846. Both values exceed the commonly accepted threshold of 0.70, confirming that the questionnaire items for each variable are reliable and consistently measure the intended constructs. These results suggest that respondents interpreted the items in a stable and coherent manner, providing confidence that the data collected are dependable and suitable for further statistical analysis examining the relationship between social media use and nature conservation awareness.

4.4 Correlation Analysis

Pearson correlation analysis was conducted to examine the relationship between social media use and nature conservation awareness.

Table 4. Pearson Correlation Results

Variables	Pearson r	Sig. (p-value)
Social Media Use ↔ Conservation Awareness	0.612	0.000

Table 4 presents the Pearson correlation results, which indicate a strong and statistically significant positive relationship between social media use and nature conservation awareness. The correlation coefficient (r = 0.612) suggests a moderately strong to strong association, meaning that higher levels of social media use related to conservation content are associated with higher levels of awareness of nature conservation among respondents. The significance value (p = 0.000) is well below the 0.05 threshold, confirming that this relationship is statistically significant and unlikely to have occurred by chance. This finding implies that increased exposure to, and engagement with, conservation-related information on social media platforms may play an important role in enhancing individuals' knowledge, understanding, and concern for environmental issues.

4.5 Regression Analysis

Simple linear regression analysis was performed to test the effect of social media use on nature conservation awareness.

Table 5. Simple Linear Regression Results

Model	B	Std. Error	t-value	Sig.
Constant	1.215	0.238	5.102	0.000
Social Media Use (X)	0.721	0.072	10.014	0.000

Table 5 presents the results of the simple linear regression analysis, demonstrating that social media use has a significant positive effect on nature conservation awareness. The regression coefficient for social media use (B = 0.721) indicates that an increase of one unit in social media use is associated with an increase of 0.721 units in conservation awareness, holding other factors constant. The high t-value (10.014) and the significance level (p = 0.000) confirm that this effect is statistically significant. The constant value of 1.215 suggests a baseline level of conservation awareness even when social media use is minimal. These findings reinforce the correlation results and provide stronger empirical evidence that social media plays an influential role in enhancing awareness of nature conservation, supporting the study's hypothesis that social media is an effective tool for environmental awareness building.

Table 6 presents the coefficient of determination, showing an R value of 0.612 and an R^2 value of 0.375, which indicates that social media use explains 37.5% of the variation in nature conservation awareness among respondents. This proportion suggests a moderate explanatory power, highlighting that social media plays a meaningful role in shaping awareness of nature conservation. However, the remaining 62.5% of the variance is influenced by other factors not included in this model, such as education, personal values, direct environmental experiences, cultural background, and exposure to other information sources. The adjusted R^2 value of 0.371 further confirms the stability of the model, indicating that the explanatory strength remains consistent after accounting for sample size.

4.6 Discussion

The results of this study confirm that social media has a significant and positive effect on raising awareness of nature conservation. The strong correlation and regression findings indicate that increased exposure to conservation-related content on social media enhances individuals' understanding, concern, and sensitivity toward environmental issues. These results suggest that social media functions as an important communication medium in shaping environmental awareness, particularly in contexts where digital platforms are widely used in daily life.

The high mean scores further show that respondents perceive social media as an accessible and engaging source of environmental information. Visual and interactive content appears to play a crucial role in capturing attention and fostering emotional engagement, which supports previous findings in environmental communication research. The statistically significant regression coefficient reinforces the argument that social media is not merely a passive channel for information dissemination, but an active driver in the process of awareness formation through repeated exposure, interaction, and social endorsement.

However, the coefficient of determination indicates that although social media has a substantial influence, awareness of nature conservation is also shaped by other factors such as education, personal values, cultural background, and direct environmental experiences. This finding aligns with existing literature that views environmental awareness as a multidimensional construct. Overall, this study provides empirical evidence that social media can be strategically utilized by environmental organizations, policymakers, and conservation campaigns to enhance public awareness, particularly when combined with high-quality, credible, and engaging content to promote long-term environmental responsibility.

5. CONCLUSION

This study concludes that social media plays a significant role in raising awareness of nature conservation, as evidenced by quantitative analysis of data from 155 respondents showing a strong and positive relationship between social media use and individuals' awareness of environmental conservation issues. The findings demonstrate that social media platforms are effective in disseminating information, enhancing public understanding of environmental problems, and fostering concern for nature preservation, with regression results indicating that social media use accounts for 37.5% of the variance in conservation awareness. This suggests that frequent exposure to conservation-related content, supported by visual and interactive features, increases users' sensitivity and understanding of environmental protection, although the remaining variance confirms that awareness is also influenced by other factors such as education, personal values, and direct environmental experiences. Overall, the study highlights the strategic importance of social media as a communication tool for nature conservation campaigns and encourages environmental organizations, policymakers, and conservation advocates to optimize social media through credible, engaging, and informative content, while future research is recommended to incorporate additional variables and examine the relationship between awareness and actual pro-environmental behavior for a more comprehensive understanding of social media's impact on nature conservation.

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