

*Original Research*

# Research on the Influence Mechanism of Public Participation in Environmental Governance in the Context of Big Data: Based on the Theory of Planned Behavior and the Norm Activation Model Integrated Analysis Framework

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## Abstract

The public awareness of environmental protection is rising with the development of network technology and the popularization of environmental knowledge. the impact mechanism of public participation in environmental governance in the context of big data in this study was explored by integrating the theory of planned behavior (TPB) and the norm activation model (NAM). The results show that: (1) the external environmental awareness, internal responsibility, social norms as external pressure and private norms as internal driving force all have a positive impact on public participation in environmental governance. (2) environmental attitude affects public participation behavior in environmental governance through the intermediary variable of “subjective norms”, environmental awareness affects public participation in environmental governance by affecting social norms, and responsibility attribution affects public participation in environmental governance by affecting private norms. The subjective norm plays a part of intermediary role in the relationship between environmental attitude and public participation behavior (PPB). (3) government support and media platform are moderating variables between environmental attitude and PPB in environmental governance. Government support can enhance the positive impact of environmental awareness on PPB, and media platform can enhance the positive impact of responsibility attribution on PPB. This is mainly because that it still needs to rely on various resources and opportunities to transform the subjective attitudes and intentions into practical actions.

**Keywords:** soil water characteristic curve, soil shrinkage, substrate, hydraulic parameters, model

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## Research Background

Around the world, governments are strengthening environmental protection and encouraging public participation in environmental governance with the increasing challenges posed by environmental problems. Public awareness of environmental protection is also rising with the development of network technology and the popularization of environmental knowledge. In history, the environmental governance in China has mainly implemented the “top-down” model led by the government. However, in recent years, the Chinese government has tried to encourage multiple subjects to participate in environmental governance by using a variety of means, and has continuously expanded and enriched the methods and channels of public participation to increase the enthusiasm of the public for participation by using technologies such as big data and new media [1]. The public has become one of the indispensable multiple subjects in the environmental governance system of China. What has become an effective means for the government to solve effectively environmental problems is to give full play to the power of public participation and social subjects.

In 2020, China proposed the “carbon peaking and carbon neutrality goals”, and advocated to reach the peak of carbon emissions by 2030 and achieve carbon neutrality in 2060. The Chinese government pointed out in the “14<sup>th</sup> Five-Year Plan” that “it is necessary to strengthen the collaborative participation of the public based on premise of improving the collaborative capacity of ecological protection supervision” in order to accelerate the realization of energy conservation, emission reduction and environmental governance goals. Governments at all levels are also improving their technological governance capabilities, encouraging public participation in environmental governance by using policy levers and modern e-government platforms, which includes the introduction of fiscal and tax policies to encourage the public to purchase new energy vehicles and low-carbon travel; the construction of government Wechat, Weibo and other government affairs platforms to popularize environmental knowledge and conduct interaction between government and the public; the introduction of a number of policies to encourage the public to participate in political affairs, environmental decision-making and environmental assessment [2]. Public participation in environmental governance is also more complex, including private sphere pro-environmental behavior (Private sphere PEB) and public sphere pro-environmental behavior (Public sphere PEB) [3-5]. Therefore, it is necessary to explore the impact mechanism of public participation in environmental governance in the era of big data by combining new policy backgrounds, so as to promote the implementation of government environmental protection policies and improve the effect of public participation in environmental governance.

The theory of planned behavior (TPB) believed that public participation behavior in environmental governance is mainly affected by three key factors such as environmental attitude, social norms and perceived behavior control, which jointly affect public participation willingness and public participation behavior. Environmental attitudes include the following three aspects, such as environmental knowledge, environmental awareness and behavioral tendencies [4-7]. Social norms refer to the “behavioral pressure” of public participation in environmental governance, are expectations and attitudes of “important others” towards environmental participation, which includes descriptive norms and directive norms. Perceived behavioral control refers to the public perception of the difficulty of “realizing environmental participation behavior” [8-10]. The theory of planned behavior is proposed based on the perspective of “egoism”, while the norm activation model is constructed based on the perspective of “altruism” [11-13]. Therefore, public participation in environmental governance is not necessarily just for their own interests, but a behavior with positive external effect. Public participation behavior (PPB) in environmental governance in this study not only includes private sphere pro-environmental behavior, such as low-carbon travel, garbage sorting; but also includes public sphere pro-environmental behavior, such as reporting pollution phenomena, participating in environmental NGO organizations and offering advice and suggestions. Therefore, norm activation model (NAM) believed that private norms are a key variable. If a person has strong altruistic motivation, environmental consequence perception and responsibility attribution, the stronger his/her willingness to participate in environmental governance and the greater the possibility of implementing the behavior. The public as an individual citizens will be affected by various objective and subjective factors in the process of participating in environmental governance. The objective factor level mainly includes the following factors, such as government policies, media platforms, environmental knowledge, environmental attitudes, environmental consequences perception, environmental responsibility, social norms, private norms. An integrated analysis framework in this study was constructed based on TPB and NAM.

## Literature Review and Research Hypotheses

### Environmental Attitude (EAT) and PPB in Environmental Governance

EAT in this study includes environmental awareness (EAW) and responsibility attribution (RA). EAW refers to the public awareness of environmental protection based on environmental knowledge and environmental literacy. PPB in Environmental Governance in this study includes private sphere PEB and public sphere

PEB. The stronger public environmental awareness, the stronger aware of the importance and urgency of environmental protection, the stronger willingness to participate in environmental governance and the greater the possibility of implementing the participation behavior in environmental governance. However, RA refers to the willingness and motivation of citizens to protect the environment based on their inherent moral responsibility. The stronger the public perception of the consequences of environmental pollution, the clearer the awareness of the adverse consequences of not participating in environmental governance, which promotes the public to participate actively in environmental governance and implement pro-environmental behavior [14-19]. Therefore, the following hypotheses are proposed in this study.

H1 EAW has a positive impact on PPB in environmental governance.

H2 RA has a positive impact on PPB in environmental governance.

#### Subjective Norms (SNO) and PPB in Environmental Governance

The subjective norms (SNO) in this study include social norms (SN) and private norms (PN). SN refer to the perceived social pressure from the external world during the implementation of a specific behavior, is the perception of “expectations of others” and an external pressure. The stronger the SN of environmental protection, the greater the pressure on the public participate in environmental governance, the more inclined to implement the participate behavior in environmental governance. PN refer to the individual perception of their own obligations to implement a specific behavior, is the perception of “individual obligations” and an internal driving force [20]. The stronger the PN of environmental protection, the more the public tends to participate actively in environmental governance. Therefore, the following hypotheses are proposed in this study:

H3 SN have a positive impact on PPB in environmental governance.

H4 PN have a positive impact on PPB in environmental governance.

#### Environmental Attitudes and Subjective Norms

EAW refers to the environmental perception and environmental emotion that the public absorbs from the external world, is an “external” environmental attitude. Therefore, it will affect individual perception of social norms. The richer the public environmental awareness, the more perfect the environmental literacy, the stronger the pressure perception of environmental pollution [21-23], and the more feel all social circles attach importance to environmental governance and resist environmental pollution. Responsibility attribution

refers to the public internal sense of moral obligation and an “internal” environmental attitude. Therefore, it will affect the public construction of individual norms [24-26]. The stronger the sense of responsibility, the stronger the sense of guilt for environmental pollution and the greater the sense of achievement of participating in environmental governance. Therefore, the following hypotheses are proposed in this study:

H5 EAW has a positive impact on SN.

H6 RA has a positive impact on private norms.

#### Mediating Effect of SNO on EAT and PPB in Environmental Governance

EAT reflects the public awareness of environmental knowledge and environmental responsibility. If the public believes that it is very important to protect the environment, they will perceive that it is a necessary and meaningful behavior to participate in environmental governance, and they will have a more positive attitude to implement PEB. The stronger the public awareness of the adverse consequences caused by environmental pollution, the more understand the expectations of government departm they ents and social subjects for environmental governance, and the more they feel the pressure brought by social norms. However, social norms will also affect the formation of private norms, which force individuals to form a sense of responsibility and internal motivation to participate in environmental governance, and then implement actively PEB and participate actively in environmental governance [27-30]. Therefore, the following hypotheses are proposed in this study:

H7 SNO have a mediating role between EAT and PPB.

H7a SN have a mediating role between EAW and PPB.

H7b PN have a mediating role between RA and PPB.

#### The Moderating Role of Government Support (GS) and Media Platforms

Environmental governance in China is a systematic project led by the government and participated widely by social subjects. Therefore, public participation in environmental governance can't do without the effective GS and a good media platform. The Chinese government has introduced a series of support policies and built many new media platforms and information technology media by using modern network technology in order to encourage the public to participate in environmental governance and improve the modernization level of the system and capacity of the environmental governance [30], which includes the construction of an environmental information disclosure system, the promotion of platform construction of interaction between government and the public, and the incentives for local environmental departments to

operate government affairs Weibo, WeChat and other platforms [32]. As of June 2021, China has 1.011 billion netizens, accounting for 71.6% of the total population, nearly 1 billion netizens have online social media, and about 850 million people use online government services. With the rapid expansion of mobile networks and social media, the continuous improvement of the government's digital governance and technological governance capabilities in the digital era, cyberspace has become a new channel for the public participate in environmental governance [33-35]. It is not enough for individual citizens who only have a sense of environmental crisis and responsibility, but also need resources, conditions and opportunities for public participation. Therefore, the GS and the improvement of the media platform can enhance the positive impact of environmental attitude on public environmental governance behavior. The following hypotheses are proposed in this study:

H8 GS and media platforms have a positive moderating effect on environmental attitudes and PPB in environmental governance.

H8a GS has a positive moderating effect on environmental awareness and PPB in environmental governance.

H8b Media platform has a positive moderating effect on responsibility attribution and PPB in environmental governance.

The constructed variable model of this study based on the above research hypotheses is shown in Fig. 1.

## Research Design

The data in this study comes from the questionnaire survey, the existing theory of planned behavior measurement scale, normative activation model measurement scale and pro-environmental behavior measurement scale were used for reference in the process of questionnaire design, the questionnaire

was designed focusing on 5 dimensions and 10 variables, such as environmental attitudes (including environmental awareness and responsibility attribution), subjective norms (including social norms and private norms), government support (including policy measures and policy effects), media platforms (including platform types and media effects), public participation behavior in environmental governance (including private sphere PEB and public sphere PEB) by combining the practice of environmental governance in China. The measuring items of Likert Scale with five level are used by the scale, and the 1 means „strongly disagree” and 5 means „strongly agree”. Variables and their measurement methods are shown in Table1.

First of all, the questionnaires were distributed and pre-tested in a small area, and then a large sample of data were collected on the basis of determining the reliability and validity. The final number of questionnaires distributed was 315 with 311 valid questionnaires and a balanced ratio between males and females, which were distributed widely in 31 provinces in mainland China with good representativeness and met the research needs. The data obtained and sample basic information are shown in Table 2. Among the respondents, there are 161 males and 150 females, with little difference in number. In terms of age distribution, this study mainly investigates Chinese adults over the age of 18, of which 85 are aged 18-30, 168 are aged 30-50, and 58 are aged over 50, which is basically consistent with the age structure of China's population census. There are 200 respondents living in cities, accounting for 64.31%, which is consistent with China's urbanization rate in 2021. 131 people live in the eastern region, accounting for 42.12%. There are 99 people in the central region, accounting for 31.83%. There are only 81 people living in the west, which is consistent with China's population distribution. Therefore, the data sources and research objects of this paper can better reflect the actual situation in China, and have good representativeness.

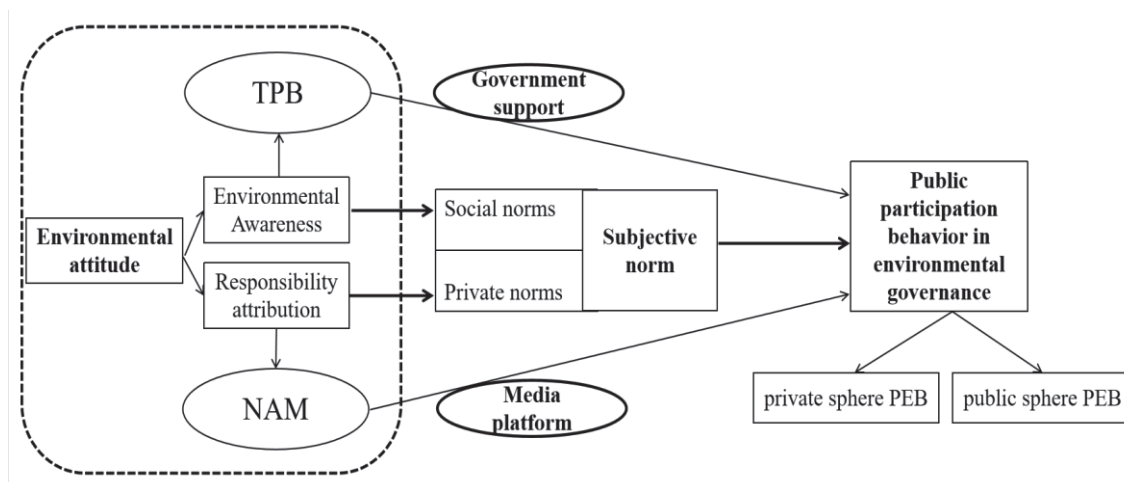


Fig. 1. The conceptual model of this study.

Table 1. Variables and measurement questionnaire survey.

Dimension	Variable	Code	Question
PPB	Private sphere PEB	PEB1	I will take the initiative to take public transport, low-carbon travel
		PEB2	I will actively and proactively carry out garbage sorting
		PEB3	I will use energy-saving and environmentally friendly living items
		PEB4	I will actively pay attention to environmental issues and environmental information on new media platforms such as WeChat and Weibo
	Public sphere PEB	PEB5	I have participated in environmental protection activities such as public welfare tree planting on platforms such as Alipay
		PEB6	I have participated in environmental governance activities organized by the government
		PEB7	I have participated in environmental protection activities organized by environmental protection associations and NGO
		PEB8	I will actively report it if environmental pollution is found
EAT	Environmental Awareness	EA1	I think it is necessary and meaningful to govern the environment
		EA2	I think everyone should protect the environment
		EA3	I think it is useful to participate in environmental governance
	Responsibility attribution	RA1	I think I have a responsibility to protect the environment
		RA2	I think I have an obligation to participate in environmental governance
		RA3	I think the public should take some responsibility for the consequences of not participating in environmental governance
SNO	Social norms	SN1	My relatives and friends around me protect the environment with their own actions
		SN2	The government and relevant departments have taken relevant measures for environmental protection
		SN3	My relatives and friends around me support my participation in environmental governance
		SN4	Both the government and relevant departments believe that the public should participate in environmental governance
	Private norms	PN1	I have a strong sense of responsibility for environmental protection
		PN2	I feel guilty if don't protect the environment
		PN3	I should sacrifice my personal time to do something beneficial to the environment
		PN4	It is necessary to sacrifice my personal interests to protect the environment
GS	Policy measures	PM1	The government provides legal support for public participation in environmental governance
		PM2	The government provides financial support for public participation in environmental governance
		PM3	The government provides institutional support for public participation in environmental governance
	Policy effect	PE1	It is reasonable for government policies to encourage public participation in environmental governance
		PE2	It is feasible for government policies to encourage public participation in environmental governance
		PE3	It is effective for government policies to encourage public participation in environmental governance
Media platform	Platform type	PT1	There are many traditional platforms for public participation in environmental governance
		PT2	There are many new platforms for public participation in environmental governance
		PT3	I can use multiple platforms and channels to participate in environmental governance
	Media effect	ME1	It is effective for the public to use traditional platforms to participate in environmental governance
		ME2	It is effective for the public to use new platforms to participate in environmental governance
		ME3	All of the media platforms are very convenient for the public participate in environmental governance



Table 2. The data obtained and sample basic information.

Type	Category	Quantity	Percentage	Type	Category	Quantity	Percentage
Gender	Male	161	51.77%	Residence	Urban	200	64.31%
	Female	150	48.23%		Rural	111	35.69%
Age	18-30	85	27.33%	Region	East	131	42.12%
	30-50	168	54.02%		Central	99	31.83%
	>50	58	18.65%		West	81	26.05%

## Empirical Analysis and Results

### Reliability and Validity Test

The validity of research variables was tested by using factor load value, the percentage of cumulative explanatory variance, and the fitting optimization index of confirmatory factor analysis. The factors with eigenvalue greater than 1, factor loadings greater than 0.5, and cumulative explained variance greater than 60% were left. In addition, the selection standard of fitting optimization index is that RMSEA was less than 0.05, and NNFI, CFI and AGFI were all greater than 0.9. In terms of reliability test, the CITC value and Cronbach's  $\alpha$  coefficient in this study were used to verify the consistency reliability of the scale. It is usually believed that CITC was greater than 0.3 and the Cronbach's  $\alpha$  coefficient was greater than or equal to 0.65, which is acceptable. It can be seen from Table 3 that the factor loading values of the measurement items of each research variable were all higher than 0.5. In addition, the cumulative variance percentages of environmental attitude, subjective norms and public participation in environmental governance were 68.518%, 69.852% and 72.586% respectively, the fitting optimization index of all variables met the standard, which reflects from the overall results that the study variables had good structural validity. Moreover, the reliability analysis results of each research variable shows that the Cronbach's  $\alpha$  coefficient after deleting the item remained above 0.70, and the CITC also remained above 0.5. The results of other indicators met the research needs, which reflects the very good reliability and validity of the sample.

### Hypothesis Verification Results

#### Mediating Effect

The SPSS and AMOS software were used comprehensively to verify due to the relatively complex relationship between variables and the existence of multiple mediator and moderator variables in the conceptual model of this study. The model was corrected three times and the final fitting result of the modified model was ideal in this study according to the correction indicators provided by AMOS,

the specific results are shown in Table 4. The model has an absolute fitting index  $\chi^2/df$  of 1.518, RMSEA value of 0.028 and GFI value of 0.897, which indicated that the model fitting has good results. The relative fitting index NFI value, CFI value and TLI value of the model were all above 0.95 exceeding the critical standard by 0.9, which indicated that the model has a good effect on fitting. Generally speaking, the fitting indicators of the model were all within an acceptable range, and the path results can reflect reasonably and effectively the "causal relationship" in this study. The results show: (1) EAW and RA have significant positive effects on PPB in environmental governance in the path of the impact of EAT on PPB in environmental governance, and with standardized path coefficients of 0.258 ( $P < 0.01$ ) and 0.389 ( $P < 0.01$ ). Therefore, H1 and H2 have been supported, and compared with EAW, RA has a more significant positive effects on PPB in environmental governance; (2) SN and PN have significant positive effects on PPB in environmental governance in the path of the impact of SNO on PPB in environmental governance, and with standardized path coefficients of 0.449 ( $P < 0.01$ ) and 0.528 ( $P < 0.01$ ). Therefore, H3 and H4 have been supported, and compared with SN, PN has a more significant positive effects on PPB in environmental governance; (3) EAW has a significant positive impact on SN in the path of the impact of EAT on SNO, with path coefficient of 0.337; RA has a positive impact on PN, with path coefficient of 0.346. Therefore, H5 and H6 have also been supported.

The model effects were decomposed, and the mediating effect was verified by using the Bootstrap method, including the total effect, the direct effect and the indirect effect in order to more clearly explain all the influence paths in the model. The specific results are shown in Table 5. (1) The total effect of environmental awareness on PPB in environmental governance was 0.436 ( $p < 0.05$ ), with a direct effect of 0.238 ( $p < 0.05$ ) and an indirect effect of 0.185 ( $p < 0.05$ ), which indicated that environmental awareness has a positive impact on public participation behavior in environmental governance, some of them affecting public participation behavior in environmental governance by affecting social norms. Therefore, the research hypothesis of mediating effect H7a has been supported; (2) The total effect of responsibility attribution on public participa-

Table 3. Reliability and validity test.

Variable	Code	Factor loading	Contribution rate	Fitting optimization index	CITC	$\alpha$ after deleting the item	$\alpha$
Private sphere PEB	PEB1	0.782	68.518	CFI = 0.985, NNFI = 0.983, AGFI = 0.976, RMSEA = 0.028	.655	.838	0.854
	PEB2	0.764			.621	.842	
	PEB3	0.801			.653	.852	
	PEB4	0.772			.618	.839	
Public sphere PEB	PEB5	0.732			.622	.831	
	PEB6	0.778			.625	.825	
	PEB7	0.712			.643	.837	
	PEB8	0.728			.638	.839	
EAW	EA1	0.852	69.852	CFI = 0.988, NNFI = 0.978, AGFI = 0.952, RMSEA = 0.036	.657	.867	0.882
	EA2	0.763			.639	.869	
	EA3	0.761			.664	.866	
RA	RA1	0.728			.639	.869	
	RA2	0.735			.637	.869	
	RA3	0.759			.678	.865	
SN	SN1	0.751	72.586	CFI = 0.982, NNFI = 0.989, AGFI = 0.956, RMSEA = 0.026	.628	.892	0.931
	SN2	0.763			.641	.886	
	SN3	0.729			.652	.872	
PN	PN1	0.782			.687	.869	
	PN2	0.749			.639	.879	
	PN3	0.761			.615	.885	
Government support	PM1	0.756	69.018	CFI = 0.981, NNFI = 0.979, AGFI = 0.968, RMSEA = 0.032	.653	.857	0.866
	PM2	0.798			.649	.859	
	PM3	0.786			.668	.862	
	PE1	0.751			.652	.852	
	PE2	0.762			.647	.857	
	PE3	0.758			.672	.865	
Media effect	PT1	0.753	68.632	CFI = 0.986, NNFI = 0.958, AGFI = 0.985, RMSEA = 0.025	.671	.867	0.858
	PT2	0.778			.692	.852	
	PT3	0.787			.684	.857	
	ME1	0.738			.659	.859	
	ME2	0.721			.637	.858	
	ME3	0.768			.675	.862	

tion behavior in environmental governance was 0.444 ( $p < 0.05$ ), with a direct effect of 0.278 ( $p < 0.05$ ) and an indirect effect of 0.225 ( $p < 0.05$ ), which reflected that responsibility attribution has a positive impact on public participation behavior in environmental governance, some of them affecting public participation behavior in environmental governance by affecting private norms.

Therefore, the research hypothesis of mediating effect H7b has also been supported.

#### *Moderating Effect*

The interaction term of environmental awareness and government support and the interaction term of

Table 4. The fitting results of the structural equation model.

Path		Path coefficients	S.E.	C.R.	P	Standardized path coefficient
PPB←EAW		0.379	0.071	5.018	***	0.258
PPB←RA		0.436	0.062	7.372	***	0.389
PPB←SN		0.462	0.063	6.887	***	0.449
PPB←PN		0.518	0.056	7.852	***	0.528
SN←EAW		0.361	0.057	5.834	***	0.337
PN←RA		0.388	0.058	5.368	***	0.346
Fitting index	X <sup>2</sup>	985.527	RMSEA	0.028	CFI	0.967
	df	649.175	NFI	0.956	GFI	0.897
	X <sup>2</sup> /df	1.518	TLI	0.958		

Note:\*\*\* p<0.01, \*\*p<0.05, \*p<0.1.

Table 5. Decomposition results of model effects based on bootstrap method.

Variable	Effect decomposition	Path	Estimator	P
EAW	Direct effect	EAW→PPB	0.238	0.025**
	Indirect effect	EAW→SN→PPB	0.185	0.036**
	Total effect		0.423	0.029**
RA	Direct effect	RA→PPB	0.278	0.023**
	Indirect effect	RA→PN→PPB	0.225	0.031**
	Total effect		0.503	0.028**

Note:\*\*\* p<0.01, \*\*p<0.05, \*p<0.1.

Table 6. Results of moderating effect.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
EAW	0.279**	0.273**	0.282**		
RA	0.473***			0.518**	0.504**
GS	0.271*	0.271*	0.269*		
Media platform	0.365**			0.371**	0.316**
EAW*GS			0.053*		
RA*Media platform					0.071**
F	20.521***	18.518***	19.326***	18.694***	19.526***
R <sup>2</sup>	0.851	0.828	0.885	0.862	0.898

Note:\*\*\* p<0.01, \*\*p<0.05, \*p<0.1.

responsibility attribution and media platform in this study were constructed in order to verify the moderating effect of government support and media platform. The results are shown in Table 6. The results of Model 1 show that environmental awareness, responsibility attribution, government support and media platform all have a significant positive impact on public participation behavior in environmental governance. It is shown

from the comparison between Model 2 and Model 3 that the interaction items of environmental awareness and government support has a significant positive impact on public participation behavior in environmental governance, and the R<sup>2</sup> of Model 3 was greater than that of Model 2, which shown that the addition of government support enhances the positive impact of environmental awareness on PPB



in environmental governance. That is to say, the greater the government support, the more significant the positive impact of environmental awareness on public participation behavior in environmental governance. Therefore, the research hypothesis of mediating effect H8a has been verified. It is shown from the comparison between Model 4 and Model 5 that the interaction term of responsibility attribution and media platform has a significant positive impact on public participation behavior in environmental governance, and the  $R^2$  of Model 5 was greater than that of Model 4, which shown that the addition of media platforms enhances the positive impact of responsibility attribution on public participation behavior in environmental governance. That is to say, the more diverse and convenient the media platform, the more significant the positive impact of responsibility attribution public participation behavior in environmental governance. Therefore, the research hypothesis of mediating effect H8b has been verified.

### Conclusions

The results shown in this paper that (1) Environmental attitude has an important positive impact on promoting the public participation behavior in environmental governance. To be specific, the perceptual environmental awareness can enhance effectively social norms and promote the public to participate actively in environmental governance, and the inherent responsibility attribution can strengthen effectively private norms, and then promote the public to participate effectively in environmental governance. However, by comparison, responsibility attribution has a more significant positive impact on the public participation behavior in environmental governance, which indicated that internal driving force is more effective than external social pressure. (2) Subjective norms play different partial intermediary roles between environmental attitudes and the public participation behavior in environmental governance. Specifically, the environmental awareness affects the public participation behavior in environmental governance by affecting social norms. However, the responsibility attribution affects public participation behavior by affecting private norms, which shown that different environmental attitudes have different transmission paths, the transformation of the egoistic environmental attitude into practical actions needs to be driven by social pressure. However, the altruistic environmental attitudes can be transformed into practical actions by relying on the drive of internal responsibility. (3) Government support and media platforms have a positive moderating effect between environmental attitudes and public participation behavior in environmental governance. To be exact, government support moderates positively the relationship between environmental awareness and public participation behavior in environmental governance, and media platforms moderates positively

the relationship between responsibility attribution and public participation behavior in environmental governance, which show that the support and guidance of government policies can enhance the positive impact of environmental awareness on public participation behavior in environmental governance, and the diversity and convenience of media platforms can enhance the positive impact of responsibility attribution on public participation behavior in environmental governance. This is because the enhancement of government support and the improvement of the media platform can enable the public to have more resources and opportunities, and promote the public's willingness to participate into real action in the practice of public participation behavior in environmental governance [36].

### Countermeasures and Suggestions

Based on the empirical analysis results, countermeasures or suggestions must be put forward as follows in this paper:

(1) Combine effectively egoistic and altruistic motivations by guiding the public to establish a correct environmental attitude.

Public environmental attitude include environmental awareness, environmental emotion and environmental behavior tendencies. Public participation in environmental governance has both egoistic and altruistic motivations. Therefore, it is necessary to guide the public to establish a correct environmental attitude, enhance environmental awareness, and improve environmental literacy, combine effectively egoistic with altruistic motivations and participate actively in the practice of environmental governance. It is necessary to guide the public to realize that participating in environmental governance and the implementation of pro-environmental behaviors are not only conducive to the improvement of personal quality of life, but also conducive to the sustainable development of the economy and society.

(2) Combine effectively social pressure and internal driving force by constructing correct social norms for environmental governance.

Subjective norms include social norms and private norms, which have a positive impact on public participation behavior in environmental governance, and plays a part of intermediary role between environmental attitudes and public participation behavior in environmental governance. Among them, social norms are a kind of external pressure and "expectations from the external world", while private norms are an internal driving force and "individual responsibility". Therefore, it is essential to establish correct social norms for environmental governance, combine effectively social pressure with internal driving forces, encourage the public to participate in environmental governance practices, and widely the implementation of pro-environmental behaviors.

(3) Improve the effectiveness of public participation in environmental governance by improving government guidance policies and building a multi-media platform.

Environmental awareness is a kind of perception and emotion, and social norms are a kind of external pressure. Therefore, it still needs the guidance and support of the government to transform the public environmental awareness into the actual environmental governance participation behavior. Responsibility attribution is a kind of internal responsibility, and private norms are a kind of internal driving force. The real transformation of the public's sense of moral obligation into actual pro-environmental behavior can't do without the convenient and effective media platform. Therefore, it is essential to further improve the guidance policies of government, build a multi-media platform, and use modern information means, Internet media and new media platforms to enhance the technological governance and digital governance capabilities of government and enhance the effectiveness of PPB in environmental governance.

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### Conflicts of Interest

The authors declare no conflicts of interest.

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