The Effects of media use on college students' environmental behavior: An analysis of the mediating effects of environmental risk perception and environmental knowledge

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Abstract：

The purpose of this study is to investigate the influence of media use on college students' environmental protection behavior with Taiyuan Institute of Technology as a sample, and put forward suggestions for strengthening college students' environmental protection behavior and promoting their effective development of environmental protection behavior. Therefore, based on the existing literature, this study takes environmental risk perception and environmental knowledge as mediating variables to analyze their roles in media use affecting college students' environmental behavior. This study is a quantitative study, using convenient sampling, questionnaire survey, quantitative analysis and other research methods to collect the data of 391 students in Taiyuan Institute of Technology, analyze the data, and test the hypothesis. According to the existing literature, media use is divided into two dimensions: media use type and media focus on environmental information type. The research finds that media use type has a significant positive impact on college students' environmental protection behavior, and media focus on environmental information type also has a significant positive impact on environmental protection behavior. The study also found that the influence path includes direct influence path and indirect influence path, in which environmental risk perception plays an intermediary role between the type of media use and environmental protection behavior, and also plays an intermediary role between the media focus on environmental information type and environmental protection behavior. Environmental knowledge plays a mediating role between the media use type and environmental protection behavior, as well as between media focus on environmental information type and environmental protection behavior. Media use has a very complex impact on college students' environmental protection behavior, and there is a staggered relationship between media use and college students' environmental risk perception and environmental knowledge. In general, media optimization can help improve college students' environmental risk perception, help them effectively cope with and manage environmental risks, accumulate environmental knowledge, and strengthen their environmental behavior intention.

Keywords： Media Use, Environmental Risk Perception, Environmental Knowledge, Environmental Protection Behavior

Introduction

The modernization transformation of Chinese society has compressed the process of transformation, accelerated the production and development of environmental risks, and at the same time did not reserve sufficient time and space for risk management and institutionalized intervention. This makes the western developed countries encounter

environmental risks in the modernization transformation of more than a century, and explosion in our country modernization process stack up, appearing all kinds of problems of environmental risk coexistence (Li Qi, 2019). Media is an important factor in environmental risk perception. From the beginning of risk perception research combined with media use research, the influence and explanatory power of media have been paid attention to. As a tool to obtain information, media explains the relationship between human and nature, human and society, and human in its own way. Risk scholars represented by Wolfgang Krohn & Johannes Weyer (1994) established the social amplification framework of risk, which made the interdisciplinary development of risk perception research and the study of the relationship between media and risk perception become a prominent science.

According to the media use theory, in the real society, media use shapes and influences people's understanding of society. Media reports on environmental events, descriptions of environmental problems, and dissemination of environmental information will all affect people's environmental risk perception and environmental knowledge accumulation, thus influencing their environmental protection behaviors. A large number of literature show that media use includes two dimensions: media use type and media focus on environmental information. Both environmental risk perception and environmental knowledge play mediating roles in the process of media use affecting audiences' environmental protection behaviors. Media use is not only related to the public's perception of environmental risk, but also helps the audience to accumulate environmental knowledge, thus influencing the public's environmental behavior (Ai Ya peng, 2019).

Research Objective

To investigate the relationship between environmental risk intensification, media use and environmental risk perception. Environmental risk perception and environmental knowledge play a mediating effect in the process of media use affecting public environmental behavior.

Conceptual Framework

The research model shown in Figure 1 can more intuitively demonstrate the logical path from media use to environmental behavior proposed in this study:

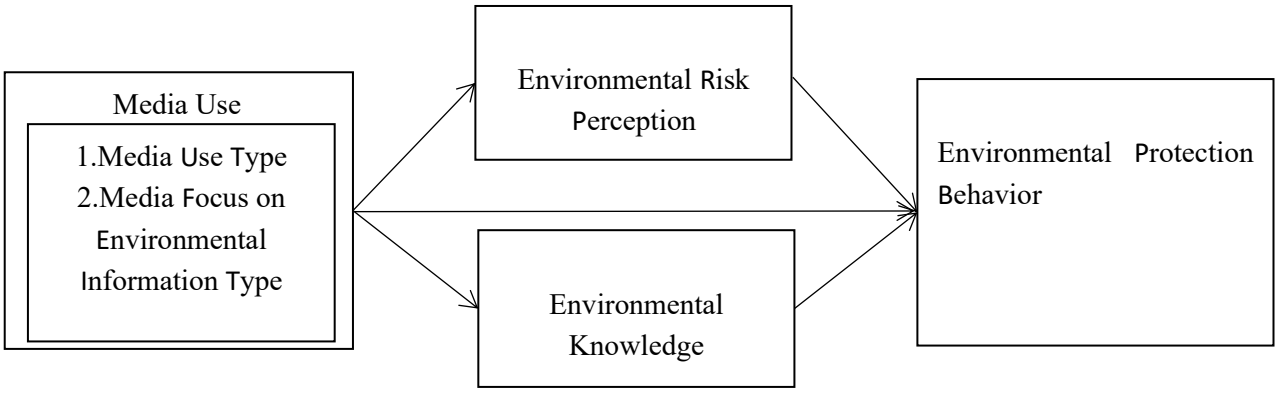


Figure 1.1 The conceptual framework of media use (media use type, media focus on environmental information type), environmental risk perception, environmental knowledge, and variable relationship of environmental protection behaviour
Source: Revised by the author

Literature review and hypothesis

Media use and environmental protection behavior

Donald F.Roberts & Ulla G.Foehr(2008)pointed out,media use, also known as media contact, is the degree of the audience contacting specific messages or a type of media content.Zhang Bing xia(2018)'s research shows, in environmental communication, the media is the main platform and carrier of environmental information dissemination. It can continue and openly publish information about nature and society to the society, reporting various changes in nature and society. In the process of contacting the media, the public will be affected by the setting of the media agenda and the influence of the media, and pay attention to environmental information, thereby deepening the understanding of the environment, which has an important role in promoting individual environmental protection behavior.

The academic community generally believes that media use can have a positive impact on environmental protection behavior. Studies of Lu Chunchun&Quan Xiaojuan(2015).pointed out that the more media use, the more attention to environmental problems, the more environmental knowledge, the stronger the perception of environmental risks, the more positive the environment participation in the environment, and more willing to implement environmental protection behavior. With Canada as a research case, Lee (2019) demonstrated the government as an important means of environmental protection education. It spread environmental information through media, promotes environmental knowledge, and carried out environmental education. Two dimensions of media use: media use type and media focus on environmental information type, respectively, have a significant impact on environmental protection behaviors, respectively.

Media use and environmental risk perception, environmental knowledge

Wang Juan (2016) research shows that environmental knowledge plays an intermediary role between media use and environmental protection behavior. When the public's environmental knowledge has increased, the influence of media use on

environmental behavior will increase. The study of Zhou Quan&Tang ShuKun (2017) shows that environmental knowledge plays a predictive role between media use and environmental protection behavior. Wang YuJun&Han DongMei (2016) believes that the media spreading environmental information has played a role in the construction of environmental knowledge. It has built a comprehensive environmental knowledge system through the media, which has an environmental protection behavior because it has formed a comprehensive environmental knowledge system. Communication scholars have carried out a series of research on media focus on environmental information type and environmental knowledge and environmental protection behavior. In traditional media, research by Yu Xiucai (2012) shows that in terms of air pollution information, the public accumulated environmental knowledge is the most, and it can also strengthen the public's environmental behavior.

In the new media, research by Adams (2012) and others shows that new media represented by the Internet can significantly enhance the general understanding of the public's knowledge about the environment of the environment, thereby strengthening its environmental protection behavior. Huang Zihang (2022) believes that the high time - effectiveness of information dissemination allows the Internet to play a dominant role in the spread of natural disasters and environmental knowledge, and therefore effectively mobilize the enthusiasm of the public to participate in environmental activities. Some scholars believe that the relationship between environmental knowledge and media focus on environmental information type and environmental protection behavior depends on the content of environmental information, and does not depend on the type of media concern. For example, research by Sun Fangcheng (2022) and others found that as far as the environmental problem of domestic waste pollution, the contact of scientific and environmental news content can help improve the environmental knowledge of the audience and help the audience to carry out environmental protection behaviors, but political news concern is There is a completely opposite effect.

Research hypothesis model

As pointed out in the literature review of this paper, there are a lot of literature research data on media use and environmental protection behavior, among which the empirical research results provide empirical evidence. In addition, although existing studies have separately analyzed the positive effects of media use on improving environmental risk perception and environmental knowledge, and analyzed the important role of environmental risk perception and environmental knowledge on environmental behavior, most of these studies exist independently. Based on the two independent findings that media use has a significant positive impact on environmental knowledge and that environmental knowledge can improve individual environmental behavior, we cannot directly assume that media use can have a positive and significant impact on environmental behavior through environmental knowledge. At present, there is no research that integrates media use, environmental risk perception, environmental protection knowledge and environmental protection behavior into the same research structure, and empirically studies the whole logical path from media use to environmental protection behavior through environmental risk perception and environmental knowledge. In this study, based on the existing literature,

the author takes the students of Taiyuan Institute of Technology as the research object, and tries to analyze their media use and environmental protection behavior. From the literature review, in general, media use is seen as having a direct positive impact on environmental behavior. The media use includes two dimensions: media use type and the media focus on environmental information type. Media can highlight the importance of environmental issues through different types of channels to enhance the audience's attention to environmental issues. By using media to pay attention to various types of environmental protection information, audiences can have a deeper understanding of the risks of environmental damage and pollution and improve their environmental knowledge level, which is the main influencing factor for them to take actions to solve environmental problems. Moreover, environmental risk perception and environmental knowledge are powerful predictors of individual environmental behavior. In short, media can influence the environmental behavior of the audience by improving their environmental risk perception level and environmental knowledge.

Based on the above analysis, the author believes that media use can not only directly affect environmental protection behavior, but also indirectly affect environmental protection behavior through affecting environmental risk perception and environmental knowledge. Therefore, we hereby propose the following research hypothesis:

H1: Media use has a positive impact on environmental protection behavior

H2: Media use has a positive impact on environmental risk perception

H3: Media use has a positive impact on environmental protection knowledge

H4: Environmental risk perception has a positive impact on environmental protection behavior

H5: Environmental knowledge will have a positive impact on environmental protection behavior

H6: Environmental risk perception plays an intermediary role in media use and environmental protection behavior

H7: Environmental protection knowledge plays an intermediary role in media use and environmental protection behavior

Methodology

The target population of this study is 400 college students randomly sampled from Taiyuan Institute of Technology. Due to the nature of the study itself and the uncertainty of the sampling framework and the overall population, this study applies convenient sampling. In addition, non-random sampling is used in this study, because there is no list of all students in Taiyuan Institute of Technology who have participated in environmental protection activities for random sampling. Convenience sampling is characterized by the use of the most convenient sample for the researcher and the inclusion of only individuals who agree to participate in the survey. The formal questionnaire of this study was mainly distributed to students from 12 departments and departments of Taiyuan Institute of Technology from November 1, 2022 to November 15, 2022.

A total of 400 questionnaires were sent out through the questionnaire Star. After effective screening, 391 questionnaires were left, with an effective recovery rate of 97.75%.

In this study, effective questionnaires were selected based on three criteria: (1) whether the answers in the questionnaire were inconsistent; (2) Whether there are multiple questions with the same answer in the questionnaire; (2) Whether the subjects have answered 90% of the questions in the questionnaire.

The independent variable of this study is media use, which includes two dimensions, media use type and media attention to environmental protection information type. Media use type includes six questions. There are also six questions in the types of environmental protection information concerned by media. The scale was using Likert scale, strongly disagree is 1 point, disagree is 2 points, undecided is 3 points, agree is 4 points, strongly agree is 5 points.

The dependent variable of this study is environmental protection behavior, including 7 questions, which was using Likert scale, strongly disagree is 1 point, disagree is 2 points, undecided is 3 points, agree is 4 points, strongly agree is 5 points.

Lastly, the mediating variables of this study are environmental risk perception and environmental knowledge, among which environmental risk perception includes 8 questions, which was using Likert scale, strongly disagree is 1 point, disagree is 2 points, undecided is 3 points, agree is 4 points, strongly agree is 5 points. In additions, environmental knowledge consists of 6 questions, which was also using Likert scale, strongly disagree is 1 point, disagree is 2 points, undecided is 3 points, agree is 4 points, strongly agree is 5 points.

Finding

Structural equation model establishment and model test

A research technique called a structural equation model (SEM) uses the link between unobserved variables by using the covariance matrix between variables. Conventional linear relationship analysis can be extended to nonlinear relationship analysis by combining classical route analysis and factor analysis, which can precisely evaluate the link between several variables. By incorporating factor model into structural model analysis, this is achieved. Sewall Wright (1920), a geneticist, developed this technique in the 1920s to investigate causation. It was then gradually applied to management, psychology, and sociology. Since behavioral science combines the aforementioned fields, it is also widely employed.

In order to analyze the link between measurement variables, potential variables, interference variables, and error terms as well as to find, estimate, assess, and amend various path relationship models, structural equation models (SEM) incorporate factor analysis with path analysis.

For the modeling of a structural equation model, it is often necessary to establish the path diagram and model numerous related variables in accordance with general language norms. Since the method is relatively mature, the specific language rules will not be elaborated here. The structural model and measurement model make up the bulk of the entire model system, while the measurement model is made up of observed variables and potential variables. The measuring scale is used to gather the observed variables, which are then analyzed to determine the path link between the prospective variables.

From the above analysis of SEM, it can be concluded that SEM can deal with complex recursive relationship problems and mutual causality problems. According to the theoretical assumptions, this model's path relationship is created, as depicted in the following figure:

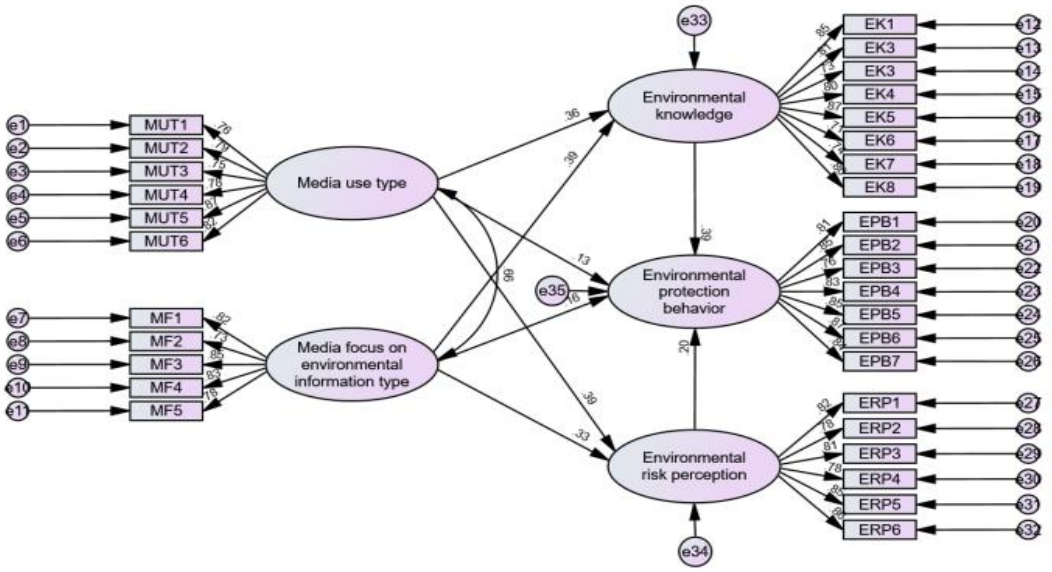


Figure 4.1 Structural equation model initial diagram

In this work, a structural equation model with independent variables was created，media use (including two sub dimensions media use type and media focus on environmental information type), intermediary variables environmental risk perception, environmental knowledge, and dependent variables environmental protection behavior. To gauge how well the formal survey data and the model fit together, the overall fit degree of the model is first examined. Most indicators meet the standard through model modification, GFI and AGFI are slightly less than the evaluation standard of 0.9, GFI and AGFI greater than 0.8 is acceptable. Therefore, this research model can be used for subsequent relevant data analysis.

Table 4.1 Test results of structural equation model fit degree

Reference index	x^2/df	AGFI	GFI	TLI	NFI	CFI	RMSEA
Evaluation criteria	1—3	＞0.8	＞0.8	＞0.9	＞0.9	＞0.9	＜0.08
Statistical value	2.140	0.850	0.871	0.942	0.905	0.947	0.054
Model adaptation	accept	accept	accept	accept	accept	accept	accept

The results of path analysis

Each regression coefficient in this study was estimated using the maximum likelihood approach, as shown in the table below. The standard error of the path coefficient, or S.E. The regression coefficient values had significant differences at the level of 0.05,

according to the absolute values of the associated critical value C.R., which were all more than 1.96. The requirements for the path coefficient significance test are as follows: It is significant at the p 0.05 level when the critical ratio is higher than 1.96; it is significant at the p 0.01 level when the critical ratio is higher than 2.58.

Table 4.2 Test of path coefficients and hypothesis results

path			Estimate	S.E.	C.R.	P
Environmental knowledge	<---	Media use type	0.362	0.065	5.790	***
Environmental knowledge	<---	Media focus on environmental information type	0.391	0.067	6.259	***
Environmental risk perception	<---	Media use type	0.388	0.065	5.926	***
Environmental risk perception	<---	Media focus on environmental information type	0.333	0.066	5.187	***
Environmental protection behavior	<---	Media use type	0.126	0.060	1.992	***
Environmental protection behavior	<---	Media focus on environmental information type	0.164	0.063	2.575	***
Environmental protection behavior	<---	Environmental knowledge	0.387	0.053	6.653	***
Environmental protection behavior	<---	Environmental risk perception	0.204	0.052	3.754	***

Note: *** means significant at the 0.001 level.

The fitting index test results shown in the above table demonstrate this, the index of model fitting basically meets the standard, so path analysis and hypothesis testing between variables can be carried out.

H1: Media use has a positive impact on environmental protection behavior

H1a: Media use type has a positive impact on environmental protection behavior

The standardized path coefficient of media use type on environmental protection behavior is 0.126 ($p<0.05$), indicating that media use type has a significant positive effect on environmental protection behavior, so the hypothesis is valid.

H1b: Media focus on environmental information type has a positive impact on environmental protection behavior

The standardized path coefficient of media focus on environmental information type on environmental protection behavior is 0.164 ($p<0.05$), indicating that media focus on environmental information type has a significant positive effect on environmental protection behavior, so the hypothesis is valid.

H2: Media use has a positive impact on environmental risk perception

H2a: Media use type has a positive impact on environmental risk perception

The standardized path coefficient of media use type on environmental risk perception is 0.388 ($p<0.05$), indicating that media use type has a significant positive effect on environmental risk perception, so the hypothesis is valid.

H2b: Media focus on environmental information type has a positive impact on environmental risk perception

The standardized path coefficient of media focus on environmental information type on environmental risk perception is 0.333 ($p<0.05$), indicating that media focus on environmental information type has a significant positive impact on environmental risk perception, so the hypothesis is valid.

H3: Media use has a positive impact on environmental protection knowledge

H3a: Media use type has a positive impact on environmental knowledge

The standardized path coefficient of media use type on personal environmental knowledge was 0.362 ($p<0.05$), indicating that media use type had a significant positive effect on personal environmental knowledge, so the hypothesis was valid.

H3b: Media focus on environmental information type has a positive impact on environmental knowledge

The standardized path coefficient of media focus on environmental information type on individuals' environmental knowledge was 0.391 ($p<0.05$), indicating that media focus on environmental information type had a significant positive effect on individuals' environmental knowledge, so the hypothesis was valid.

H4: Environmental risk perception has a positive impact on environmental protection behavior

The standardized path coefficient of environmental risk perception on environmental protection behavior is 0.204 ($p<0.05$), indicating that environmental risk perception has a significant positive effect on environmental protection behavior, so the hypothesis is valid.

H5: Environmental knowledge will have a positive impact on environmental protection behavior

The standardized path coefficient of environmental protection knowledge on environmental protection behavior is 0.387 ($p<0.05$), demonstrating that environmental awareness significantly improves environmental protection practices, so the hypothesis is valid.

Mediation testing results

The Bootstrap approach is employed to test the mediation effect in accordance with Preacher and Hayes' recommendations. The stepwise test's weakness in being unable to examine the significance of the mediation effect is made up by the Bootstrap technique, which has a good statistical impact but does not require assumptions like normal distribution. The maximum fitting method was the model fitting technique employed in this investigation, and sample was repeated 2000 times with 95% confidence interval through Bootstrap with non-parametric percentage correction and Bias-corrected test. According to the criteria of mediating effect proposed, if the variable does not include 0 in the value interval of 95% confidence interval, it indicates that the mediating influence matters a lot. The table below shows the outcomes of this study's investigation of the structural equation

model's mediation effect:

Table 4.3 Results of mediating effect test

path	effect value	Bias-corrected95%CI			Percentile95%CI		
		Lower	Upper	P	Lower	Upper	P
Media Use Types - Environmental Knowledge - Environmental Protection Behavior (Standardization)	0.140	0.060	0.256	0.001	0.055	0.249	0.001
Media Focus on Environmental Information Type - Environmental Knowledge - Environmental Protection Behavior (Standardization)	0.151	0.067	0.280	0.001	0.064	0.269	0.001
Media Use Type - Environmental Risk Perception - Environmental Protection Behavior (Standardization)	0.079	0.027	0.185	0.002	0.022	0.164	0.004
Media Focus on Environmental Information Type - Environmental Risk Perception - Environmental Protection Behavior (Standardization)	0.068	0.027	0.152	0.001	0.020	0.132	0.004

H6: Environmental risk perception plays an intermediary role in media use and environmental protection behavior

H6a: Environmental risk perception plays an intermediary role in media use type and environmental protection behavior

The indirect influence coefficient of media use type -- environmental risk perception -- standardization of environmental protection behavior) is 0.079, the confidence interval of indirect effect does not contain 0, and the p value is less than 0.05, indicating that environmental risk perception plays an intermediary role between media use type and environmental protection behavior.

H6b: Environmental risk perception plays an intermediary role in the media focus

on environmental information type and environmental protection behavior

The indirect influence coefficient of media focus on environmental information type -- environmental risk perception -- environmental protection behavior (standardization) is 0.068, the p value is less than 0.05 and the indirect effect's confidence interval does not contain 0, indicating that environmental risk perception plays an intermediary role between media focus on environmental information type and environmental protection behavior.

H7: Environmental protection knowledge plays an intermediary role in media use and environmental protection behavior

H7a: Environmental protection knowledge plays an intermediary role in media use type and environmental behavior

The indirect influence coefficient of media use type -- environmental knowledge -- environmental protection behavior (standardization) is 0.140, the indirect effect's confidence interval does not include 0, and the p value is less than 0.05,indicating that environmental knowledge plays an intermediary role between media use type and environmental protection behavior.

H7b: Environmental protection knowledge plays an intermediary role in Media focus on environmental information type and environmental protection behavior.

The indirect influence coefficient of media focus on environmental information type -- environmental knowledge -- environmental protection behavior (standardization) is 0.151, the p value is less than 0.05 and the confidence range for the indirect impact does not contain 0, indicating that environmental knowledge plays an intermediary role between media focus on environmental information type and environmental protection behavior.

Discussions and Conclusions

A total of 391 questionnaires were collected in Taiyuan Institute of Technology. Through descriptive analysis, correlation analysis, data from the survey were analyzed using an exploratory factor analysis and a structural equation model, the main findings of this study are as follows: According to the demographic information research data, the respondents are mostly male (60.36%), mostly freshmen (29.16%), and mainly engineering majors (39.39%). The interviewees are college students, who not only have a strong curiosity for new things, but also use media frequently, are energetic, and have strong environmental behavior.

Descriptive statistical results show that the media respondents use least to obtain environmental protection information is reading environmental protection books, newspapers and magazines, "I usually read environmental protection books, newspapers and magazines." (X = 3.570), the most used medium to obtain environmental protection information is the Internet, "I usually obtain environmental protection information through mobile APP". (X = 3.810). It is evident that respondents use new media more than traditional media. To popularize environmental protection knowledge for university students and improve their environmental risk perception and environmental protection behavior, they can make more use of new media.

In terms of respondents' attention to environmental protection information through media, the environmental protection information they pay the most attention to is water

pollution prevention. "I usually use media to pay attention to water pollution prevention and control information." (X = 3.490), the environmental information that respondents pay the least attention to when using media is about air pollution, "I usually use media to pay attention to information on preventing and controlling air pollution." (X = 3.310). For respondents, colleges and universities can publicize more environmental information on prevention of air pollution and control to help them improve their awareness of the importance of prevention of control over air pollution.

In terms of respondents' environmental risk perception, respondents answered the question "Frequent participation in environmental lectures is conducive to strengthening the understanding and knowledge of environmental risk perception". The average value (X = 3.860) is the highest, indicating that the respondents think environmental lectures are more professional and can effectively help them popularize environmental knowledge, strengthen their understanding of environmental protection, and thus strengthen their perception of environmental risks. In view of this situation, colleges and universities can organize and hold more online environmental protection lectures to help interviewees strengthen their environmental risk perception and thus strengthen their environmental protection behaviors. Respondents to the question "only when they perceive the existence of environmental risks, they will put into environmental protection practices." The mean value (X = 3.650) is the lowest, indicating that the respondents do not realize the existence of environmental risks to participate in and put into environmental protection practices.

In terms of respondents' attention to environmental protection information through media, the environmental protection information they pay the most attention to is water pollution prevention. "I usually use media to pay attention to water pollution prevention and control information." (X = 3.490), the environmental information that respondents pay the least attention to when using media is about air pollution, "I usually use media to pay attention to air pollution prevention and control information." (X = 3.310). For respondents, colleges and universities can publicize more environmental information on control over air pollution to help them improve their awareness of the importance of control over air pollution.

In terms of the respondents' environmental behavior, respondents responded to the question "I never do anything harmful to the environment." The average value (X = 3.930) is the highest, indicating that the respondents can protect the environment in daily life. I will participate in environmental protection activities on a regular basis. The average value of (X = 3.630) is the lowest. On the one hand, it indicates that the period of participants' participation in environmental protection activities is not fixed; on the other hand, it also reflects the shortcomings of universities in organizing environmental protection activities. There should be more initiatives to get students involved in environmental protection， and the coverage of environmental protection activities should be expanded as far as possible so that more students can participate in them.

In summary, based on the findings of this investigation, it can be said that media use of college students has a significantly favorable impact on their environmental behavior, in which environmental risk perception and environmental protection knowledge play an intermediary role. It can also inspire colleges and universities to pay attention to the use of

media when carrying out environmental protection activities. By taking the media used frequently by college students as the platform, they can timely and dynamically understand their real feelings about environmental protection activities, so as to continuously optimize and improve environmental protection activities, so that they have a stronger willingness to the practice of environmental protection and put into more practice.

Recommendations

1. Guide college students to use media to obtain better environmental protection information and enhance the value of college students' media use

College students use media to obtain environmental information not only in quantity, but also in quality. University campuses should be fully covered by the Internet so that college students can access environmental protection information anytime and anywhere on campus. Campus libraries should add new books, newspapers and magazines on environmental protection, and colleges and universities should hold more meaningful lectures and activities on environmental protection in various forms. Only by providing college students with high-quality media use experience and guiding them to obtain better environmental protection information can they improve their environmental risk perception and help them acquire more environmental knowledge, so as to generate environmental protection behaviors.

2. Constantly innovate environmental protection activities to enhance their appeal to college students

According to the empirical analysis results, media use directly affects the environmental risk perception, environmental protection knowledge and future environmental protection behavior intention of college students after entering college. For university administrators, the optimization of environmental protection activities should not only start from the optimization of media use of college students, but also need to innovate. Efforts can be made in the following aspects: First, experts in the field of environmental protection can be hired to organize environmental protection activities in the university. They have a strong perception of environmental risk, have a profound accumulation of environmental protection knowledge, know the latest trends of environmental deterioration, and can find the focus of innovative environmental protection activities in universities. Secondly,It is essential to examine the traits of various fields and majors of secondary units that to execute environmental protection activities in colleges and departments of universities, combine these characteristics and the differentiated situation and needs of students in different majors to carry out innovative environmental protection activities, carry out characteristic and personalized environmental protection activities, and improve the appeal of environmental protection activities to college students. For example, the Design Arts department draws environmental maps, the mechanical department makes environmental robots that can be used in the campus, and the chemical Engineering Department develops environmental products.

3. Increase interaction and communication to improve environmental risk perception and environmental knowledge of college students

College administrators should strengthen the interaction with college students,

timely understand their awareness of environmental protection activities, through this channel to improve the environmental risk perception and environmental knowledge of college students, so as to strengthen the environmental protection behavior. For example, we can investigate what types of environmental protection activities college students like to participate in, what environmental knowledge they have accumulated, and how strong their perception of environmental risks are through campus questionnaires, campus websites, campus micro-blogs and other channels.

Limitations and Future Research

The media use of college students will change with the development of time, and the environmental risks they feel and the environmental protection knowledge they accumulate may change with time. Accordingly, the influence on their environmental protection behavior intention is also dynamic. Therefore, this study only reflects the current situation of the influence of college students' media use on their environmental behavior intention during the research stage, and the applicability of the research results is limited. Due to the author's own reasons and some objective factors, the focus of this study is only on Taiyuan Institute of Technology. It is not clear whether the impact of media use on environmental behavior intention of college students is regionally related.

In addition, sample selection also has limitations. Because the method of convenient sampling is adopted in this paper, only sampling survey is conducted from all departments in Taiyuan Institute of Technology. Whether the conclusions can be applied to other universities needs further study and verification. From the perspective of college students' media use, this study summarized various dimensions of college students' media use through literature review, and further verified the connection between college students' environmental risk perception, environmental protection knowledge and environmental protection behavior intention. However, from a practical perspective, there are many factors affecting college students' media use and environmental protection behavior intention. The conclusion of this study only verifies the hypothesis put forward in this study, and it does not mean that all the factors affecting the environmental behavior college students' intentions are obtained in this paper.

In future research, other researchers can choose other universities or other fields for analysis and research, especially in the field where the use of audience media serves a crucial function in carrying out environmental protection activities. In this way, they can have a deeper understanding and interpretation of the meaning and value of the audience's media use. This study only verified the relationship among media use, environmental risk perception, environmental protection knowledge and environmental protection behavior intention of college students in Taiyuan Institute of Technology.

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