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RESEARCH ON THE INFLUENCING FACTORS OF ENVIRONMENTAL COGNITION AND VALUES ON RESIDENTS' WASTE CLASSIFICATION INTENTIONS AND BEHAVIOURS OF HEFEI CITY IN CHINA

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Abstract
This study explores the influences of environmental cognition and environmental values on resident residents' intention and behaviour towards resident waste classification in Hefei City, Anhui Province, China. Based on the Value-Belief-Norm (VBN) theory, an influencing factor model is constructed. Through questionnaire survey and Structural Equation Modeling (SEM) analysis, it is found that environmental cognition has a significant positive impact on waste classification intention and behaviour, while environmental values primarily influence behaviour indirectly through intention. Waste classification intention plays a partial mediating role in this process. The study proposes suggestions such as strengthening environmental education, encouraging government-society cooperation, and implementing long-term tracking and evaluation mechanisms to promote widespread implementation of waste classification behaviour.

Keywords: Environmental Cognition; Environmental Values; Waste classification Behaviour; Structural Equation Modeling; Hefei City

1. Introduction

With the acceleration of economic globalisation and residentisation, the annual global production of municipal waste is nearly 2 billion tonnes, posing a huge challenge to waste management. The United Nations predicts that 68 per cent of the world's population will be living in cities by 2050, making the waste problem even more acute, especially in developing countries. The annual growth rate of domestic waste in large and medium-sized cities in China is about 10%, and the phenomenon of 'rubbish surrounding the city' has become a bottleneck for resident development. As the capital of Anhui province, Hefei city has a rapid growth in waste production, and it is important to study the waste classification behaviour of its residents. Based on the value-belief-norm theory, this study constructs a model of influencing factors and applies structural equation modelling, aiming to explore the internal mechanism of residents' rubbish classification, so as to

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provide a scientific basis for the work of rubbish classification in Hefei and even in the whole country, and to promote the sustainable development of the city. Through micro-level research, the study makes up for the lack of domestic theoretical depth and empirical support, and puts forward targeted suggestions for promoting residents' participation in waste classification.

2.Literature review

Resident Waste classification is the basis of efficient waste management, which is of great significance to improving recycling efficiency, reducing harmless and resource circulation. However, the low resident participation limits its environmental potential. A thorough analysis of the factors affecting the classification behaviour is crucial to strengthen management. The researchers used the expanded VBN theoretical framework to comprehensively analyze the resident Waste classification behaviour, in order to improve the environmental protection effect.

2.1 Value-belief-norm theory

Value-belief-norm theory (VBN) is an important framework to explain the decision of individual environmental behaviour[1]. Its core lies in the driving role of individual values, beliefs and norms in environmental behaviour. Multiple studies have verified the causal order and tight relationship of variables in the VBN theory[2; 3]. Steg and others point out that individual norms play a key role in decision-making about environmental behaviour[4]. Whitley et al. found that people who support ecological and altruistic values are more inclined to participate in sustainable behaviour, highlighting the importance of psychosocial factors. VBN theory is widely used[5]. Oyelade is used in economic analysis of solid waste management. Zhang discusses Waste classification policy through TPB-VBN model[6], while Raghu and Rodrigues integrate factors to investigate students' waste management behaviour, providing empirical support and basis for environmental protection policy, Waste classification and environmental education[6]. In conclusion, the VBN theory not only reveals the psychological cause and effect chain of the formation of pro-environmental behaviour, but also is continuously verified and expanded through empirical research, providing scientific guidance and empirical support for promoting environmental campaigns such as Waste classification[7]. In the practice of environmental protection, individual values, beliefs and norms should be fully considered, and individuals' environmental behaviour intention and practical actions should be stimulated through guidance and education, so as to jointly promote sustainable development.

2.2 Environmental cognition and environmental value

As an important prerequisite for understanding individual Waste classification behaviour, environmental cognition has received wide attention in recent years. Environmental cognition, including the overall understanding of environmental problems and the specific cognition of the classification system, has been confirmed by most studies to have a significant impact on Waste classification behaviour. Xiao et al. pointed out that environmental knowledge drives waste management intention[8], while Meng et al. emphasized the importance of environmental

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cognition for waste classification[9]. However, studies have shown that the relationship between environmental cognition and Waste classification behaviour is complex and non-simple and linear[10]，. Tian et al found in Qingdao that despite residents' high environmental cognition, lack of knowledge and attitudes still hinder Waste classification[11]. This shows that although environmental cognition provides a necessary cognitive basis for Waste classification, its impact is not decisive, and the comprehensive effect of other factors needs to be considered.

At the same time, environmental values, as the deep value orientation of individuals to environmental problems, have a more profound and lasting impact on Waste classification behaviour. Environmental values can be divided into three types: self-interest, altruism and ecology, and many studies have confirmed their significant promotion on Waste classification behaviour. Jia et al. found that environmental values improved the intention of rural Waste classification[12]. Aprile et al. point out that self-interest values promote Waste classification when residents are threatened by the environment[13]. Wang Jingjing and others have confirmed that ecological values are positively correlated with green consumption[14]. Guo et al emphasized environmental values, knowledge and skills to promote pro-environmental behaviour[15]. Wen and Wang verified the positive impact of environmental values on the Waste classification of resident residents[16]. Barr and Latif found that they predicted waste management intentions and recycling behaviour[17].

In summary, environmental cognition and environmental values together constitute an important factor influencing Waste classification behaviour. Future research needs to further explore the specific mechanism between the two and Waste classification behaviour, in order to provide more scientific theoretical support and practical guidance for promoting the popularization and promotion of Waste classification behaviour.

2.3 residents waster classification intention and behaviour

Resident waste classification plays a key role in promoting the sustainable development of cities. Several studies have explored the relationship between residents' Waste classification intention and behaviour. Kuang et al found that Waste classification intention was deviated from actual behaviour and was influenced by the environment, attitudes and knowledge[18]. Differences between intention and behaviour were also confirmed in the Taishan area by Zhang et al[19]. Abila found in Finland that recycling cognition was weakly associated with behaviour, indicating an inconsistent intention with behaviour[20]. Gkargkavouzi Highlights intention as the best predictor of behaviour[21]. Huang pointed out that the weak cognition of classification leads to the poor classification effect, and the positive impact of counter-evidence cognition on behaviour[22]. To sum up, residents' Waste classification intention has an important influence on Waste classification behaviour, but there is not a simple one-to-one correspondence between the two. Further exploration of the specific influence mechanism between the two is of great significance to improve the effect of Waste classification and promote the sustainable development of cities. Therefore, this study will continue to deeply explore the relationship between residents' Waste

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classification intention and behaviour, in order to provide a scientific basis for relevant policy formulation and practical operation.

3. Research Methodology

3.1 Conceptual framework and research hypothesis

Based on the above literature review, this study constructs a theoretical model to identify the driving factors of resident residents' resident waste classification behaviour (Fig. 1). Based on the VBN model, this study explored the driving mechanism of resident residents' resident Waste classification behaviour from the perspective of environmental literacy, combined with environmental cognition and environmental values。

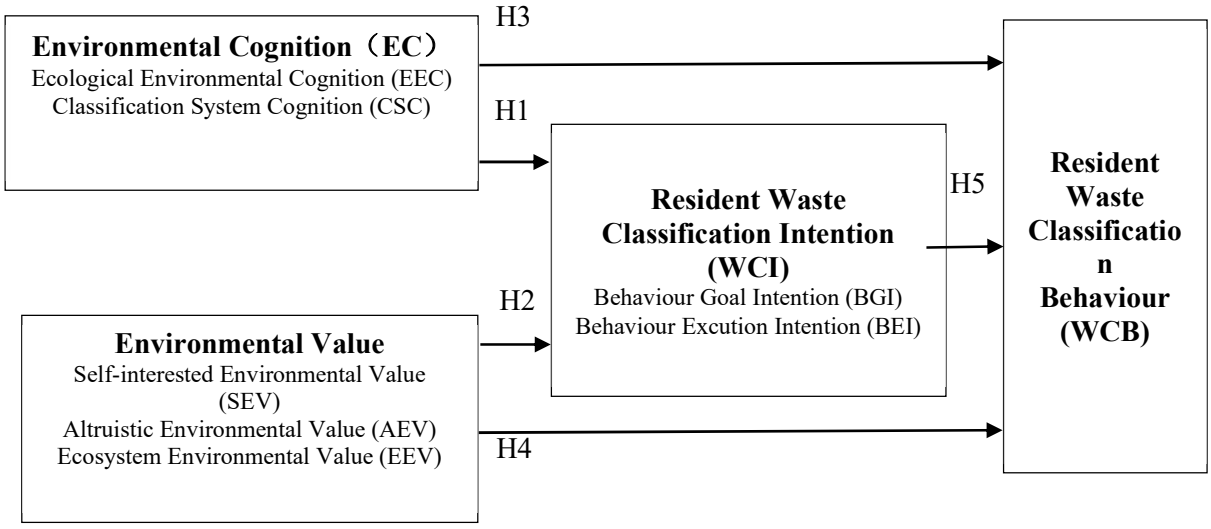

Fig 1 Theoretical model

Based on this, the following hypotheses are proposed:

H1: Environmental cognition has a positive impact on residents' cognition of Waste classification.
H2: Environmental values have a positive impact on residents' cognition of Waste classification.
H3: Environmental cognition has a positive impact on residents' Waste classification behaviour.
H4: Environmental values have a positive impact on residents' Waste classification behaviour.
H5: The Waste classification Intention has a positive impact on Waste classification behaviour.
H6a: Waste classification Intention plays a mediating role between environmental cognition and Waste classification behaviour.
H6b: Waste classification Intention plays a mediating role between environmental values and waste classification behaviours.

3.2 Study design

This study adopted a quantitative design to explore the influence of environmental cognition and environmental values on resident residents' Waste classification behaviour, and the mediating

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role of Waste classification cognition. Data were collected through a questionnaire based on the scales of Xie et al. [23] and Shen et al. [24], measured using a Likert 5-point scale. In this study, resident residents in Hefei City, Anhui Province were selected as samples to focus on their Waste classification behaviour. As an important residentization city, Hefei has attracted much attention for Waste classification, but residents' participation and classification effect need to be improved. To further understand the drivers, the study randomly selected streets in four major resident areas and collected data through face-to-face questionnaires. A total of 506 questionnaires were collected, and after excluding incomplete information, 486 valid questionnaires were obtained, with an effective rate of 96%. The data will be used to quantitatively analyze the relationship between various variables and reveal the influencing mechanism of Waste classification behaviour.

4. Findings and Results

4.1.1Reliability analysis

The results of reliability analysis showed that all dimensions used in this study had high internal consistency. The Clonbach alpha values of all variables were above 0.8, indicating good reliability of the scale. The Alpha values of Clonbach in EEC, CSC, SEV, AEV, EEV, BGI, BEI and WCB were 0.911, 0.907 and 0.910, respectively, 0.918, 0.902, 0.878, 0.887, and 0.909, all showed a high degree of measurement agreement. Overall, the total reliability of all 40 items was 0.944, which further verified the reliability of the scale in this study, which was suitable for subsequent data analysis and hypothesis testing. The results are shown in Table 2。

In the structural equation modeling in AMOS, the model fitting index was analyzed by CFA to determine the model fitting effect, and the fitting ability of the model obtained by exploratory factor analysis to the actual observed data was tested. CFA is a statistical method used to verify the factor structure of a measurement tool, ensuring that the measured tool designed accurately reflects the concept envisioned by the researcher. Perform common model fitting experiments, including χ^2 test and ratio χ^2/degrees of freedom (CFI), norm fit index (NFI), incremental fit index (IFI), and more. This helps to assess the degree of fit between the model you build and the actual data. In this paper, based on the recommendations of Kline (2005) and Hair et al. (1998), the fitting indicators and criteria shown in Table 1 were selected for judgment. It can be seen that the fitting results of the model are in line with the fitting standards, and the fitting effect of the model is good. The fitting results of the confirmatory factor model are shown in Table 1.

Table 1 Fitting results of confirmatory factor model

Fit indicators	CMIN/DF	RMSEA	NFI	IFI	TLI	CFI
Fit atandard	<3	<0.08	>0.9	>0.9	>0.9	>0.9
Statistical results	1.457	0.031	0.924	0.975	0.972	0.975

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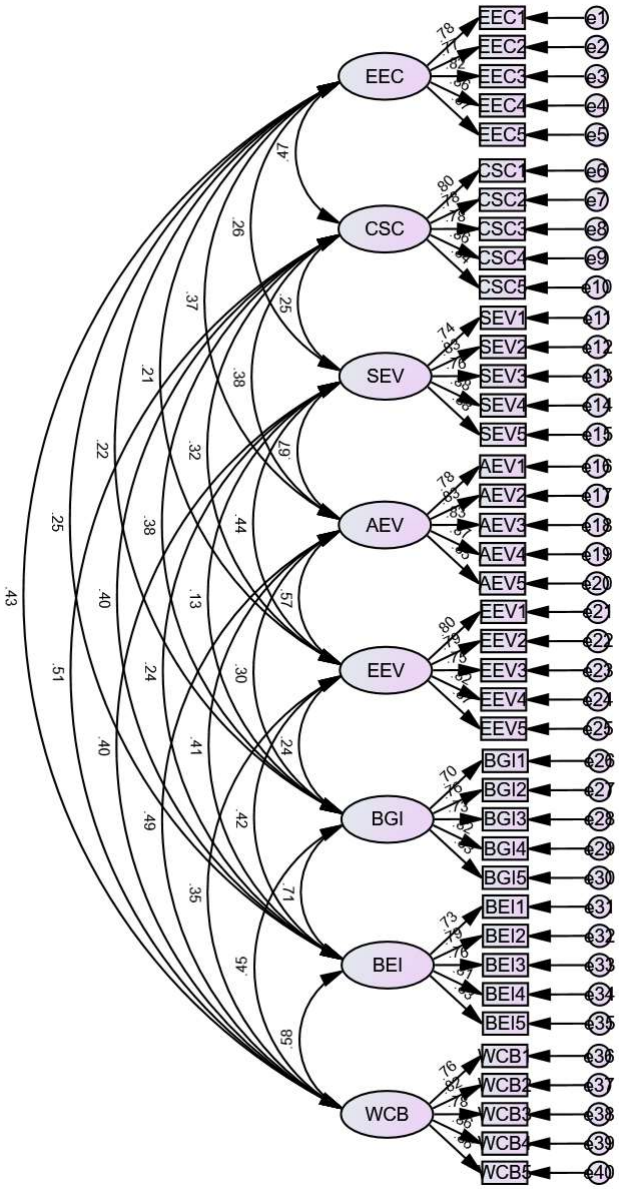

Fig 2 Measurement model

The results of confirmatory factor analysis showed that the model fit well. The CMIN/DF was 1.457, which was lower than 3, which met the criteria for goodness of fit. The RMSEA value was 0.031, which was much lower than 0.08, indicating that the approximation error of the model was very small and the fitting degree was good. In addition, the NFI was 0.924, higher than 0.9, indicating that the model performed reasonably in fitting. IFI, TLI and CFI were 0.975, 0.972 and 0.975, respectively, all of which were greater than 0.9, indicating that the fit of the model was very high. Therefore, on the whole, the model has a good fitting effect, and the results of confirmatory factor analysis support the rationality of the hypothesis structure.

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4.1.2Validity analysis

The results of convergence validity analysis showed that all latent variables of the model showed strong convergence validity, reflecting the explanatory ability of each measurement item to its corresponding constructs. Specifically, the mean variance extraction (AVE) values for all latent variables exceeded the 0.5 criterion, which means that each construct explained most of the variance of its measurement with good convergence validity. For example, the AVE of EEC is 0.674, the AVE of CSC is 0.663, and the AVE of SEV is 0.673, all of which indicate the efficiency of latent variables in interpreting their measurements. The AVE of AEV was 0.691, which showed the strong ability of its measurement terms to explain the variance of constructive ideas, which further enhanced the validity and reliability of the model. In addition to the AVE value, the combined reliability (CR) values of all latent variables also exceeded the threshold of 0.7, which further verified the internal consistency and reliability of the measurement model. For example, the CR value of AEV was 0.918, both of which were much higher than 0.7, indicating a high degree of measurement consistency among the latent variables. In addition, the CR value of BGI was 0.879, and the CR value of BEI was 0.896, both of which reached the appropriate standards, indicating that the measurement terms of these latent variables have strong consistency and reliability under the same concept. Taken together, the results of AVE and CR show that the latent variable measurement models in this study have high convergence validity, indicating that the measurement terms of each construct can effectively reflect the corresponding latent factors, thereby ensuring the stability and explanatory power of the model. These results provide a solid basis for subsequent analysis, demonstrating that the measurement tool is reliable in capturing the characteristics of the variables.

Table 2 Reliability and validity data results

Factor	dimension	Item	Estimate	AEV	CR	Cronbach's α
Environmental cognition	Ecological Environmental Cognition	EEC1	0.783	0.674	0.912	0.911
		EEC2	0.768			
		EEC3	0.822			
		EEC4	0.86			
		EEC5	0.872			
	Classification system cognition	CSC1	0.801	0.663	0.908	0.907
		CSC2	0.784			
		CSC3	0.779			
		CSC4	0.864			
		CSC5	0.845			
Environmental value	Self-interested environmental value	SEV1	0.743	0.673	0.911	0.910
		SEV2	0.828			
		SEV3	0.764			
		SEV4	0.878			
		SEV5	0.882			

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	Altruistic environmental value	AEV1	0.778	0.691	0.918	0.918
		AEV2	0.832			
		AEV3	0.831			
		AEV4	0.867			
		AEV5	0.851			
	Ecosystem environmental value	EEV1	0.796	0.65	0.902	0.902
		EEV2	0.789			
		EEV3	0.748			
		EEV4	0.825			
		EEV5	0.870			
Waste classification intention	Behaviour execution intention	BEI1	0.728	0.635	0.896	0.878
		BEI2	0.789			
		BEI3	0.765			
		BEI4	0.805			
		BEI5	0.825			
	Behaviour goal intention	BGI1	0.702	0.593	0.879	0.887
		BGI2	0.762			
		BGI3	0.733			
		BGI4	0.822			
		BGI5	0.833			
Waste classification behaviour		WCB1	0.760	0.613	0.888	0.909
		WCB2	0.825			
		WCB3	0.781			
		WCB4	0.864			
		WCB5	0.862			

The discriminatory validity analysis was validated by comparing the correlation coefficients between the constructs and the square root value of the mean variance extraction (AVE) for each construct. According to the data in the table, the number of the diagonal line is the square root of the AVE value of each construct, showing the high correlation between each latent variable and its own measurement term. To verify the discrimination validity, the correlation coefficients between the other constructs need to be less than the square root of the AVE values for each construct. From the results in the table, the correlation coefficient between all latent variables was lower than the square root of the respective AVE, and most of the correlation coefficient were significant at 1% or 5% significance level, indicating that the differences between the latent variables were well distinguished. For example, the correlation coefficient between EEC and CSC is 0.423, which is lower than the square root of its own AVE of 0.821, which meets the requirements of differentiation validity. Similarly, the correlation coefficient between SEV and AEV was 0.605, which is also lower than the square root of 0.820, further verifying the good discrimination validity. In addition, the correlation coefficients of BGI and BEI were 0.77 and

0.783, respectively, which were higher, but still lower than the correlation coefficient between other latent variables, so the discrimination validity was maintained. Taken together, the test of discriminatory validity indicated that there was significant discrimination between the latent variables, supporting the assumption of discriminatory validity of the model. The constructs of each latent variable are clear and independent, and can be effectively distinguished from the other constructs, ensuring the accuracy and reliability of the measurements.

Table3 Differentiation validity

	EEC	CSC	SEV	AEV	EEV	BGI	BEI	WCB
EEC	0.821							
CSC	0.423**	0.814						
SEV	0.234**	0.226**	0.82					
AEV	0.341**	0.361**	0.605**	0.831				
EEV	0.188**	0.291**	0.387**	0.513**	0.806			
BGI	0.209**	0.352**	0.114*	0.28**	0.224**	0.77		
BEI	0.232**	0.365**	0.207**	0.368**	0.376**	0.628**	0.783	
WCB	0.396**	0.467**	0.368**	0.458**	0.333**	0.413**	0.523**	0.818

**、*Represents the significance levels of 1% and 5%, respectively. The oblique diagonal number is the root number value of the AVE of this factor

4.2 Structural equation model analysis

In this paper, AMOS is used to analyze the statistics of model fit in SPSS to test the degree of model fit. Use software to establish environmental cognition, environmental values of residents Waste classification consciousness and residents Waste classification behaviour and residents Waste classification consciousness of residents Waste classification behaviour structure equation model, and to the fitting results, path coefficient and significance test, establish the structure equation model, model is shown in the following figure:

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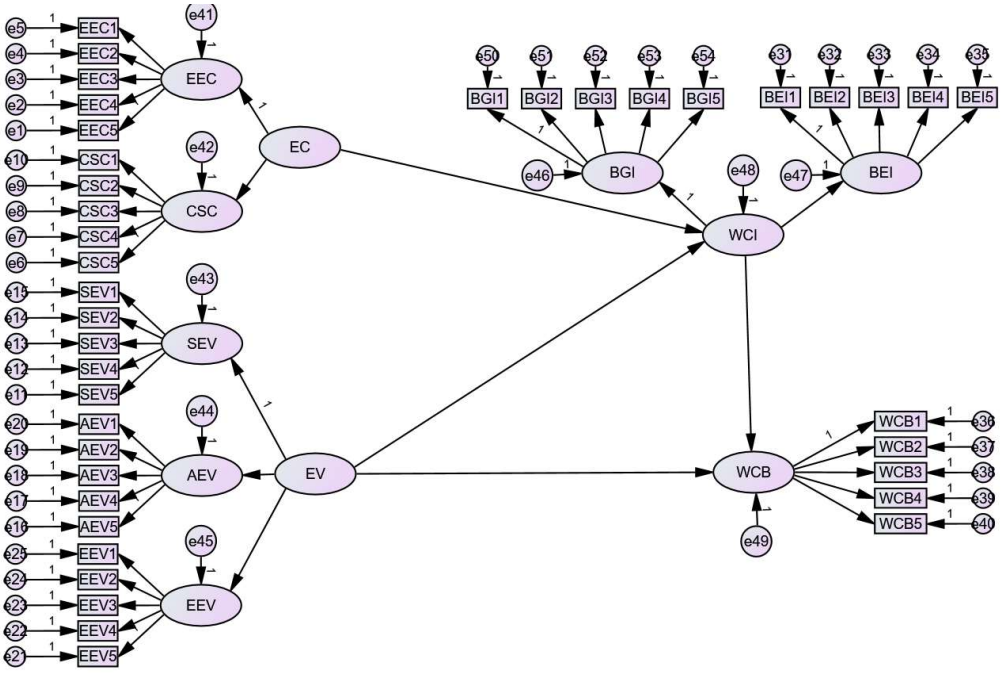

Fig2 Structural equation model

After the model fitting calculation of the software, the fitting indexes corresponding to the structural equation model are shown in Table 4.

Table 4 Model fit metrics

Index	CMIN/DF	RMSEA	NFI	IFI	TLI	CFI
Criterion for judgement	<3	<0.08	>0.9	>0.9	>0.9	>0.9
Result	1.657	0.038	0.911	0.963	0.960	0.963

The analysis of the table above shows that the model fits well and meets most commonly used fitting index criteria. Specifically, the CMIN / DF value of 1.657 is below the recommended threshold of 3, indicating that the chi-square test to the degrees of freedom fits the model goodness-of-fit requirements. The RMSEA value of 0.038, far below the standard of 0.08, shows that the model is small and suitable for the interpretation and prediction of the data. In addition, the NFI (0.911) is below the standard of 0.9, indicating a good fit of the model. IFI (0.963), TLI (0.960) and CFI (0.963) were all higher than 0.9, indicating that the model showed high fit during fitting and effectively explained the relationship between variables.After the model path significance test of the software, the non-standardized path coefficient, standardized path coefficient, critical proportional value C.R. and significant P-value of the structural equation model are obtained, as shown in the table below.

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Table 5 Model path table

Hypothesis	Path	Estimate(SE)	Estimate(UE)	S.E.	C.R.	P
H1	EC=>WCI	0.367	0.392	0.071	5.143	***
H2	EV=>WCI	0.237	0.337	0.044	5.410	***
H3	EC=>WCB	0.586	0.393	0.103	5.700	***
H4	EV=>WCB	0.312	0.279	0.058	5.374	***
H5	WCI=>WCB	0.509	0.320	0.101	5.060	***

The study pointed out that environmental cognition has a significant positive impact on residents' cognition of Waste classification, with a path coefficient of 0.426, which is highly statistically significant (C.R.=3.734, P <0.001). This means that residents' understanding of the ecological environment and Waste classification system is directly related to the improvement of their cognition of Waste classification. Environmental cognition not only deepens residents' understanding of the importance of Waste classification, but also enhances their sense of environmental responsibility, which conforms to hypothesis H1, that is, environmental cognition positively promotes the cognition of Waste classification. Therefore, improving the environmental cognition level of residents is an effective strategy to promote Waste classification.

Compared with environmental cognition, environmental values had a significant impact on the cognition of Waste classification (path coefficient = 0.172,C.R.=2.093, P=0.036), but the intensity was weak. Environmental values reflect the individual value orientation of the environment, such as self-interest, altruism and ecosystem values, which can stimulate the attention of environmental protection behaviours. Despite the small impact, it demonstrated the positive role of environmental values in raising cognition of waste classification, supporting hypothesis H2. Future policies should simultaneously strengthen environmental cognition and guide environmental protection values, so as to further enhance residents' cognition of Waste classification.

The positive effect of environmental cognition on Waste classification behaviour was more significant (path coefficient = 0.673,C.R.=5.005, P <0.001), indicating that the improvement of environmental cognition not only enhanced classification cognition, but also directly promotes actual behaviour, verifying hypothesis H3. This emphasizes the importance of environmental cognition as a prerequisite for Waste classification behaviour, and suggests that policy makers need to strengthen environmental education and information dissemination to promote broader Waste classification behaviour.

However, the direct impact of environmental values on Waste classification behaviour does not meet the traditional significance standard (path coefficient = 0.145,C.R.=1.761, P=0.078), and the assumption of H4 is not true. This may be due to the slow internalization process of environmental values, and the behaviour habits, social environment and specific norms have more direct effects on the behaviour. Nevertheless, environmental values have an indirect impetus to behaviour, emphasizing the importance of fostering environmental values in the long term.

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The significant influence of residents' Waste classification cognition on the actual classification behaviour (path coefficient = 0.21,C.R.=3.011, P=0.003) verified the hypothesis H5, indicating that the Waste classification consciousness is the key factor driving the actual behaviour. Improving residents' cognition of Waste classification, especially through education and policy guidance, is an effective way to promote Waste classification behaviour.

In this study, structural equation model (SEM) analysis found that both environmental cognition and environmental values significantly improved the cognition of Waste classification, especially the impact of environmental cognition. At the same time, the promoting role of Waste classification cognition on behaviour has been confirmed, emphasizing its core position in behaviour change. Although the direct influence of environmental values on behaviour is limited, its indirect effects cannot be ignored. Therefore, the future policies should comprehensively consider the improvement of environmental cognition, the cultivation of environmental values and the improvement of practical conditions, so as to comprehensively promote the popularization and deepening of Waste classification behaviour.

4.3 Mediation effect analysis

In SEM model, Bootstrap method was used to verify whether Waste classification cognition plays a intermediary role in environmental cognition and environmental values on residents' Waste classification behaviour. The results are shown in Table 6.

Table 6 Mediating effect data result

Path	effect	Estimate	Lower	Upper	P	Test result
EC=>WCI=>WCB	Indirect effect	0.289	0.175	0.476	0.001	Part of the intermediary
	Direct effect	0.731	0.492	1.139	0.001	
	Totle effect	1.02	0.787	1.377	0.001	
EV=>WCI=>WCB	Indirect effect	0.242	0.154	0.363	0.001	Part of the intermediary
	Direct effect	0.402	0.262	0.587	0.001	
	Totle effect	0.644	0.487	0.857	0.001	

The study reveals that both environmental cognition and environmental values have a significant intermediary role on residents' Waste classification behaviour through Waste classification cognition. The total effect of environmental cognition was 1.02, direct effect 0.731, mediation effect 0.289 (P=0.001), 95% confidence interval [0.175,0.476] without 0, confirming the intermediary role of Waste classification cognition, assuming 6a. Similarly, the total effect of environmental values was 0.644, direct effect 0.402, mediation effect 0.242 (P=0.001), 95% confidence interval [0.154,0.363] also excluding 0, indicating that it indirectly affects behaviour through Waste classification cognition, assuming 6b is true. All the path mediation effect is significant, emphasizing the key role of Waste classification cognition in connecting environmental cognition, values and behaviour. Therefore, enhancing residents' cognition of Waste classification is an effective strategy to promote behaviour change, and policies should

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focus on this. By enhancing environmental cognition and cultivating environmental values, policies should further strengthen the influence of Waste classification cognition and promote the popularization of Waste classification behaviour.

5 Conclusions and suggestions

5.1 Conclusion

This study explored the influence of environmental cognition and environmental values on resident Waste classification behaviour, and verified the mediating role of Waste classification cognition in this process. The results show that environmental cognition and environmental values both significantly affect residents' Waste classification behaviour, among which the direct influence of environmental cognition and perceived behaviour control is more significant. The cognition of Waste classification plays a significant partial mediating role between these factors and Waste classification behaviour. In terms of path analysis, the direct impact of environmental cognition on residents 'Waste classification behaviour is relatively strong, indicating that enhancing residents' environmental knowledge and cognition is an important way to promote Waste classification behaviour. Further mediation effect analysis shows that Waste classification cognition plays an important partial intermediary role between environmental cognition, environmental values and Waste classification behaviour. This shows that improving residents' cognition of Waste classification can effectively magnify the influence of various factors on Waste classification behaviour, and the improvement of cognition is the key bridge to promote behaviour change. In conclusion, this study reveals the influence mechanism of Waste classification behaviour, emphasizes the importance of environmental cognition, and points out the key role of enhancing Waste classification cognition in behavioural transformation. Future policies and practices should pay more attention to education and guidance, improve residents' cognition of environmental protection, and promote the extensive implementation of Waste classification behaviour by strengthening the perception of social norms and behaviour control.

5.2 Suggestions

Based on the above conclusions, the following suggestions are proposed:

In order to promote Waste classification behaviour, multi-dimensional strategies need to be adopted: (1) strengthen environmental protection education and improve residents' ecological cognition. The government and social organizations should popularize the knowledge of Waste classification through multiple channels, customize education courses, use the integration of old and new media, deepen the understanding of environmental protection, and stimulate the motivation of participation.(2) Build social norms and create a Waste classification atmosphere. Through legislation, advocacy and community activities, such as environmental protection days and category contests, promote habit formation, and enhance cognition through role models and neighborhood interaction.(3) Optimize facility services and enhance the sense of behaviour control. Add classification containers, simplify the operation process, provide a clear guide, use the digital platform to achieve convenient query and feedback, and enhance the sense of

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participation and control.(4) Promote cooperation between government, enterprises and social organizations to form synergy. The government issues incentive policies to supply green products and participate in promotion; social organizations mobilize residents to participate and form consensus.(5) Establish a long-term follow-up and evaluation mechanism to ensure the effectiveness of the policies. Regularly evaluate the implementation effect, adjust the measures, establish a behaviour database, monitor the participation, accuracy and processing efficiency, data-driven management, optimize the implementation path, and ensure the sustainability of Waste classification objectives. Through comprehensive measures, effectively promote the popularization and deepening of Waste classification behaviour.

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