



RESEARCH ARTICLE

Arman Radio's Environmental Programs and Audience Behavior, knowledge and attitudes: A Case Study of Shopkeepers in District 12, Kabul, 2025

Tawfiq sahak^{1*}, Zabehullah Bashardost²

¹Department of Mass communication, Faculty of communications and Journalism, Kabul University, Kabul, Afghanistan

²Department of communication studies, Faculty of communications and Journalism, Kabul University, Kabul, Afghanistan

ABSTRACT

Environmental protection is a crucial pillar of sustainable development and public health, and the media, particularly radio, has a significant role in raising public awareness. The purpose of this study is to evaluate the impact of Arman Radio's environmental protection programming on shopkeepers in Kabul City District 12, as well as to investigate the relationship between exposure to these programs and audiences' environmental knowledge, attitudes, and behaviors. A quantitative research method was used, with data obtained via a questionnaire from 370 shopkeepers chosen using Cochran's formula. The acquired data was examined with SPSS software. The findings demonstrated positive and statistically significant links between audience participation in Arman Radio's environmental programs and environmental knowledge, attitudes, and behaviors. The strongest association was discovered between involvement and knowledge, while the relationship with conduct was rather small. As a conclusion, our study shows that among the surveyed shopkeepers in District 12 of Kabul City, Arman Radio is effective at raising environmental awareness and fostering positive attitudes, and within this study population, it may be considered a useful media platform for promoting environmental public awareness activities.

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Introduction

Environmental protection is one of the most important social and developmental challenges in the modern world, since it is inextricably tied to human health, economic stability, urban order, and sustainable development. Rapid population development, uncontrolled urban expansion, poor waste management, air and water pollution, and excessive use of plastic products are all thought to be key contributors to environmental degradation in

Afghanistan, notably in Kabul. In this setting, public knowledge is critical in influencing people's environmental behavior.

According to [Saeed et al \(2024\)](#) and [\(Zia et al., 2024\)](#) Farmers in Nangarhar Province are becoming more aware of climate change, which has a direct influence on their agricultural activities and livelihood sustainability. most farmers recognize symptoms of climate change, such as changes in rainfall patterns, drought, and rising

*Corresponding Author:

Email: tawfiqsahak8@gmail.com (Sahak T)

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temperatures, but they lack a thorough understanding of the scientific explanations of these changes. Their primary sources of information are mostly traditional, such as radio, community gatherings, and personal experiences, which inhibits the spread of knowledge ([Launiala, 2009](#)). Nonetheless, farmers with greater access to media and educational programs are more conscious of climate change and work harder to adapt to it ([Saeed et al., 2024](#)). This suggests that access to information is vital in raising public awareness.

Another study, titled "Exploring the Most Effective Mass Media Tools for Creating Awareness of Climate Change," was conducted in 2024 to assess the effectiveness of mass media in promoting public awareness about climate change. Interviews with journalists and environmentalists were conducted as part of the study. The findings revealed that radio and television are the most effective vehicles for raising environmental consciousness in Afghanistan, as a huge percentage of the population still lacks access to print media and the internet ([Sadat et al., 2024](#)).

Another research named "The Importance of Public Awareness in Environmental Protection: A Case Study in Paktika, Afghanistan," was done in Paktika Province. The study investigated the role of public knowledge in environmental protection. According to the findings, a lack of public knowledge is one of the key contributors to the growing prevalence of environmental concerns. The survey found that many people do not follow environmental protection principles and have little awareness about environmental contamination. The researchers stressed that raising public awareness through the media is critical for addressing and resolving environmental issues ([Yar, 2021](#)).

Radio programs play an important role in raising environmental awareness in the Ogoni region, Nigeria. According to the article, radio is one of the most accessible forms of environmental information for rural populations because its messages are presented in local languages and reflect people's local experiences. Listening to radio broadcasts about oil pollution, land degradation, and water contamination helps people grasp these environmental challenges. This increased understanding leads to a greater sense of care regarding environmental issues ([Nwankwo et al., 2024](#)).

A key conclusion of the study was that the radio program focusing on sanitation and environmental cleanliness in the Ogoni region was not well known by the local populace. Many participants stated that they did not

have enough information regarding the specific program. This conclusion suggests that simply providing a show is insufficient; it must be accompanied by considerable promotion, appropriate timing, and language customized to the intended audience. The lack of awareness of radio programs has a direct impact on public awareness, emphasizing the necessity of promotional techniques in improving the effectiveness of media communications ([Nwankwo et al., 2024](#)).

In 2024, faculty members from Balkh University's Department of Journalism did a study titled "Television's Role in Environmental Awareness: A Study of Public Perception in Northern Afghanistan". The study looked at how television promoted environmental consciousness in Afghanistan's northern regions, including Balkh, Jawzjan, and Sar-e-Pul. The researchers used a survey strategy, collecting data via questionnaires. The findings revealed that television networks in Afghanistan pay little attention to environmental issues, and environmental conservation programs are scarce. The study also discovered low levels of public trust and satisfaction with environmental initiatives. Overall, the findings support the idea that mass media can play an essential role in raising environmental consciousness; however, this subject has yet to receive adequate attention in Afghanistan ([Maihanyar & Sakhawati, 2024](#)).

A study named "The Role of Broadcasting Channels in Spreading Environmental Awareness and Their Impact on Enhancing Sustainable Behaviors" was undertaken at the University of Baghdad in Iraq. The study looked at the role of broadcast media in raising environmental awareness and encouraging sustainable habits. The findings demonstrated that radio and television have an essential role in propagating environmental concepts; however, long-term and effective media methods are required to accomplish meaningful behavioral changes. The study stressed that environmental interventions should be linked to people's daily needs in order to be most effective ([Abdullah, 2025](#)).

A detailed study named "The Coverage of Environmental Issues in FM Radios in Nepal: The Current Status and Challenges" was conducted in Nepal. The study analyzed data from 102 radio stations. The findings revealed that FM radio stations in Nepal play an essential role in environmental reporting, with numerous stations providing environmental programs. The study also found that environmental protection programs are especially effective at raising public awareness among rural people. However, limited financial resources and a scarcity of trained environmental journalists have been cited as

significant barriers to the development and sustainability of such initiatives ([Paudel et al., 2020](#)).

According to the above discussion, mass media influence extends beyond information dissemination; the media also contributes to shaping people's societal ideals and everyday activities. When environmental messages are consistently and continually delivered, individuals become more conscious of the need of environmental protection and are more willing to take practical steps to keep their surroundings clean and the environment safe.

The media, particularly radio, continues to be one of the most successful and accessible tools of raising public awareness in Afghanistan ([Safi et al., 2023](#)). Radio, with its low cost, broad geographical coverage, and accessibility to a wide range of people, can play an essential role in increasing environmental knowledge, good attitudes, and responsible behaviors ([Iyer & Vats, 2019](#)). As a result, measuring the impact of Arman Radio's environmental preservation programs is critical for understanding the media's role in addressing environmental challenges.

Radio is a powerful tool for raising public awareness in places like Afghanistan, making environmental awareness initiatives especially essential. Such programs can have a direct impact on audiences' knowledge, attitudes, and behaviors. However, there is no empirical or scholarly study on the practical effects of environmental radio programs in Afghanistan. This study was intended to fill that gap and give evidence on the role of radio in environmental consciousness.

Afghanistan faces significant environmental difficulties, such as air pollution, inappropriate waste management, and the effects of climate change. Addressing these difficulties requires increased public awareness and behavior, with radio serving as a key communication instrument. District 12 of Kabul City, with its high population density, business activities, and large garbage creation, is especially pertinent to this issue. Shopkeepers have a vital role in trash management, plastic consumption, and keeping cleanliness in their stores. As a result, measuring the impact of Arman Radio's environmental protection initiatives is both scholarly and practical for media organizations, municipalities, and environmental agencies in designing effective awareness campaigns and policies. Based on this premise, the study's aims are listed below.

The primary goal of this research is to evaluate audience exposure to Arman Radio's environmental protection programs and investigate their effects on the audience's knowledge, attitudes, and behaviors regarding

environmental protection. To achieve this primary goal, the study will assess the extent to which audiences listen to Arman Radio's environmental protection programs, determine the level of audience trust in these programs, and examine the relationship between audience exposure to the programs and their environmental knowledge, attitudes, and behaviors.

Consider to the above aims we put the hypothesis as below:

H1: Exposure to Arman Radio's environmental protection programs has a considerable positive impact on the audience's knowledge, attitudes, and behaviors toward environmental protection.

H2: There is a substantial positive association between listener trust in Arman Radio's environmental protection programs and knowledge, attitudes, and behaviors related to environmental protection.

Theoretical Framework

The theoretical framework provides a scientific foundation for explaining the correlations between the variables in this study. Because the study investigates the effects of Arman Radio's environmental protection programming, three media theories are used: Agenda-Setting Theory, Social Learning Theory, and Uses and Gratification Theory. Together, these ideas describe how media content captures the public's attention, promotes learning and behavior, and meets audience demands.

McCombs and Shaw (1972) established Agenda-Setting Theory, which posits that the media influences what people think by frequently emphasizing specific subjects. According to this study, Arman Radio's regular coverage of environmental preservation, pollution, and waste management may improve the perceived importance of environmental issues and influence shopkeepers' knowledge and attitudes in Kabul City's District 12. Albert Bandura's Social Learning Theory describes how people learn by seeing and imitating actions given in social and media environments. As a result, environmental messages broadcast by Arman Radio may persuade shopkeepers to use ecologically acceptable methods.

The Uses and Gratifications Theory sees audiences as active participants who choose media to meet their informational, educational, entertainment, and other needs. In this study, merchants may listen to Arman Radio's environmental programming to learn about environmental issues and protective strategies. As a result, the three theories work together to give a framework for

analyzing how Arman Radio's environmental programs influence audience knowledge, attitudes, and actions, as

well as how audiences engage with these programs. For more information see the figure 1:

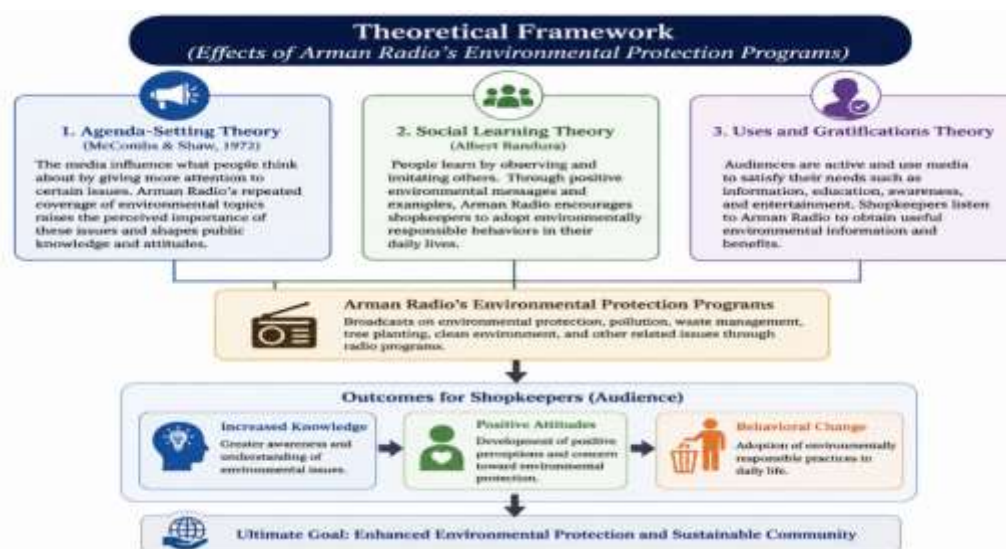


Figure 1: theoretical framework for this study

Research Methodology

Given the nature of the research topic, objectives, and the necessity to measure the important variables, a quantitative research method was used in this study. Quantitative research involves collecting numerical data and using statistical approaches to investigate research problems and test hypotheses. In the current study, participants' opinions and pertinent research variables were measured numerically using a structured questionnaire and then analyzed using acceptable statistical methods. The quantitative method was deemed appropriate because the study's goal was not only to report participants' perspectives, but also to investigate the correlations between study variables and statistically evaluate the obtained data (Creswell & Creswell, 2018).

population and sample size

Defining the research population is an important part of any study since the findings are assessed and interpreted based on the characteristics of the target group and may then be generalized to it. This study's target demographic is shopkeepers in District 12 of Kabul Province, 1404 (2025-2026). to the available data, taken from the information and culture ministry, the overall population of merchants is projected to be around 10,000.

Because collecting data from every individual in a 10,000-person population would be time-consuming, costly, and impractical, a representative sample was chosen. The Cochran sample size calculation was used to find an adequate sample size. Cochran (1977) developed a

widely accepted statistical method for finding the optimal sample size for vast and finite populations.

In this study, a 95% confidence level and 5% margin of error were used. Based on these criteria, 370 participants were selected from a population of 10,000 shops. This sample size was deemed sufficient to provide a representative basis for assessing the target population's attitudes and attributes.

Sampling Technique

This study used a stratified random sampling approach. District 12 of Kabul Province was initially separated into numerous smaller geographical divisions, or strata. Following that, shops were chosen at random from each designated location to ensure that the sample represented the research population's diverse geographical areas.

The use of this sample technique was deemed appropriate because the target population is geographically scattered across multiple places. Including participants from all areas can improve the sample's representativeness and lessen the possibility of geographical underrepresentation. Stratified sampling is especially useful when a target population can be separated into distinct subgroups or strata based on important features (Creswell & Creswell, 2018).

Data Collection

This study's major data collection instrument was a questionnaire. The questionnaire was created by the

researchers using the research objectives, research questions, and relevant study factors.

The questionnaire included items meant to systematically analyze and measure the variables important to the investigation. The use of a questionnaire allowed the researchers to collect data from a large number of participants under controlled settings and then organize the replies numerically for statistical analysis.

During the data collection procedure, the questionnaire was initially constructed based on the study's objectives and pertinent research factors. The questionnaire was then delivered to the selected sample, and the necessary data were obtained from the participants. Throughout the data collection procedure, attempts were taken to distribute the questions to all participants in a consistent and standardized manner. This strategy was chosen to reduce the researchers' possible

Findings

In the findings section of this study, the data collected from shopkeepers in District 12 of Kabul City through a structured questionnaire were analyzed using the Statistical Package for the Social Sciences (SPSS). The data analysis was conducted systematically and objectively to examine the relationship between audience engagement with Arman Radio's environmental programs and their environmental knowledge, attitudes, and behavior.

The analysis was presented in a systematic and logical manner based on established statistical principles and the objectives of the study. First, descriptive statistics were used to present the demographic characteristics of the participants and the main study variables. This analysis provides an overview of the general characteristics of the sample and clarifies the

impact during data collecting and to improve the comparability and consistency of the collected data.

Data Analysis and Interpretation.

After data collection, the primary data were organized, coded, and prepared for statistical analysis. The obtained data was analyzed and processed using the Statistical Package for the Social Sciences (SPSS). The data were analyzed using relevant descriptive and inferential statistical techniques, depending on the research aims and type of the study variables. Descriptive statistics were utilized to summarize and display the overall characteristics and distribution of the obtained data, and suitable statistical tests of association were applied to investigate the links between the research variables. As a result, the use of SPSS made it easier to conduct a systematic, numerical, and scientifically rigorous analysis of the acquired data, as well as understand the research findings.

statistical distribution and overall status of the variables under investigation.

Int the terms of age, the 26-35 years age group had the highest amount of participation, accounting for 121 (32.7%). This was followed by 98 participants (26.5%) who were more than 45 years old. Similarly, 89 individuals (24.1%) were aged 36-45 years, accounting for a significant proportion of the sample. The 18-25 years age group had 62 participants (16.8%), the smallest proportion of all age group.

These data show that the bulk of the participants were young and middle-aged economically active people, who play a key role in commercial and social affairs. See the figure 2.

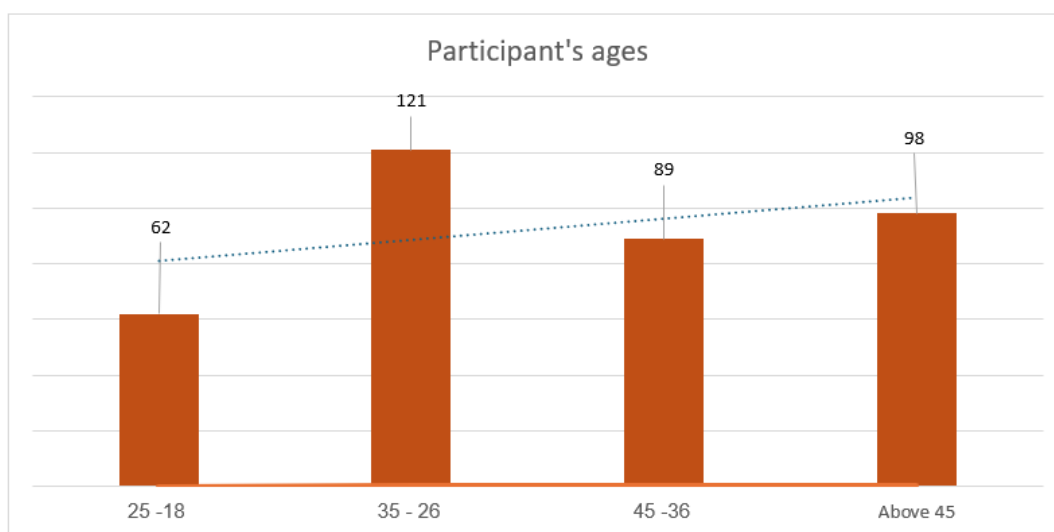


Figure 2. Age Distribution of the Participants

In terms of education level, the majority of the participants, 135 (36.5%), had completed high school. This was followed by 101 participants (27.3%) who had completed primary school. Furthermore, 88 participants (23.8%) had higher education, accounting for approximately one-quarter of the sample. In contrast, 46 participants (12.4%) lacked literacy skills. This group's presence is especially important for the study since radio, as an audio-based medium, provides an excellent way of information access for people who do not read or write.

Overall, the majority of participants had received at least an elementary or secondary education, which provided a solid foundation for understanding media messages and environmental protection concepts. See the figure 3.

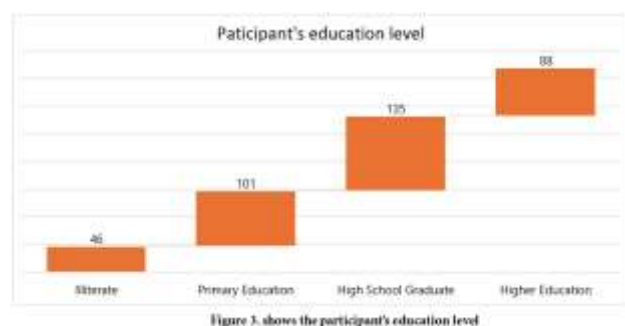


Figure 3. shows the participant's education level

According to the data in the table, the majority of the 370 participants, 106 (28.6%), owned household products shops. This was followed by 105 respondents (28.4%) who owned food establishments. In addition, 90 members (24.3%) owned various types of shops, demonstrating a wide range of commercial activity. On the other hand, 69 participants (18.6%) represented apparel stores, accounting for the smallest fraction of the sample. Overall, the distribution of participants by kind of shop suggests that the study adequately represented shopkeepers involved in a wide range of commercial activities. See the figure 4.



Figure 4. Distribution of Participants by Type of Shop

According to the data in the table, the majority of participants, 205 (55.4%), acknowledged listening to radio programs on occasion. This suggests that, while radio listening is frequent among participants, the majority do not do it on a regular or continuous basis. Furthermore, 110 individuals (29.7%) reported listening to the radio multiple times per week. This group can be considered regular radio listeners, and they may be more exposed to environmental protection messages carried on the radio. In contrast, 55 participants (14.9%) reported listening to the radio every day, making up the smallest proportion of the sample. This shows that daily radio listenership among merchants is minimal, and that the majority of participants are not frequent radio listeners. See the table.1:

No	Radio Listening Frequency	Number	Percentage
1	Every day	55	14.9%
2	Several times a week	110	29.7%
3	Occasionally	205	55.4%

Table 1. Distribution of Participants by Radio Listening Frequency

The results in the table show that the majority of participants, 121 (32.7%), listened to the radio for entertainment purposes. This shows that entertainment programs continue to provide significant value to the viewers. This was followed by 113 individuals (30.5%) who stated that their primary motivation for listening to the radio was to get the news.

This study suggests that radio remains a significant and reliable source of information for acquiring current news and keeping up with everyday occurrences. Furthermore, 103 people (27.8%) reported listening to the radio for information, whereas only 33 participants (8.9%) listened to it for education. This implies that, while radio is a useful medium for teaching and public awareness, the majority of participants listen for amusement, news, and general information. See the table 2.

NO	Main Purpose of Listening to Radio	Number	Percentage
1	Education	33	8.9%
2	Entertainment	121	32.7%
3	Information	103	27.8%
4	News	113	30.5%

Table. 2 Distribution of Participants by Main Purpose of Listening to Radio

Data from all study participants were examined in accordance with the findings reported in the descriptive statistics table. The engagement variable had a mean score of 20.93 and a standard deviation of 5.22, indicating that the participants were moderately engaged and that their responses varied to a suitable degree. This variable had a skewness value of -0.659 and a kurtosis value of 0.055, indicating a well-balanced distribution.

The knowledge variable had a mean score of 30.83 and a standard deviation of 6.04, indicating that the participants had a high level of knowledge and a reasonable degree of diversity in their replies. The skewness value was -0.907 and kurtosis value was 1.020, both within acceptable ranges. Similarly, the mean score for the vision/attitude category was 31.82, with a standard deviation of 5.46. The data had a suitable distribution, as indicated by its skewness value of -0.890 and kurtosis value of -0.127.

The behavior variable's mean score was 31.38, with a standard deviation of 5.55. The skewness value was -0.415, and the kurtosis value was -0.666, indicating that the data distribution was close to normal.

All study variables had skewness and kurtosis values within the allowed range of ± 2 , indicating a generally normal

Variables	Participant's no	Maximum	Minimum	Mean		Standard Deviation (SD)	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Standard Error (SE)	Statistic	Statistic	Standard Error (SE)	Statistic	Standard Error (SE)
Engagement	370	10.00	29.00	20.9275	.44449	5.22157	-.659	.206	.055	.410
Knowledge	370	12.00	40.00	30.8333	.51432	6.04193	-.907	.206	1.020	.410
Attitude	370	19.00	40.00	31.8188	.46492	5.46153	-.890	.206	-.127	.410
Behavior	370	19.00	40.00	31.3768	.47236	5.54899	-.415	.206	-.666	.410
Valid No	370									

distribution. As a result, the data offered a suitable foundation for doing parametric statistical analyzes such as correlation and linear regression. See the table 3.

Table. 3: Descriptive Statistics of the Variables

All 370 participants' data were evaluated using the descriptive statistics shown in the table. The engagement variable received a mean score of 20.93 and a standard deviation of 5.22, indicating that the participants were moderately engaged and varied their replies appropriately. The skewness score was -0.659, and the kurtosis value was 0.055, indicating a generally balanced distribution of the data.

The mean score for the knowledge variable was 30.83, with a standard deviation of 6.04, indicating that the participants had a rather high level of knowledge. The data's skewness and kurtosis values were -0.907 and 1.020, respectively, indicating an acceptable distribution.

The behavior variable's mean score was 31.38, with a standard deviation of 5.55. The skewness score was -0.415, and the kurtosis value was -0.666, indicating that the data distribution was close to normal. The skewness and kurtosis values for all research variables were within the allowed range of ± 2 , indicating an approximately normal distribution. As a result, the data offered a suitable foundation for doing parametric statistical analyzes such as correlation and linear regression. See the table 4.

Statistical Correlation						
			Engagement	Knowledge	Attitude	Behavior
Spearman' s rho	Engagement	Correlation Coefficient	1.000	.498**	.375**	.182*
		Sig. (2-tailed)	.	.000	.000	.033
		N	370	370	370	370
	Knowledge	Correlation Coefficient	.498**	1.000	.523**	.396**
		Sig. (2-tailed)	.000	.	.000	.000
		N	370	370	370	370
	Attitude	Correlation Coefficient	.375**	.523**	1.000	.266**
		Sig. (2-tailed)	.000	.000	.	.002
		N	370	370	370	370
	Behavior	Correlation Coefficient	.182*	.396**	.266**	1.000
		Sig. (2-tailed)	.033	.000	.002	.
		N	370	370	370	370
*Correlation is significant at the 0.01 level (2-tailed).						
*Correlation is significant at the 0.05 level (2-tailed).						

Table 4: Spearman's Rank-Order Correlation Analysis

The Spearman's rank-order correlation test was used to examine the association between engagement and the other research factors. Results show a positive and moderate relationship between involvement and knowledge ($\rho = 0.498$, $p < 0.01$). This research implies that the more frequently audiences are exposed to and engaged with environmental protection content, the greater their environmental knowledge. The findings also show that increased listener participation with Arman Radio's environmental protection programs is connected with higher levels of environmental awareness. The strength of this association is modest, implying that radio programs are successful at enhancing listeners' environmental knowledge and awareness.

The study's engagement and attitude variables showed a positive but weak to moderate connection ($\rho = 0.375$, $p < 0.01$). This suggests that increasing engagement is connected with more favorable attitudes among participants; however, the strength of the association does not support a significant shift in attitudes equal to the effect observed for knowledge. This research implies that more frequent listeners to Arman Radio's environmental protection programming have more positive sentiments toward environmental protection. Although this association is not as strong as the one between involvement and knowledge, it is still statistically significant and useful.

There was a positive but slight correlation between engagement and conduct ($\rho = 0.182$, $p < 0.05$). This data suggests that, while there is a relationship between engagement and conduct, it is not particularly strong. Increased engagement with the radio station's environmental programs is linked to improvements in audiences' practical environmental habits; however, the strength of this association is limited. This implies that simply gathering information does not necessarily result in significant behavioral change, as other social and economic factors might also impact people's practical behaviors.

Furthermore, significant connections were discovered between the linked variables:

- Knowledge and attitude had a moderate positive correlation ($\rho = 0.523$, $p < 0.01$).
- The study indicated a positive and weak-to-moderate association between knowledge and conduct ($\rho = 0.396$, $p < 0.01$).
- The association between attitude and conduct was found to be both positive and weak ($\rho = 0.266$, $p < 0.01$).

Overall, the findings indicate that positive and statistically significant relationships exist among all the study variables. In particular, the strongest relationship with engagement was observed for knowledge, whereas the weakest relationship was observed for behavior. The participants perceived the impact of Arman Radio's environmental messages on increasing their knowledge as greater than their perceived impact on changes in attitudes and behaviors.

Discussion

The results of this study show that audience participation in Arman Radio's environmental protection programs has a positive and statistically significant association with environmental knowledge, attitudes, and behaviors. A moderate connection was discovered between engagement and knowledge ($p = 0.498$, $p < 0.01$).

This outcome is similar with the findings of a study conducted in China called Does Media Usage Affect Pro-Environmental Attitudes and Behaviors? Evidence from China. The study discovered that increased media exposure was linked to higher levels of environmental knowledge, more positive environmental attitudes, and stronger pro-environmental activities. It also revealed that environmental knowledge plays a crucial role in the association between media consumption and pro-environmental attitudes and actions ([Awan et al., 2022](#)).

Our findings on the link between audience involvement and environmental knowledge are essentially consistent with those of [Malik et al. \(2023\)](#). Their study, which included 476 students from Islamabad, Pakistan, discovered that young people have a high level of environmental understanding and that the media has an important role in developing knowledge, attitudes, and actions about environmental issues. At the same time, one of their findings revealed that traditional media has a smaller influence on pro-environmental behavior than social media. As a result, our findings on audience involvement and environmental awareness are similar to those of [Malik et al. \(2023\)](#) and ([Abdulai et al., 2021](#)), however, the conclusions differ in terms of the media analyzed. This distinction may be due to the fact that the current study focused just on radio, whereas their study evaluated media more broadly, including social media.

Also, our study found a significant correlation between environmental knowledge and attitude ($p = 0.523$, $p < 0.01$). This finding is consistent with [Liu et al.'s \(2020\)](#) findings on the relationship between environmental knowledge and pro-environmental behavior, and it is especially similar to their findings, which demonstrated that environmental information and knowledge play an important role in shaping environmental behavior through environmental concern and other psychological variables. The findings of [Liu et al. \(2020\)](#) and ([Major & Atwood, 2004](#)) show that environmental knowledge alone is insufficient to directly create changes in pro-environmental behavior. Instead, environmental attitudes and behavioral intentions serve as a bridge between knowledge and real environmental activity. This outcome

is consistent with our study, which found a larger link between knowledge and attitude ($p = 0.523$) than between knowledge and conduct ($p = 0.396$). This shows that improved environmental knowledge may have a greater impact on the development of good attitudes than direct improvements in environmental behavior.

Conclusion

This study concludes by examining the relationship between listener engagement with Arman Radio's environmental protection programs and shopkeepers' environmental knowledge, attitudes, and behaviors in Kabul's District 12. The data show that participation in environmental initiatives is positively and statistically significantly associated with all three outcome variables. The highest correlation was found between engagement and environmental knowledge ($p = 0.498$, $p < 0.01$), indicating that audiences who are more involved with environmental information tend to have higher levels of environmental knowledge. A significant positive connection was also found between engagement and attitude ($p = 0.375$, $p < 0.01$), indicating an association between greater exposure to environmental initiatives and more positive views regarding environmental conservation. The data also demonstrated significant positive relationships between knowledge, attitude, and behavior. Knowledge and attitude had the strongest link ($p = 0.523$, $p < 0.01$), followed by knowledge and behavior ($p = 0.396$, $p < 0.01$). Attitude and behavior had a weaker but still significant relationship ($p = 0.266$, $p < 0.01$). These findings indicate that environmental knowledge is associated with positive attitudes and environmentally responsible behavior. Nonetheless, the somewhat weaker association between media engagement and behavior suggests that gaining knowledge and awareness through radio may not, by itself, be sufficient to produce substantial behavioral change. Overall, the study shows that Arman Radio's environmental programs are associated with environmental awareness and favorable environmental attitudes among the surveyed shopkeepers. However, media exposure alone may not be sufficient to explain long-term behavioral change. Social, economic, cultural, and institutional contexts, as well as practical opportunities and resources for environmentally responsible actions, should also be considered. Therefore, strengthening environmental radio programming alongside institutional support and practical community-based activities may be useful for promoting environmental awareness and supporting environmental conservation among the study population in Kabul.

Recommendations

1: Improve Environmental Programs: Arman Radio should increase the frequency and practicality of its environmental programs, focusing on local issues such as waste management, pollution, and cleanliness.

2: Enhance Institutional Collaboration: Environmental organizations and the Kabul Municipality should collaborate with Arman Radio to provide coordinated and locally relevant environmental awareness programs.

3: Support Practical Action: Environmental awareness should be combined with accessible waste-disposal facilities and community-based activities to encourage environmentally responsible practices.

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