



RESEARCH PAPER

Role of Media in enhancing Pro-Environmental Knowledge, Attitude and Behavior

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ABSTRACT

Pakistan is facing a multitude of problems but environmental challenges are amongst the most pressing issues facing the country. In this situation, it is imperative that the youth of the country should know how to face these challenges. The aim of the present research was to explore the levels of pro-environmental knowledge, attitude, and behavior amongst the youth as well as focusing on the impact of media in this regard. The research adopted a quantitative survey method and data from 476 male and female university students residing in Islamabad was analyzed. Findings of the study revealed that although the educated youth possessed considerable knowledge about the environment, yet this knowledge was not turning into actions and the levels of pro-environmental behavior were significantly below par. With regard to the role of media it was observed that the influence of traditional media was significantly lower than social media which was found to have an influence on the attitude and behaviour of the youth. Further, findings also showed that although there was no difference between males and females in the levels of knowledge, however with regard to adopting pro-environmental attitude and behavior, females were found to be significantly ahead of the males.

KEYWORDS KAP Model, Pro-Environment, Social Media, Traditional Media

Introduction

Humans have had a massive influence on the planet's land, water, and air, well out of proportion to our position as a single species among millions. Using our exceptional technical ability and dexterity, we have substantially modified the planet to fit our comfort and perceived wants. We have over-exploited many of the planet's natural resources, pushed other species aside, and left the by-products of our efforts to enhance our lifestyles in pools, pits, seas, lakes, rivers, and landfills all over the world, as well as in the air. Carbon emissions, rising population, urbanization, deforestation, and a lack of proper planning by government are all contributing to these environmental issues, but one of the most important factors is people's carelessness and lack of seriousness toward these alarming situations and major environmental issues.

Many people have argued for changes in human conduct that would be less harmful to the environment. However, in order for this to occur, the populace needs to become more aware of environmental concerns. Although, awareness levels regarding the environment have steadily increased over the years especially since the turn of the century, it is still not enough (Pew Research Center, 2014). Leiserowitz (2009) observed that in many countries such as Pakistan, many people had not even heard of global warming. This is an alarming situation, as the change will only occur when people develop a positive attitude

The youth of today will inherit the environmental problems and it is pertinent to engage them in the process of rehabilitation. Pakistan is considered the world's fifth-youngest country, 64 percent of the country's population is under the age of 30 while 29% are between the ages of 15 and 29, the age group defined as a youth (United Nations Development Program, 2017). Further, the number of youth in Pakistan is expected to grow till 2050. It is this very youth which can make or break the country's future. Keeping this in view, the present research aimed to explore the pro-environmental knowledge, attitude, and behavior of the youth residing in the capital city of Pakistan.

Pakistan is dealing with several climatic and environmental concerns, such as air pollution, global warming, land degradation, natural disasters, soil erosion, water scarcity, water pollution, etc. Climate change and global warming are extremely serious concerns that threaten the lives of millions of people around the country. Pakistan has been placed in the eighth position on the list of the most vulnerable countries which are at facing the risk of long-term climate change by the global climate risk index which is a measure of how severely nations have been impacted by weather-related disasters (Global Climate Index, 2021). Their findings reported 502 deaths linked with climate change-related matters as well as a loss of 3772 million dollars (0.52% percent of GDP). In this situation, it becomes extremely pertinent that the youth of the country have an awareness of the risks and perils in their future.

Literature Review

Theoretical Framework: KAP Model

Any research on models of behavior change is essentially focusing on the components of knowledge, attitude, and practice. Knowledge refers to the understanding of the receiver which is non-symbolic and cognizant awareness of its meaning (Wessman, 2006). Meaning has been further subdivided into four categories which are self-reflective knowledge, tacit knowledge, local knowledge, and scientific and social scientific knowledge (Hulme, 2018). With regard to attitude, Ajzen and Fishbein (2000) define it as the negative or positive assessment of any construct while Bourdieu (1990) considers the practice to be the common activity that has been influenced by the norms and values which are widely shared amongst the people living in that particular society.

Bandura's (1976) Social learning Theory and Roger's (1995) Diffusion of Innovation are considered to be the forerunners of the KAP model. The different stages of innovation as discussed by Roger (1995) including knowledge acquisition, persuasion, decision, and confirmation failure correspond to the stages in the KAP model. The VBN (value-belief-norm) theory by Ajzen and Fishbein (2000) also provides a similar framework. Hungerford & Volk (1990) have suggested that in order for behavior change to take place, it is necessary that the individuals possess knowledge of issues as well as skills.

The Knowledge, Attitude, and Practices (KAP) survey method is a quantitative approach that utilizes standardized questionnaires in order to gather qualitative as well as quantitative data (Nguyen et al., 2019; Andrade et al., 2020). KAP surveys are aimed at uncovering misunderstandings and mis-conceptions which are hindering the process of positive behavior change. The KAP model has been used very effectively to assess the link between the successful delivery of environmental messages and the respondent's knowledge, attitude, and practice in various parts of the world (Ahmad, Noor & Ismail., 2015; Nguyen et al., 2019; Owojori, Mulaudzi & Edokpayi, 2022; Singh et al., 2000).

Media and being Pro-Environment

The potential of the role of media with regard to the environment and climate change has been recognized everywhere (Bozan, 2017; Chico, Flor & Gopela, 2017; Huang,

2015; Seelig, 2016). The problems relating to the environment can only be solved if pro-environment behaviors are cultivated in the public (Xiao, Liu & Ren, 2022). It has also been observed that individuals experience strong emotions of pride when adopting pro-environmental practices and guilt when they don't (Bissing-Olson, Fielding & Iyer, 2016).

Mass media particularly the news media frames an issue that results in public awareness as well as their understanding and engagement for collective action, however, politics and the economy at times send these issues away from the center of the debate (Bozan, 2017). It has also been observed that news media tends to put forward the government's perspective on environmental issues rather than conducting any individual in-depth reporting (Kleinberga, 2022). Government can play an important role by encouraging the media to focus on environmental issues in their coverage as well as inspiring the public to adopt pro-environment behavior (Huang, 2015; Sujata et al., 2019). In developed countries such as Denmark, the media agenda has considerably changed and news about the environment is now being repackaged more appropriately to generate public discourse (Petersen, 2007). Research (Bozan, 2017; Ermolaeva, 2014) has indicated that the media in the developed world tends to focus more on environmental issues as compared to the rest of the world. An interesting finding by Bozan (2017) reported that unlike developing countries such as the USA and UK the news media in developing countries does not encourage skeptical messages regarding climate change which is a positive aspect. Further, most of the media coverage focused on the international efforts being put in to combat the effects of climate change but the news was rarely localized (Kleinberga, 2022). It was also reported that the Turkish News media was using a more motivational approach to the issue by focusing on action rather than simple diagnostic and prognostic frames (Bozan, 2017).

Although there has been significant research on the role of media in creating awareness about social change the bulk of the research has focused on the developed world and the rest of the countries have been excluded (Kleinberga, 2022). Hase et al., (2021) conducted a longitudinal study of ten countries from the global North and global South to observe how their news media was covering the issue of climate change. Their findings revealed that news media tends to focus less on the ecological aspects and more on the sociological aspect of climate change i.e how humans are affected by the changes taking place. Another key finding pertained to the difference between the technologically advanced and prosperous Northern region versus that technologically inferior and poorer Southern region whereby the media in the latter was focusing more on the societal implications. Another reason why media coverage of environmental issues has been found to be important pertains to the practices of the business and corporate sectors which adopt more positive practices under media pressure (Su & Fan, 2021; Wang & Zhang, 2021). Further, when the media throws light on private firms' pollution activities, the said firms are pressurized into adopting more environment-friendly practices (Wang & Zhang, 2021).

Individuals with higher media exposure are more willing and carry out actions to protect the environment. (Awan et al., 2022). In order to create public awareness regarding the issue of the environment political leaders as well as major news events can play a significant role but mass media plays an important role in this regard (Bush, Xing & Sieber, 2018; Hayes & O'Neil, 2021). All types of media have been found to encourage pro-environmental beliefs, efficacy as well as behavior (Huang, 2015). Carmichael and Brulle (2017) showed that there is a high association between environmental news and public concern since the public concern is proportionate to news coverage. Researchers from the world over are recommending that all the mass media ranging from traditional media such as radio, television, and newspaper to internet and social media be utilized for not just awareness raising about the environment but also for inspiration, education, social transformation, and engagement (Chico, Flor & Gopela, 2017).

In recent times, it has been observed that the influence of traditional media is gradually declining and its role in impacting pro-environmental behavior has significantly decreased (Han & Xu, 2020). Significant research (Ahmad, Noor & Ismail, 2015; Alsaad, Alam & Lutfi, 2023; Büscher, 2016; Han & Xu, 2020; Sujata et al., 2019; Xiao, Liu & Ren, 2022) has indicated a positive relationship between internet usage and pro-environmental knowledge and behavior. Alsaad, Alam & Lutfi (2023) contend that user engagement through social media fosters a more responsible and caring attitude as well as behavior toward the environment. However, it has also been reported that when it comes to the role of new media, the public discourse can go in unexpected directions and result in disinformation rather than actual information. (Bush, Xing & Sieber, 2018).

With regard to the role of demographic indicators and being pro-environment, it has been observed that although the youth now have a considerable amount of pro-environmental knowledge but lacked appropriate practices (Ahmad, Noor & Ismail, 2015). Gifford & Nilsson (2014) aimed to assess environmental health literacy amongst high school students and found that the students lacked essential knowledge regarding many critical environmental issues. In recent times a change has been observed with regard to the popularity and influence of young environmental activists who have played a major role in creating awareness about environmental issues, especially among the youth (Han & Ahn, 2020; Hayes & O'Neil, 2021). Further, the focus on young vibrant female voices has drastically changed the discourse surrounding climate change which is now equated with inter-generational issues (Hayes & O'Neil, 2021). Research has indicated that more affluent individuals had greater knowledge about the environment in comparison to less affluent individuals (Gifford & Nilsson, 2014). Another interesting finding pertained to the relatively greater impact on women and low-income groups who were all found to be more influenced by pro-environmental communication through online sources (Xiao, Liu & Ren, 2022).

Material and Methods

The methodology used for the research was the quantitative survey approach which was aimed at assessing the impact of various mediums on pro-environmental knowledge, attitude, and behavior among university students. The population of the study comprised university students between the ages of 18-30 residing in Islamabad. Together the population of these universities is approximately a hundred thousand students and using a convenient sampling method, a sample of 600 students was selected from three universities of Islamabad, International Islamic University, Islamabad, National University of Modern Languages, and Quaid-e-Azam University. This was further subdivided into 300 females and 300 males from the targeted population. The questionnaire comprised three sections, demographics, media usage patterns, and KAP-based questions based on a Likert-type scale. To test the reliability of the instrument, it was administered for pilot testing to 30 male and female respondents. It was insured that the pre-test respondents were not allowed to be part of the final sample.

Results and Discussion

The aim of the research was to evaluate the level of pro-environmental knowledge attitude and behavior of the youth residing in Islamabad as well as the role being played by media in this regard. The data was collected through the survey method and SPSS was used to analyze the data. The instrument was distributed amongst 600 male and female students (300 each), out of which 490 responses were returned. Further, only 476 were found to be completely filled and valid and were thus made a part of the final analysis.

Table 1
Respondent's Demographics

Gender	Frequency	Percentage
Male	228	47.9

Age Group	Frequency	Percentage
Female	248	52.1
18-21 years	297	62.4
22-25 years	154	32.4
26-29 years	17	3.6
30 or more years	8	1.7
Education level	Frequency	Percentage
Under-Graduate	417	87.6
Post Graduate	59	12.4

Findings revealed that 52 % of the respondents were female and 48 % were male. Further, it was found that 62.4 % of the respondents belonged to the age group 18-21 years, 32.4 % belonged to the age group 22-25 years, 3.6 % belonged to the age group 26-29 years and 1.7 % were thirty years or older. Also, 87.6 % of the respondents were undergraduate students while 12.4 % were pursuing post-graduate studies (See Table 1).

Table 2
Medium Usage for Media

	Frequency	Percent
Social Media	389	81.7
Television	64	13.4
Radio	14	2.9
Newspapers	8	1.7
Total	476	100.0

The respondents were asked about their media preferences, and it was revealed that 81.7% were social media users, 13.4% preferred television, 2.9% preferred radio, and 1.7% preferred newspapers (See Table 2).

Table 3
Preferred Social Media platform

	Frequency	Percent
WhatsApp	228	47%
Instagram	183	38%
Facebook	103	22%
YouTube	88	18%
Twitter	60	13%

The respondents were also asked which social media platform was favored by them, findings revealed that Whatsapp was the most frequently used social media site, followed by Instagram, facebook, Youtube and Twitter (See Table 3)

Computations

In order to assess the pro-environmental knowledge attitude and behavior of the respondents, various questions were placed in the instrument which were later computed to form the three variables Pro-Environmental Knowledge, Pro-Environmental Attitude, and Pro-Environmental Behavior. Seven statements in the instrument pertained to environmental knowledge, twelve were for pro-environmental attitude, and eleven to pro-environmental behavior.

Table 4
Computed Pro-Environmental Knowledge, Attitude and Behavior

	Poor	Below Average	Average	Above average	Excellent
Computed Knowledge	0	0	20 (4%)	141 (30%)	308 (66%)
Computed Attitude	0	14 (3%)	64 (14%)	232 (50%)	154 (33%)
Computed Behavior	0	23 (5%)	119 (25%)	256 (55%)	69 (15%)

The first research question pertained to the level of pro-environmental knowledge attitude and behavior of the respondents. Findings (See Table 4) revealed that the level of Pro-environment knowledge of a significant portion of the population (66%) was excellent, which is a very positive thing. However, it was observed that there was a gradual decline whereby the level of pro-environment attitude was relatively lower (33%) and finally the level of pro-environmental behavior was actually significantly lower (15%).

Table 5
Media preference and level of Pro-Environmental Knowledge, Attitude and Behavior

	Knowledge computed	Attitude computed	Behavior computed
Social Media Usage	0.079	.137**	.093**
<i>Sig</i>	0.086	0.003	0.044
Television News viewing	.109*	-0.069	0.048
<i>Sig</i>	0.018	0.138	0.296
Newspapers Reading	-.072	-.059	.066
<i>Sig</i>	.119	.204	.155

N= 476

The second research question was aimed at exploring the relationship between the kind of media being consumed by the respondents alongside their level of pro-environmental knowledge attitude and behavior. Findings (See Table 5) revealed that a significant but weak relationship existed between usage of social media and pro-environmental attitude ($r = 0.137$, $n = 476$, $p = 0.003$) as well as pro-environmental behavior ($r = 0.93$, $n = 476$, $p = 0.044$). Further, only television news viewing was found to be positively related to pro-environmental knowledge ($r = 0.109$, $n = 476$, $p = 0.018$). No relationship was observed between newspaper reading and pro-environmental knowledge, attitude, and behavior.

Table 6
Gender and level of Pro-Environmental Knowledge, Attitude and Behavior

		N	M	SD	T	df	Sig.
Pro-Environmental Knowledge	Male	224	28.21	3.508	-1.331	467	.184
	Female	245	28.64	3.567			
Pro-Environmental Attitude	Male	223	42.90	8.807	-3.123	435.087	.002
	Female	241	45.27	7.401			
Pro-Environmental Behavior	Male	224	35.12	7.637	-4.054	452.236	.000
	Female	243	37.88	7.001			

The third and last research question was aimed at exploring gender differences in the level of pro-environmental knowledge, attitude, and behavior. Findings (See Table 6) of the study revealed that there were no gender differences in the levels of pro-environmental knowledge. However, there were significant differences in the levels of pro-environmental attitude such that there were significant differences, $t(435.08) = -3.123$, $p = 0.002$, between

males ($M=42.9$, $SD=8.8$) and females ($M=45.27$, $SD= 7.4$) with the later scoring higher on their levels of pro-environmental attitudes. Similarly, there were significant differences in the levels of pro-environmental behavior such that there were significant differences, $t(452.23)=-4.054$, $p = 0.000$, between males ($M=35.12$, $SD=7.63$) and females ($M=37.88$, $SD=7.00$) with the later scoring higher on their levels of pro-environmental behavior.

Conclusion

The present research was a preliminary study to explore the relationship between the media usage patterns and the levels of pro-environmental knowledge attitude and behavior. The youth of today will be responsible for the running the affairs of the country in the coming few years, thus it is imperative that they have not only an understanding of the core environmental problem facing the country but they should also be willing to work actively to meet the challenges. Before exploring the influence of media, it was important that the youth's levels of knowledge, attitude and behavior regarding the environment be analyzed. Findings revealed that although the educated youth possessed considerable knowledge about the environment, yet this knowledge was not turning into actions and the levels of pro-environmental behavior were significantly below par. These findings corroborate researchers like Ahmad, Noor & Ismail (2015) who had also observed that the youth possess adequate amount of knowledge but they are not adopting pro-environmental behavior.

Having established a base line regarding the levels of pro-environmental knowledge attitude and behavior, the influence of media was then analyzed. Significant amounts of previous literature (Bozan, 2017; Carmichael & Brulle, 2017; Chico, Flor & Gopela, 2017; Huang, 2015; Seelig, 2016) had indicated that media plays a significant role in influencing the public regarding the environment. Findings of the present study revealed that out of the traditional media outlets, newspapers were found to have no influence on the youth in any capacity. Further, television news was also having a relatively little influence on the levels of knowledge. The only medium having any serious impact was social media which is not surprising keeping in view the present day youth's pre-occupation with this medium. These findings also support previous studies (Ahmad, Noor & Ismail, 2015; Alsaad, Alam & Lutfi, 2023; Büscher, 2016; Han & Xu, 2020; Sujata et al., 2019; Xiao, Liu & Ren, 2022) which were suggesting the stronger influence of new media and social media or the decline of traditional media in comparison to social media (Han & Xu, 2020). However, these findings in turn negate other researches like Huang (2015) or Chico, Flor & Gopela (2017) who were of the opinion that all kinds of media play an equal role in influencing the public.

Studies on the influence of media with regard to behavior change often take into account demographic variation. Studies (Hayes & O'Neil, 2021) have indicated that generational differences influence the adoption of pro-environmental knowledge, attitude and behavior. Gender (Xiao, Liu & Ren, 2022) and income (Gifford & Nilsson, 2014; Xiao, Liu & Ren, 2022) also have been found to play a role. As the present study was exclusively focusing on university students, there wasn't much generational difference between the respondents, further there weren't any drastic differences in their socio-economic backgrounds. Thus, the study only explored gender differences with reference to pro-environmental knowledge, attitude and behavior. Findings revealed that there was no difference between males and females in the levels of knowledge, however with regard to attitude and behavior, females were found to depict a more responsible approach. This indicates that previous findings by Xiao, Liu & Ren (2022) regarding the greater influence of environmental communication on women probably holds true.

Recommendations

The findings of the study have revealed the important role that social media can play in educating and encouraging the youth to adopt a more pro-environmental approach.

These findings can be used by policy makers to focus on the creation of targeted messages aimed at the youth encouraging pro-environmental knowledge, attitude and behavior.

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