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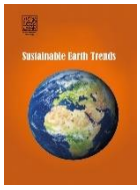

Using cultivation theory to analyze the impact of different media on public perception of urban forests as climate change solution

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ABSTRACT

Urban trees and forests play a critical role in mitigating climate change by enhancing ecological and social resilience in cities. Despite their importance, public understanding of their benefits for combating climate change and the role of the media in shaping these perceptions remains underexplored. This study addressed this research gap by examining how different media platforms influence citizens' perceptions of urban forests' contributions to climate change mitigation. Using cultivation theory as a framework, the study aimed to assess the impact of various media channels, including social media, television, print media, and blogs, on public perceptions. A quantitative research design was employed, with data collected through a structured online survey administered to 410 urban residents. Structural equation modeling was used to analyze the relationships between media exposure and citizens' perceptions. The findings reveal that social media and television are the most influential in shaping public perceptions, while traditional media forms such as print and blogs show no significant impact. Social media, in particular, emerged as the most effective platform, likely due to its interactive and immediate nature, while television remains relevant due to its visual appeal and broad reach. These results have important implications for environmental communication strategies, suggesting that policymakers should prioritize social media and television campaigns to effectively engage citizens and promote urban forest conservation. By understanding and leveraging these influential platforms, authorities can enhance public perceptions and support for sustainable urban development and climate resilience initiatives.

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1. Introduction

Urban trees and forests play a pivotal role in addressing the multifaceted challenges posed by climate change, offering a myriad of ecological, social, and economic benefits that significantly contribute to the sustainability and resilience of urban environments (Liu et al., 2021; Maleknia and Salehi, 2024). As cities continue to expand and urbanization intensifies, the importance of these green spaces becomes increasingly apparent. Urban forests are instrumental in sequestering carbon dioxide, a leading greenhouse gas responsible for global warming, thereby mitigating the adverse effects of climate change (Opoku et al., 2024). The capacity of trees to absorb carbon is complemented by their ability to improve air quality through the filtration of pollutants. This function contributes to healthier urban atmospheres and plays a critical role in public health, particularly in densely populated areas where air pollution can lead to respiratory issues and other health complications (Song et al., 2020; Wang et al., 2024). In addition to their carbon-storing capabilities and air quality benefits, urban forests help regulate temperatures by providing shade and facilitating.

This phenomenon, characterized by elevated temperatures in urban areas compared to their rural surroundings, often exacerbates the intensity of heatwaves, posing risks to vulnerable populations, particularly the elderly and those with preexisting health conditions (Orindaru et al., 2020). Moreover, urban trees enhance urban biodiversity by providing essential habitats for various species which fosters the ecological balance within urban settings. The presence of diverse plant and animal species in urban forests enriches the urban ecosystem and contributes to the overall aesthetic and recreational value of these environments (Sevianu et al., 2021; Hutt-Taylor et al., 2022). Beyond their environmental contributions, urban forests serve as essential recreational areas that promote mental well-being, social interaction, and community cohesion among residents (Borzoei et al., 2014; Hoshyari et al., 2020). Although urban forests offer this wide range of benefits, their role in combating climate change has become increasingly crucial in recent years (Maleknia and Salehi, 2024).

Adopting urban forests as a nature-based solution for climate change mitigation is a necessity for governments (Delpasand et al., 2023). However, utilizing urban forests for this purpose requires widespread citizen participation as well as their demand for governments to prioritize this approach. Understanding citizen perceptions of urban forests is essential for the successful implementation of conservation strategies aimed at combatting climate change (Maleknia and ChamCham, 2024a). The way individuals perceive the role and significance of urban trees directly influences their willingness to engage in conservation initiatives and advocacy efforts (Erfanian et al., 2024; Mohammadi et al., 2024). Positive perceptions foster a sense of responsibility among community members, motivating them to actively participate in forestry programs that include tree planting, maintenance, and conservation activities (Akbarizadeh et al., 2021; Maleknia et al., 2024). When citizens recognize and appreciate the importance of urban forests in mitigating climate change, they are more likely to exert pressure on government entities to prioritize conservation efforts (Azizipor et al., 2024). This grassroots advocacy is crucial for shaping policies and directing resources toward the sustainability of urban forests, ultimately enhancing the effectiveness of strategies designed to combat climate change. Recent studies have indicated that media is becoming the most significant tool for raising citizen awareness about climate change and its impacts (Ma et al., 2024; Sun et al., 2024).

In the case of urban trees and forests, the media can play a pivotal role in shaping public perceptions of their contributions to climate change mitigation, underscoring its influence in raising awareness and promoting environmental stewardship. The influence of media on public perception is particularly relevant in the context of the rapidly changing information landscape, where citizens are inundated with messages from various sources (Borah et al., 2024). Understanding how different types of media exposure such as traditional news outlets, and social media platforms, affect public perceptions of urban forests is vital for developing effective communication strategies (Onuegbu et al., 2024). Various media channels including television, social media, and print media serve as primary sources of information, framing narratives about the environment and highlighting the importance of green spaces in urban settings. The portrayal of urban trees in media can significantly influence how individuals understand their value, leading to increased awareness and concern regarding environmental issues. For instance, media representations that emphasize the ecological benefits of urban forests or showcase successful community-led conservation projects can inspire individuals to recognize the importance of these green spaces in their own neighborhoods. Furthermore, the media plays a critical role in amplifying community voices and experiences related to urban forestry (Ferreira da Silva et al., 2024). By highlighting local initiatives, environmental challenges, and success efforts, media can foster a sense of community engagement (Green et al., 2024). This can lead to collective action, where citizens unite to advocate for policies that support urban forest conservation (Maleknia and ChamCham, 2024b). Additionally, media campaigns that effectively communicate the urgency of climate change and the role of urban forests in mitigating its impacts can mobilize citizens to participate actively in conservation efforts, thereby strengthening community resilience.

Although various studies have been conducted on the role of media in different environmental contexts (Chen et al., 2024; Jabeen, 2024), including climate change (Ma et al., 2024; Vrselja et al., 2024), there is a research gap concerning urban trees and forests. Specifically, no studies have investigated the impact of different media types on public understanding of the role of urban trees and forests in climate change. Therefore, this study aims to address this research gap by examining this influence. This paper aims to explore the intricate role of media in shaping citizen perceptions of urban forests and their contributions to climate change mitigation. By examining the relationships between media exposure and perceptions of urban forests, this study seeks to illuminate the pathways through which public awareness can be cultivated. Understanding these dynamics is essential for promoting increased participation and advocacy for urban forest conservation. Through this investigation, this paper aims to contribute to the broader discourse on the significance of citizen engagement in addressing climate change and the potential of media as a catalyst for fostering environmental stewardship within urban communities. By uncovering the mechanisms through which media influences perceptions, this study aims to inform future policies and communication strategies that enhance the role of urban forests in climate change mitigation and promote sustainable urban development.

Cultivation Theory, developed by George Gerbner in the 1970s, explores the long-term effects of media consumption on shaping individuals' perceptions of reality (Potter, 2014; Shah et al., 2020). The theory originally focused on television, suggesting that prolonged and repetitive exposure to television content can influence audiences' views, attitudes, and beliefs, aligning them with the realities depicted in the media rather than those experienced directly in their own lives (Romer et al., 2014). Gerbner's foundational work emphasized that television, as a dominant source of information, acts as a cultural storyteller, gradually cultivating specific beliefs and worldviews among its viewers. The theory is based on the idea that media, especially television, does not just entertain or inform; it plays an active role in shaping societal norms and values by repeatedly presenting specific narratives and themes (Morgan et al., 2018). Over time, Cultivation Theory has expanded beyond television to include various forms of media, such as social media, online news platforms, print media, and digital streaming services. This expansion acknowledges the evolving media landscape and recognizes that people now consume information from a multitude of sources beyond traditional television (Ferrucci and Petersen, 2018). The underlying principle remains consistent: frequent and repeated exposure to similar messages, regardless of the medium, can shape individuals' perceptions and beliefs over time. For instance, repeated exposure to narratives about safety concerns in urban areas through television news or social media can lead viewers to perceive their own neighborhoods as unsafe, regardless of actual crime statistics. This highlights the power of media in cultivating perceptions that may not necessarily align with objective realities. In recent years, cultivation theory has increasingly been applied to the field of environmental sciences, particularly in studying how media influences public perceptions and attitudes toward environmental and sustainability issues (Karimi et al., 2021; Tyson et al., 2021). Media, as a powerful tool for disseminating information, plays a critical role in educating the public about environmental issues such as climate change, deforestation, biodiversity loss, and conservation efforts (Chamcham et al., 2024; Lin et al., 2024).

Environmental communication through media can shape how people perceive these issues and their urgency. Repeated exposure to media messages that emphasize the severity of climate change or the benefits of urban green spaces, for example, can cultivate a heightened sense of environmental awareness and concern among audiences. Studies have demonstrated that individuals exposed to consistent environmental messaging are more likely to develop pro-environmental attitudes and engage in behaviors that support sustainability (Obaromi, 2024; Onuegbu et al., 2024; Zhang et al., 2024). Social media platforms, with their vast reach and interactive nature, have also become essential in shaping public perceptions. Campaigns promoting urban greening and conservation can spread rapidly, encouraging people to engage with the topic, share content, and participate in conservation efforts. Furthermore, print and online media have also proven effective in

perceptions by providing in-depth analyses and educational content that may not be covered in other formats. As environmental issues become more visible and urgent, the role of media in shaping perceptions and encouraging public involvement has become more crucial than ever.

In this context, cultivation theory serves as a valuable framework for examining not just how much environmental media people consume, but how the framing, frequency, and consistency of these messages influence public perceptions of environmental issues over time. Media exposure is not merely about accessing information; it involves the cultivation of narratives and attitudes that can either reinforce or challenge individuals' existing beliefs. Therefore, studying the cultivation effects of media exposure in environmental contexts provides insight into how public opinions and behaviors related to climate change and sustainability are formed and reinforced. Applying cultivation theory in this study is particularly appropriate because it provides a comprehensive framework for understanding how various forms of media exposure shape citizens' perceptions of urban forests and their perceived role in climate change mitigation. As citizens increasingly receive information from diverse sources such as television, social media, online platforms, and print media these media channels collectively influence public understanding and attitudes.

This study aims to investigate the extent to which different types of media exposure contribute to shaping citizens' environmental concern and their perception of urban forests as essential elements in climate change mitigation strategies. By leveraging cultivation theory, this study can explore whether specific media types are more effective in cultivating positive perceptions and awareness about urban forests. For example, it will assess if visual media, like television documentaries or social media videos, have a stronger impact compared to more traditional forms like newspapers or online articles. The theory's emphasis on the cumulative and long-term nature of media influence aligns with this study's focus on understanding how consistent exposure to information about urban forests across various media affects public perception and concern for climate change over time. Thus, this study's application of cultivation theory not only helps to map out the influence of various media types on public perception but also supports efforts to leverage media as a tool for positive environmental change. Understanding these cultivation effects is crucial for developing effective media campaigns and public policies that align citizens' perceptions with the goals of urban forest conservation and climate resilience. Accordingly, this study developed following hypotheses:

H1. The television exposure influences citizens' perception of urban forests and tree's role in climate change combating, significantly.

H2. Social media exposure impacts on citizens' perceptions of urban forests and trees' role in climate change combating.

H3. Print media exposure impacts on citizens' perceptions of urban forests and trees' role in climate change combating.

H4. Blog media exposure impacts on citizens' perceptions of urban forests and trees' role in climate change combating.

2. Material and Methods

2.1. Study area

Borujerd, the administrative center of Borujerd County in Lorestan Province, is the thirty-ninth most populous city in Iran (Fig. 1). It comprises three urban districts and has a population of over 230,000 according to the latest census. The city boasts several urban parks, among which some of the most notable include Chogha Park, Modarres Square Park, Mother Park, Women's Park, Fadak Park, and Namaz Park.

2.2. Methods

This study employs a quantitative research design to investigate the influence of media exposure on citizens' perceptions of urban forests and their role in climate change mitigation. The methodology encompasses data collection through surveys, followed by data analysis using Structural Equation Modeling (SEM) to examine the relationships between constructs outlined in the theoretical framework.

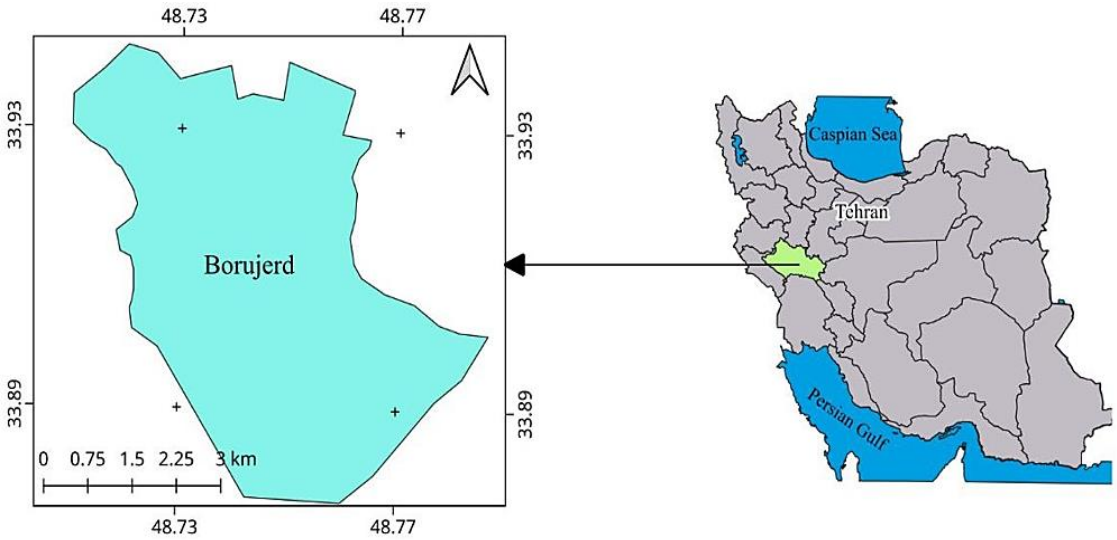

Fig. 1. Study area.

Table 1. The questions of research.

Constructs	Questions	Descriptions
TV exposure	TE1	I frequently watch news segments about environmental issues, climate change and urban forests
	TE2	I often watch documentaries on TV that focus on the importance of urban forests in combating climate change.
	TE3	I see public service announcements about urban forests and their benefits on television.
Social media exposure	SME1	I frequently come across posts about urban forests and climate action on social media platforms.
	SME2	I follow social media accounts that share content related to urban forests and their environmental benefits.
	SME3	I engage with social media campaigns that promote urban forests as solutions to climate change
Print media exposure	PME1	I read newspaper articles that discuss urban forest initiatives and their role in climate change mitigation.
	PME2	I subscribe to magazines or journals that cover urban environmental issues, including green spaces.
	PME3	I read printed public service messages or flyers about urban forests and their benefits for the environment.
Blog media exposure	BME1	I regularly read online articles about how urban forests help mitigate climate change.
	BME2	I follow blogs or online portals that discuss urban forests and their contributions to climate resilience.
	BME3	I access online resources or news websites to stay informed about urban forest conservation efforts.
Citizens' Perception	CP1	I believe urban forests significantly reduce air pollution in cities.
	CP2	I think urban forests play a crucial role in cooling down urban areas during heatwaves.
	CP3	Urban forests help reduce greenhouse gas emissions by absorbing carbon dioxide.
	CP4	I consider urban forests essential for improving biodiversity and overall ecological health in cities

2.2.1. Data Collection

Data was collected through a structured questionnaire administered to a representative sample of citizens residing in urban areas. The questionnaire was designed to capture various constructs relevant to the study, including different media exposure and perception of urban forests influence on climate change combating. The statements for measuring constructs of study are shown in Table 1. The survey was distributed online. The online survey was disseminated through social media platforms and community forums. The questionnaire included a combination of closed-ended and Likert-scale items, allowing respondents to express their level of agreement or concern regarding various statements related to the constructs. The questionnaire was evaluated by a team of experts from different fields and this team confirmed the reliability of the questionnaire. Prior to the main data collection, a pilot test was conducted with a group of 30 samples to assess the clarity and reliability of the questionnaire, which was confirmed with Cronbach's alpha higher than 0.7. The total samples of 410 participants were included in this study.

2.2.2. Structural Equation Modeling

Following data collection, the responses were analyzed using SEM to test the relationships between the proposed constructs in the theoretical framework. SEM is a powerful statistical technique that allows for the examination of complex relationships between observed and latent variables, making it ideal for this study.

Outer model analysis: The first step in the SEM analysis involves assessing the outer model, which examines the measurement properties of the constructs. This phase focuses on the reliability and validity of the measurement items. Key metrics assessed include. For reliability analysis the Cronbach's alpha and Composite Reliability (CR) were calculated to ensure that the items for each construct exhibit acceptable reliability, indicating internal consistency. Cronbach's alpha is a statistic used to measure the internal consistency or reliability of a set of items in a test or survey, indicating how closely related those items are as a group. CR, on the other hand, assesses the reliability of a construct based on the underlying items' loadings in a factor analysis, providing a more nuanced understanding of the reliability of a measurement model. Convergent validity was assessed by The Average Variance Extracted (AVE) for each construct to assess convergent validity. A value greater than 0.5 indicates that the construct explains more than half of the variance of its indicators. The Heterotrait-Monotrait (HTMT) ratio was employed to evaluate discriminant validity. The HTMT ratio should be below 0.85 to confirm adequate discriminant validity (Chamcham et al., 2024).

Inner Model Analysis: Once the outer model demonstrated satisfactory reliability and validity, the inner model was analyzed to test the hypothesized relationships between constructs. This phase involved the following steps. First, path coefficients were calculated to determine the strength and significance of the relationships between constructs. T-statistics and P-values were utilized to assess the significance of each path, with values greater than 1.96 ($p < 0.05$) indicating significant relationships. Then, the R^2 values for each endogenous construct were calculated to assess the proportion of variance explained by the model. Higher R^2 values indicate that the model effectively explains the dependent variable's variance. In the final step the influences of different media were compared using mean comparison.

3. Results and discussion

3.1. Characteristic of participants

Table 2 shows the characteristics of participants of study. The demographic profile of the participants is presented as follows: The sample consisted of 54% males (n = 223) and 46% females (n = 187). In terms of marital status, 53% of the respondents were single (n = 218), while 47% were married (n = 192). The age distribution indicated that the largest proportion of participants fell within the 31-40 age range (37%, n = 152), followed by those aged 41-50 (31%, n = 129). Participants aged 21-30 constituted 11% (n = 45), and those between 51-60 years accounted for 12% (n = 47). The groups with the smallest representation were those under 20 years (6%, n = 25) and those over 61 years (3%, n = 12). Regarding educational attainment, 5% of participants were illiterate (n = 21), while 46% had completed primary or secondary school (n = 187). Additionally, 28% of the sample had obtained a diploma (n = 114), and 21% held university-level degrees (n = 88).

3.2. Reliability and validity

The reliability and validity of the measurement model are shown in Tables 3 and 4. Cronbach’s alpha values for all constructs ranged from 0.702 to 0.822, indicating adequate internal consistency. These values exceeded the widely accepted threshold of 0.7, suggesting that each construct demonstrates satisfactory reliability (Cronbach, 1951). Additionally, the CR values varied between 0.797 and 0.882, further supporting the reliability of the measurement model, as all constructs surpassed the critical value of 0.7. CR values being above this threshold confirm that the items within each construct are consistent and adequately

measure their respective latent variables. Convergent validity was established by examining the AVE values for each construct. In this study, AVE values ranged from 0.567 to 0.708, all of which exceeded the minimum benchmark of 0.5 (Hair et al., 2019). This indicates that a substantial portion of the variance in the indicators is explained by the latent constructs, affirming that the items converge well to represent the underlying construct they intend to measure. Specifically, constructs such as 'Citizens' perception' and 'Social media exposure' showed particularly strong convergent validity with AVE values of 0.651 and 0.708, respectively, demonstrating that these constructs capture a high degree of commonality among their items. Discriminant validity was assessed using the HTMT criterion. All HTMT values were below the conservative threshold of 0.85, demonstrating that the constructs are distinct from one another (Henseler et al., 2014). For instance, the HTMT ratio between social media exposure and citizens' perception was 0.848, and that between television exposure and print media exposure was 0.552, both values being below the threshold. This confirms that the constructs exhibit adequate discriminant validity, ensuring that each construct is unique and not excessively correlated with others. These findings reinforce the notion that the constructs represent distinct concepts within the framework of this study. The analysis confirms the measurement model's reliability and validity, with all constructs demonstrating adequate internal consistency, convergent validity, and discriminant validity. The results indicate that the constructs used in the study are both consistent and distinct, thereby providing a solid foundation for further analysis and interpretation of the relationships within the structural model.

Table 2. The demographic characteristics of individuals.

Properties	Categories	Frequency	Percentage
Gender	Male	223	54
	Female	187	46
Marital Status	Single	218	53
	Married	192	47
Age	<20	25	6
	21-30	45	11
	31-40	152	37
	41-50	129	31
	51-60	47	12
	>61	12	3
Educational Level	Illiterate	21	5
	School	187	46
	Diploma	114	28
	University degrees	88	21

Table 3. The reliability and validity of questionnaire.

Constructs	Cronbach's Alpha	CR	AVE
Blogs exposure	0.702	0.815	0.6
Citizens'' perception	0.822	0.882	0.651
Print media exposure	0.822	0.797	0.567
Social media exposure	0.794	0.879	0.708
Television exposure	0.773	0.869	0.688

Table 4. The results of HTMT criterion.

Constructs	Blogs exposure	Citizens' perception	Print media exposure	Social media exposure
Citizens' perception	0.335			
Print media exposure	0.726	0.363		
Social media exposure	0.422	0.848	0.436	
Television exposure	0.533	0.844	0.552	0.807

The results of path analysis are illustrated in Fig. 2. The findings indicate that the extent of media exposure can account for 58.9% of the variance in citizens' understanding of the importance of urban greenery in addressing climate-related issues. This substantial percentage underscores the significant role media channels play in informing and educating the public on environmental matters, particularly concerning the value of urban green infrastructure. The results of this study align with previous research that has highlighted the critical impact of media in enhancing individuals' knowledge and awareness of climate change and broader environmental concerns (Ferrucci and Petersen, 2018; Green et al., 2024; Onuegbu et al., 2024). Consistent with these findings, the study suggests that the frequency and nature of individuals' engagement with different media types are crucial in shaping their understanding and perceptions of environmental issues. Media engagement acts as a conduit for information dissemination, providing citizens with relevant knowledge that could influence their attitudes and behaviors toward environmental conservation. The hypotheses test results also are presented in Table 5. The results demonstrated a strong and significant impact of social media exposure on citizens' perception. The influence is supported by a T-statistic of 10.66 and a P-value of <0.00, well below the commonly accepted threshold for significance (0.05). This indicates that social media is a highly influential platform, capable of shaping perceptions at a rapid pace. The path coefficient of 0.469 further underscored this impact, revealing that as exposure to social media content increases, so does its effect on citizens' perceptions. Additionally, television exposure also emerged as a significant predictor of citizens' perception, with a T-statistic of 7.970 and a P-value of < 0.00. Despite the rise of digital media, these results suggest that television remains a powerful medium in shaping public opinion. The path coefficient of 0.397 highlights its considerable influence, likely owing to its widespread accessibility and ability to engage viewers through compelling visual narratives and authoritative presentations.

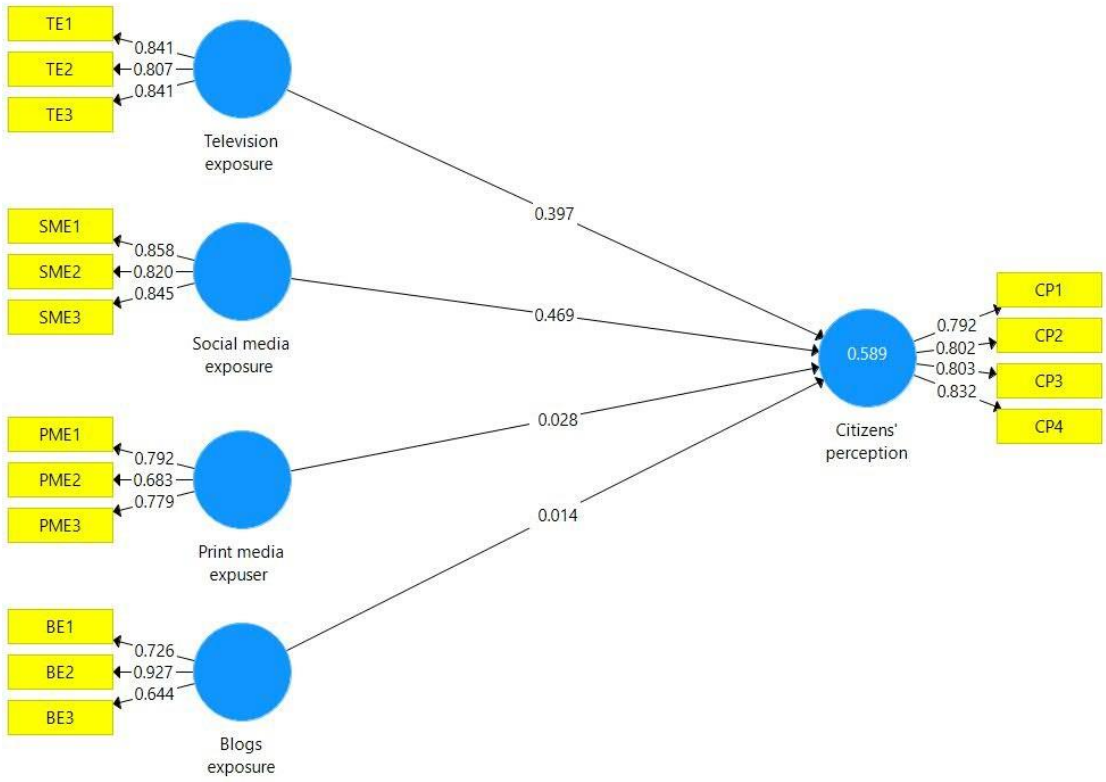

Fig. 2. The path analysis of study.

Table 5. Results of hypothesis test

Hypotheses	T Statistics	P Values	Results
Television exposure -> Citizens' perception	7.970	0.000	Confirmed
Social media exposure -> Citizens' perception	10.66	0.000	Confirmed
Blogs exposure -> Citizens' perception	0.390	0.697	Rejected
Print media exposure -> Citizens' perception	0.684	0.494	Rejected

In contrast, the analysis reveals that blogs exposure does not have a statistically significant effect on citizens' perception. With a T-statistic of 0.390 and a P-value of 0.697, the data indicate that blog content, despite its accessibility, does not substantially influence how citizens form their views in the context of this study. Similarly, print media exposure also showed no significant influence, as reflected in the T-statistic of 0.684 and P-value <0.494. These findings suggest that traditional media forms like blogs and print may be less effective in shaping public perception when compared to digital or broadcast media. Overall, the analysis illustrates that while traditional media such as blogs and print have limited impact on shaping public perceptions about role of urban trees and forests on climate change, digital and broadcast platforms, especially social media and television, play a pivotal role. These findings emphasize the importance of prioritizing these influential platforms when aiming to inform or shift public perceptions. However, the analysis also reveals that the influence of media is not uniform across different platforms. Specifically, this study identified social media as the most impactful medium in shaping citizens' perceptions (Sun et al., 2024), surpassing traditional media formats such as television. Social media's powerful effect can likely be attributed to its interactive nature, immediacy, and the widespread reach of its content, which can engage citizens more effectively than other media forms. Following social media, television emerged as the second most influential medium, reinforcing its ongoing role as a significant source of environmental information despite the increasing dominance of digital platforms. The visual and authoritative presentation style of television likely contributes to its continued relevance in shaping public perceptions. Other studies also showed the higher share of social media on shaping their pro-environmental behavior regards climate change compared to television (Vrselja et al., 2024). An important and noteworthy finding was the lack of significant impact from written media, such as newspapers or magazines, as well as internet blogs, on citizens' understanding of the role of urban forests and trees in combating climate change. Although some research revealed the influence of newspaper on shaping behaviors (Jabeen, 2024; Shah et al., 2020), this outcome could potentially be attributed to the shifts in media consumption in recent years in study area, where the influence of print media in the studied community has diminished. People now increasingly rely on social media platforms for information and engage in discussions through these networks more than ever before. Moreover, these findings are supported by other studies that emphasize the role of media literacy and engagement with digital and virtual platforms in shaping individuals' attitudes and behavioral intentions. Engaging with social media and digital content has been shown to enhance people's environmental awareness, potentially driving pro-environmental attitudes and behaviors (Obaromi, 2024). By increasing public understanding of the role of urban trees and forests, media platforms can motivate individuals to engage in behaviors aimed at conserving these vital green resources.

Nevertheless, it is essential to recognize that while media can significantly influence perceptions, the intention to engage in pro-environmental behavior is often shaped by multiple factors. Previous studies indicate that behavioral intentions are not solely dependent on media exposure but are also influenced by variables such as individuals' attitudes, beliefs, and perceived behavioral control. For example, individual's ability to engage in conservation efforts or adopt sustainable practices is often linked to their skills, self-efficacy, and access to resource (Erfanian et al., 2024; Maleknia, 2024). Despite these complexities, the study

suggests that media platforms have the potential to shape individuals' environmental attitudes positively. By providing accurate information and educational content, media channels especially social media and television can serve as effective tools for raising awareness and empowering citizens to develop the skills needed for engaging in pro-environmental behaviors. Media can thus act not only as an information source but also as a platform for mobilizing public action, enhancing knowledge, and fostering a culture of environmental stewardship. As such, leveraging media effectively could be a strategic approach to promoting environmental conservation and addressing climate change through urban green infrastructure initiatives.

4. Conclusion

This study provides valuable insights into the influence of various media platforms on citizens' perceptions of urban forests as effective tools for combating climate change. Applying Cultivation Theory, the research highlights the significant role of social media and television in shaping public understanding, while demonstrating the declining impact of traditional print media and blogs. These findings suggest that the shift towards digital and interactive media consumption necessitates a strategic realignment of environmental communication efforts. To maximize public engagement and awareness, policymakers and environmental advocates should focus on leveraging the dynamic and immediate nature of social media and television, which have proven to be the most effective in influencing perceptions. However, the study also recognizes the limitations associated with the generalizability of these findings, as they are based on a specific urban context. Future research should therefore replicate this study across diverse regions to validate the outcomes and explore the differential impacts of various social media platforms. By understanding and utilizing the most effective media channels, stakeholders can enhance urban forestry initiatives, promote climate resilience, and build more sustainable and informed communities.

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