Research on the Current Situation of Residents' Participation in Garbage Classification and Its Influencing Factors: Take Guangdong Province of China as an Example

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Abstract: In recent years, with the rapid development of China's economic level, people's material consumption level continues to improve, the corresponding waste production is also growing rapidly. According to garbage statistics released by the Ministry of Housing and Urban-Rural Development, China produces more than 400 million tons of household waste every year, so it is imperative to carry out garbage sorting. In the process of garbage classification and governance, people's participation in the source classification of MSW is the key to the success of garbage classification and governance. This paper uses questionnaire survey to obtain large-scale data, through the construction of multiple linear regression model, to find out the key factors affecting the garbage classification behavior of residents in Guangdong Province. The study showed that 93.69% of respondents supported the classification of MSW; 92.63% of the respondents think it is necessary for Guangdong province to implement household waste classification. The key factors affecting residents' willingness and behavior of garbage classification are different, among which there are 3 cognitive factors, 5 hardware convenience measures and 3 situational factors. The key factors affecting residents' garbage classification behavior include three cognitive factors, one hardware convenience factor and one situational factor. Finally, the paper puts forward countermeasures and suggestions to promote residents' participation in garbage classification behavior.

Keywords: Guangdong Province, China; garbage classification; residents' behavior; influencing factors.

1. Literature Review

Garbage classification generally refers to the general term of a series of activities in which garbage is stored, placed and handled according to certain regulations or standards, and then transformed into public resources. With the development of economy and society and the substantial improvement of material level, China, especially the more developed Guangdong Province, has witnessed the rapid growth of waste production and the increasingly prominent environmental risks, which has become a restrictive factor for the development of new urbanization. In fact, in 2000, the Ministry of Construction of China identified Beijing, Shanghai, Guangzhou, Nanjing, Shenzhen, Hangzhou, Xiamen and Guilin as the "Pilot Cities for Household Waste Classification and Collection", and required community residents to release garbage classification according to classification standards[1]. After 20 years of garbage classification practice, although some achievements have been made to some extent, the overall effect of garbage classification work is not ideal. Not only does the phenomenon of mixed collection, mixed cleaning and transportation of household garbage often occur, but residents also randomly mixed and discarded the source household garbage. Garbage classification problem continues to attract great attention from all walks of life, and residents' garbage classification behavior has also been studied by academic circles.

There are relatively many research results on residents' garbage classification behavior in foreign countries. As early as 1960s, methods such as linear regression analysis, path analysis and classification regression analysis have been used to study residents' garbage classification behavior[2]. The research contents are also extensive, such as the internal motivation of garbage sorting[3-4], the convenience of garbage sorting and recycling facilities, and the influence of external incentives on garbage sorting behavior[5-7]. Economic incentive is an important factor affecting residents' garbage sorting and recycling behavior. In terms of demographic characteristics, the impact on residents' garbage sorting and recycling behavior[8-9]. The effect of the demographic characteristics on residents' garbage sorting and recycling behavior. In China, the research on the garbage classification behavior of residents is relatively

late, but there are also a lot of research results. For example, Shangjin Wen[1], Lou Mi [10], Xiaoyan Meng[11],Tao Sun[12] and others have made beneficial exploration on the willingness and behavior of garbage classification of residents. This paper mainly expands in three aspects. First, the existing research mainly focuses on a single city, and this research is extended to all cities in Guangdong Province. Second, since domestic and foreign studies all believe that the facilities and convenience of garbage classification have become the key factors affecting residents' willingness and behavior of garbage classification, this study sets up five items of facilities and convenience to be tested. Third, the current research on garbage classification mostly uses the theory of planned behavior. The theoretical basis of this study is also the theory of planned behavior, but legal constraints, supervision and incentive factors are also added to improve the explanatory power of the model.

2. Regional Overview

Guangdong, referred to as "Yue", is a provincial administrative region of China. The provincial capital, Guangzhou, has 21 prefecture-level cities under its jurisdiction. It is located to the south of Nanling, on the coast of the South China Sea, bordering Hong Kong, Macao, Guangxi, Hunan, Jiangxi and Fujian, and facing Hainan across the sea. By the end of 2019, the permanent resident population of the province was 115.21 million, 1.75 million more than that at the end of the previous year, among which 82.2599 million were urban residents, accounting for 71.40% of the permanent resident population (the urbanization rate of permanent resident population), 0.7 percentage points higher than that at the end of the previous year. In 2020, Guangdong's annual GDP reached 11.08 trillion yuan, an increase of 2.3 percent over the previous year. In 2016, Guangdong took the lead in the country to implement the Regulations on the Treatment of Urban and Rural Domestic Garbage in Guangdong Province, which included the classification of domestic garbage into legislation. Since then, the province has promoted garbage classification step by step. In recent years, it has been accelerated again to improve garbage sorting facilities and promote garbage classification in accordance with local conditions through demonstration cities. By December 2020, 172 domestic waste treatment facilities have been built in the province, of which 99 were newly built during the 13th Five-Year Plan period, with a total treatment capacity of 149,000 tons per day. In the practice of waste classification, Guangzhou, Shenzhen and other cities have also explored a set of pilot demonstration experience. Garbage classification of provincial cities have more according to the province to create demonstration guidance, promoting the building of demonstration area, such as dongguan introduced dongguan city life garbage sorting action plan for three years, pushing on the property plots floor from barrels, timing, fixing point drop, guiding the scene guide, and collecting mode for village (community) , and establishing lake songshan ShiFanPian garbage classification, etc.; Foshan will build a batch of garbage classification demonstration units, and the city's 2,619 public institutions achieved full coverage of garbage classification by the end of October 2020. Zhuhai has set up five types of garbage sorting models for government agencies, communities, schools, rural areas and islands. Meanwhile, several garbage sorting demonstration and drive zones have been established in Hengqin New District, Jinwan District and High-tech Zone. Jiangmen has carried out garbage classification in 478 residential areas in the urban area, Shantou is promoting the establishment of more than three demonstration areas, Meizhou has established garbage classification demonstration sites in eight counties, and Zhanjiang has carried out garbage classification in 112 residential areas in the whole city……Despite the rapid development of municipal garbage classification in Guangdong, the effect is still unsatisfactory. Therefore, it is very necessary to study the source subject of household garbage classification -- residents' garbage classification behavior, and identify the key factors that affect residents' willingness and behavior of garbage classification, so as to promote the source classification of household garbage.

3. Data Sources and Descriptive Statistics of Samples

3.1. Data Sources

The specific survey sites and samples of this survey cover 21 prefecture-level cities in Guangdong Province. According to the geographical location of the cities, they are divided into four regions: Eastern Guangdong, Western Guangdong, North Guangdong and Pearl River Delta. See Table 1 for specific sample distribution. The data in this study are mainly collected by random sampling, using online and offline questionnaires. For cities in the Pearl River Delta of Guangdong Province, we mainly used the method of interception of urban communities or public places to obtain questionnaires by random sampling. For non-Pearl River Delta cities in Guangdong, we mainly use online survey to complete. The offline survey was conducted from September 2020 to October 2020, and the online survey was conducted from January 2021.A total of 1600 questionnaires were sent out in this study, and 1505 were effective, with an effective rate of 94.06%.Questionnaire content mainly includes two parts, the first part is the basic information of respondents, such as area, occupation, marital status, family's permanent population and family income, etc. The second part is the subjective scope, according to the theory of planned behavior cognition, perceived behavior control of three latitude and group add hardware convenient measures and situational factors and set up the content of the questionnaire.

3.2. Sample descriptive statistics

The sample distribution of waste classification survey in Guangdong Province is shown in Table 1. As can be seen from Table 1, according to the distribution of individual cities, Foshan City of Guangdong Province has the largest number of samples, accounting for

73.36%.In terms of region, the Pearl River Delta accounted for 85.59%, and the eastern Guangdong accounted for 6.92%. Northern Guangdong accounted for 4.3%; Western Guangdong accounted for 3.18%.

Table 1. Distribution of garbage classification samples in Guangdong Province

Four Regions in Guangdong	City	Regional sample size
Eastern Guangdong	Chaozhou City, Guangdong Province	68
	Shantou City, Guangdong Province	15
	Shanwei City, Guangdong Province	9
	Jieyang City, Guangdong Province	12
Western Guangdong	Zhanjiang City,Guangdong Province	16
	Maoming City, Guangdong Province	19
	Yangjiang City, Guangdong Province	13
North Guangdong	Shaoguan City,Guangdong Province	10
	Qingyuan City, Guangdong Province	13
	Yunfu City, Guangdong Province	13
	Meizhou City, Guangdong Province	13
	Heyuan City, Guangdong Province	16
The pearl river delta	Guangzhou City,Guangdong Province	46
	Shenzhen City, Guangdong Province	28
	Foshan City, Guangdong Province	1104
	Dongguan City, Guangdong Province	27
	Zhaoqing City, Guangdong Province	12
	Zhuhai City, Guangdong Province	17
	Zhongshan City, Guangdong Province	20
	Jiangmen City, Guangdong Province	25
	Huizhou City, Guangdong Province	9

The basic information of the surveyed residents is shown in Table 2, from which it can be seen that the frequency of male among the respondents is 1000, accounting for 66.45%. The frequency of female was 505, accounting for 33.55%.The frequency of unmarried interviewees is 1278, accounting for 84.92%; the frequency of married and other interviewees is 227, accounting for 15.09%.n terms of age, the frequency of respondents under 18 years old is 56, accounting for 3.72%; The frequency of 19-30 years old was 1251, accounting for 88.12%; There were 168 interviewees aged 31-50, accounting for 11.16%; The frequency of people over 51 years old is 30, accounting for 1.99%.In terms of educational level, the frequency of bachelor degree was 1202, accounting for 79.87%; The frequency of students with high school degree or below was 207, accounting for 13.75%.In terms of occupation, the frequency of enterprise staff is 46, accounting for 3.06%; The frequency of civil servants is 35, accounting for 2.33%; The frequency of staff in public institutions was 108, accounting for 7.18%; The frequency of students' occupation was 790, accounting for 52.49%; The frequency of freelancing was 518, accounting for 34.42%.In terms of the permanent family population, there were 3 people and 4 people, and the frequency was 733 and 609, accounting for 48.7% and 40.47%, respectively. The frequency of household disposable monthly income of 2500 yuan or less was 22, accounting for 1.46%; The frequency of 2500-7000 yuan was 84, accounting for 5.58%; The frequency of 7,000 yuan to 12,500 yuan was 823, accounting for 54.68%; The frequency of 12,500-25000 yuan was 497, accounting for 33.02%; The frequency of 25,000-80000 yuan was 67, accounting for 4.42%; The frequency of more than 80,000 yuan is 12, accounting for 0.8%; 92.92 percent of the surveyed households have a monthly disposable income of more than 7,000 yuan or equal, which is in line with Guangdong's economic development.

Table 2. Basic information of interviewed residents in Guangdong, China

Project	Category	Frequency	The percentage
Gender	Male	1000	66.45
	Female	505	33.55
Marital status	Married	187	12.43
	Unmarried	1278	84.92
	Other	40	2.66
Age	Under the age of 18	56	3.72
	19 to 30 years old	1251	88.12
	31 to 50 years old	168	11.16
	51 years of age or older	30	1.99
Level of education	Primary school	58	3.85
	Junior high school	56	3.72
	High school	93	6.18

	junior college	84	5.58
	Undergraduate course	1202	79.87
	Postgraduate or above	12	0.8
Professional	Enterprise staff	46	3.06
	Civil servants	35	2.33
	Public institution personnel	108	7.18
	Students	790	52.49
	Freelance	518	34.42
	Other	8	0.53
The population of permanent residents	1 person	4	0.27
	2 people	32	2.13
	3 people	733	48.7
	4people	609	40.47
	5 people	89	5.91
	6 people or more	38	2.52
Household disposable monthly income	2500 yuan of the following	22	1.46
	2500 yuan - 7000 yuan	84	5.58
	7000 yuan - 12500 yuan	823	54.68
	12500 yuan - 25000 yuan	497	33.02
	25000 yuan - 80000 yuan	67	4.42
	More than 80000 yuan	12	0.8

4. Empirical Analysis of Influencing Factors

4.1. Variable selection and description

4.1.1. Selection of dependent variables

This study focuses on the investigation of Guangdong residents' garbage classification in their own environment and their attitude towards the implementation of garbage classification in Guangdong Province, and finally concludes the influencing factors of Guangdong residents' participation in household garbage classification behavior. In this paper, the willingness and attitude of household garbage classification were taken as dependent variables, and the answer options were set from "A" (agree) to "E" (disagree), and the corresponding value was assigned to 5 to 1. The higher the score of respondents, the higher the willingness of respondents to carry out garbage classification in Guangdong Province, and vice versa.

4.1.2. Selection and hypothesis of independent variables

Based on the theory of planned behavior, this paper analyzes the factors that affect residents' garbage sorting behavior by selecting behavior, subjective scope, perceived behavior control and so on. Among them, behavior refers to the appearance of activities under the control of thought; Subjective scope refers to the social pressure that an individual feels on whether to take a certain behavior, it reflects the influence of surrounding key individuals or groups on an individual's behavior; Perceived behavioral control is an individual's expression of confidence in the implementation of a particular behavior based on past experience and anticipated obstacles. In addition, based on the application research progress of many theories of planned behavior and the characteristics of residents' participation in garbage sorting in China, this paper also adds hardware convenience measures and situational factors on the basis of typical research variables. Among them, the factors of hardware convenience measures refer to infrastructure (garbage cans), infrastructure (signs), door-to-door classification, intelligent products, waste station setting, etc., while the situational factors refer to publicity influencing factors, laws and regulations, community supervision and inspection, community material rewards, community spirit rewards. The same setting gradually changes from A(agree) to "E" (disagree), and corresponding values are assigned according to the setting of the questions. The higher the score of the respondents, the more positive their behaviors are, the greater the influence of the people around them, the stronger their ability to control their perceptual behaviors, the more favorable external situational factors, the richer their knowledge, and the greater the role of publicity and education.

4.1.3. Control variables

The individual characteristics and family characteristics of residents will have a certain influence on garbage sorting behavior. Therefore, gender, marital status, age, culture, occupation, permanent resident population and monthly family income are selected as the control variables in this paper.

4.2. Model building

This paper mainly uses multiple linear regression model to construct the relationship between independent variables and dependent variables to explore the influencing factors of household waste classification behavior in Guangdong Province. The construction of multiple linear regression model is as follows:

Let y be the dependent variable, $x_1, x_2 \ldots x_k$ is the independent variable, and there is a linear relationship between the independent variable and the dependent variable, then the multiple linear regression model is:

$$Y = b_0 + b_1 x_1 + \ldots + b_k x_k + e \quad (1)$$

Among them, b_0 is the constant term, $b_1, b_2 \ldots b_k$ is the regression coefficient, b_1 is x_1, x_2 … x_k fixed,

The effect of each increment in x_1 on y , The partial regression coefficient of x_1 to y;And similarly when b_2 is fixed $x_1, x_2 \ldots x_k$,The effect of each unit of x_2 on y,That is, the partial regression coefficient of x_2 with respect to y.

4.3. Results analysis

Multiple regression model of SPSS19.0 software was adopted to conduct multiple linear regression analysis on the influencing factors of household waste classification behavior of Guangdong residents. In the specific operation results, we selected significant factors with P value, and the results were shown in Table 3.

Table 3. Estimated results of Guangdong residents' willingness model for MSW classification

The dimension	The variable name	B	S.E,	Wals	Sig.	Exp (B)
Cognitive	Implementation	0.225	0.042	-5.418	0.000**	0.227
	Degree of knowledge	0.234	0.028	8.360	0.000**	0.572
	Classification has a positive effect on the environment	0.242	0.028	8.632	0.000**	0.564
Hardware convenience measure	Infrastructure (garbage cans)	0.112	0.056	-2.012	0.044*	0.037
	Infrastructure (identification)	0.216	0.053	4.111	0.000**	0.041
	Someone the door	-0.119	0.046	-2.600	0.009**	0.064
	Intelligent product	0.215	0.035	-6.187	0.000**	0.399
	Waste station setup	0.255	0.025	10.054	0.000**	0.602
Situational factors	Laws and regulations	0.088	0.035	2.512	0.012*	0.506
	Community Material Rewards	-0.204	0.031	-6.567	0.000**	0.407
	Community Spirit Award	0.307	0.030	10.150	0.000**	0.543

Note: "*" is significant at 5% level, and "**" means significant at 1% level.

As can be seen from the regression results, the significant dimensions in Table 3 include cognition, hardware convenience measures and situational factors. Among them, the P values of "implementation", "knowledge understanding" and "classification has a positive effect on the environment" in the cognition dimension are all significant at the 1% level; The coefficient of the variable of "classification has a positive effect on the environment" is 0.242, which is the largest in the dimension of "cognition", indicating the positive effect of garbage classification publicity, which can better promote residents' willingness to separate garbage.

In the dimension of "hardware convenience measures", "infrastructure (garbage cans)", "infrastructure (logo)", "door-to-door sorting by designated personnel", "intelligent products", "waste station setting" and other five variables are significant, Among them, "infrastructure (garbage cans)" is significant at the level of 5%, and the other four are significant at the level of 1%, which indicates that strengthening the construction of infrastructure and increasing the guidance of signs on the facilities are conducive to the implementation of household garbage classification by residents of Guangdong Province. Among them, "door-to-door" garbage collection is negative, which may indicate that residents do not like to be disturbed by outsiders. The coefficient of the variable of "waste station setting" is 0.255, which is the largest dimension of "hardware convenience measures", indicating that the nearby setting of waste stations will improve residents' willingness to classify garbage. The closer the recycling station is, the more convenient it is, and the more willing residents are to sort it, mainly because residents can get economic returns by sorting out recyclable rubbish and selling it to the scrap station.

In the dimension of "situational factors", three variables, such as "law and regulation constraint", "community material reward" and "community spirit reward", are significant. Among them, the "law and regulation constraint" variable is significant at the 5% level, and the "community material reward" and "community spirit reward" variable is significant at the 1% level. The community material reward has a negative relationship with the dependent variable, indicating that the community material reward is either less attractive, or the residents are worried about being considered timid and cheap and do garbage sorting, so the negative relationship is presented. The coefficient of "community spirit reward" is 0.307, which is the largest in the dimension of "situational factors", indicating that community spirit reward can improve residents' willingness to waste classification to a large extent.

Table 4. Estimation results of household waste classification behavior model of Guangdong residents

The dimension	The variable name	B	S.E,	Wals	Sig.	Exp (B)
Cognitive	Implementation	0.366	0.036	-10.125	0.000**	0.227
	Degree of knowledge	0.083	0.024	3.398	0.001**	0.572
The subjective scope	Influencing Factors of Friends	0.187	0.045	-4.164	0.000**	0.045

Perceptual behavioral control	Time influencing factor	-.079	0.022	-3.610	0.000**	0.749
Hardware convenience measure	Infrastructure (identification)	0.112	0.046	2.438	0.015*	0.041
Situational factors	Community Spirit Award	0.151	0.026	5.739	0.000**	0.543

Note: "*" is significant at 5% level, and "**" means significant at 1% level.

According to the estimation results of the behavior model of Guangdong residents' MSW classification in Table 4, it can be seen that the salient dimensions include five dimensions: cognition, subjective range, perceived behavior control, situational factors and hardware convenience measures. Among them, the P values of "implementation situation" and "knowledge understanding degree" in the cognition dimension are both significant at the 1% level. In the dimension of "subjective scope", only the variable "friend influence factor" is significant, which is significant at the 1% level, indicating that the classification behavior of friends will drive the actions of surrounding residents.“In the dimension of "perceived behavior control", only one variable "time influencing factor" is significant, which is significant at the 1% level and the coefficient is negative, indicating that the shorter the time spent on garbage classification, the more willing residents will be to classify; otherwise, the less residents will participate in the classification. In the dimension of "hardware convenience measures", only one variable "infrastructure (identification)" is significant, which is significant at the level of 5%, indicating that the easier infrastructure (identification) is, the more likely it is to stimulate the occurrence of classification behavior of residents. In the dimension of "situational factors", "community spirit reward" is significant, which is significant at the 1% level, indicating that positive community spirit reward for residents' household waste classification behavior will promote the development and implementation of household waste classification in Guangdong Province.

Table 3 is the Guangdong residents living garbage classification will model estimation results, table 4 is Guangdong residents living garbage classification behavior behavior model to estimate the result, by contrast, found that residents' willingness to garbage classification and garbage classification behavior and cognition, convenient hardware measures and situational factors in the three dimensions, are the main factors influencing the living garbage classification for Guangdong's residents. However, in terms of specific impact dimensions and variables, there are differences in residents' willingness and behavior of garbage classification. Affect residents' garbage classification variables will have "implementation", "knowledge", "classification and produce positive effects on the environment", "infrastructure" (rubbish bin), "infrastructure (logo)", "personnel door-to-door collection", "intelligent products", "the dealer Settings", "legal rules", the material rewards "community" and "community spirit award", etc. 11 And only 6 variables, such as "implementation situation", "knowledge understanding degree", "friend influence factor", "time influence factor", "infrastructure (logo)" and "community spirit reward", can affect residents' garbage classification behavior.

To sum up, the key factors influencing residents' willingness and behavior of garbage classification are different. In the actual policy formulation, in addition to promoting residents' willingness of garbage classification, more attention should be paid to promoting residents' behavior of garbage classification. In the next part, we put forward corresponding policy recommendations based on the empirical results.

5. Research Conclusions and Policy Recommendations

5.1. Research Conclusions

Through the empirical analysis of the above multiple regression model, we draw the following conclusions.

(1)Among the surveyed residents, 12.49% have implemented household waste classification in their areas, and 87.51% have not implemented or are not aware of the implementation of garbage classification, indicating that Guangdong has not implemented household waste classification on a large scale. 92.63% of the respondents believe that garbage classification plays an obvious or significant role in improving the environment; Their colleagues also agreed that Guangdong should fully implement household waste sorting.

(2) More than 90 percent of respondents believe that household waste classification will play a positive role in our environment, and more than 90 percent approve of the implementation of household waste classification in Guangdong Province. 58.28% of the respondents know less or even no understanding of garbage classification related knowledge, such as garbage classification types, different types of garbage treatment methods and policies.

(3)Affect residents' garbage classification variables will have "implementation", "knowledge", "classification and produce positive effects on the environment", "infrastructure" (rubbish bin), "infrastructure (logo)", "personnel door-to-door collection", "intelligent products", "the dealer Settings", "legal rules", the material rewards "community" and "community spirit award" and so on a total of 11. There are only 6 variables that affect residents' garbage classification behavior, such as "implementation situation", "knowledge understanding degree", "friend influence factor", "time influence factor", "infrastructure (logo)" and "community spirit reward".

5.2. Policy Recommendations

Based on the above research conclusions, the following suggestions are put forward for the implementation of household waste classification management in Guangdong Province:

(1)Widely carry out household waste classification and recycling related education to residents through a variety of channels to improve residents' knowledge and understanding of the garbage classification policy system. The research shows that "the understanding of garbage classification knowledge" is significant for residents' intention and behavior of household garbage classification. Therefore, it is suggested that the government and other administrative departments strengthen the popularization of household waste classification and recycling education among residents through various publicity and education channels such as media, school education and advertisement, and make full use of the message that broadcast on Wechat, TV broadcast, activities, offline poster pasting, billboards, mobile phone client and mobile Internet to publicize the knowledge and information of household waste classification. To advocate green civilization habits, through the training unit, school, community, from the theory of education on promoting residents thought change and understanding of garbage classification, in order to enhance residents' environmental awareness and participation intention, active learning knowledge about garbage classification, set up the correct environmental values, guide and educator and friends, In this way, they can actively and voluntarily participate in the work of household waste classification in its area. Let garbage classification become a belief and value, let people treat garbage classification as a ritual of life, cultivate citizens' quality through capital, accept it subjectively, form good habits of household garbage classification, enhance environmental protection awareness, and improve "it is everyone's responsibility to care for the environment; Garbage classification, start from me "ideological and moral cultivation.

(2)Improve this community garbage classification of related infrastructure (garbage sorting garbage can set on infrastructure, classification identification paste, intelligent robots garbage classification and recycling classification bins, , etc.), efforts to provide convenient and effective for the local residents classified measures system, in the area can be set up more garbage sorting garbage can, increase the number of classified garbage can, In order to shorten the distance and time for residents to carry out household waste classification treatment. At the same time, in a series of infrastructure about garbage classification indicate the straightforward identification, such as: the patterns of the different types of garbage, labels, etc., using multiple language identification, such as: you can use the local dialect, English and so on, to enhance residents living garbage classification of interest and cultural identity, and easier to various areas of people's living garbage classification. It can also choose to cooperate with local or Internet-type enterprises from other regions to build regular and fixed garbage sorting rooms in the community, or use facilities such as intelligent garbage classification points exchange boxes to reward and punish residents for their garbage sorting behavior. The organic combination of renewable resources recycling network and waste classification network can enhance residents' enthusiasm to participate in classification through intelligent equipment guidance, platform supervision and bonus points.（reward points） Individual residents should also take an active part in garbage sorting by purchasing intelligent tools and assigning tasks to family members. They can also report the current situation to the local community or the government and put forward reasonable suggestions.

(3)Complete laws and regulations. "Restrictions by laws and regulations" does not significantly affect household waste classification. This is because there has been no formal legislation on household waste classification in Guangdong so far. Therefore, household waste classification is not significant. However, "legal and regulatory constraints" have a significant impact on residents' willingness to classify garbage, indicating that "legal and regulatory constraints" will have an impact on residents' garbage classification behavior, and will play a significant role once legislation is enacted. Therefore, the government adjust measures to local conditions to formulate relevant laws and regulations, strengthen the top-level design city life garbage recycling, binding and incentive policy making of laws and regulations as soon as possible, establish management mechanism linked to residents' vital interests, clear responsibility and obligation of residents, and form a complete set of rewards and punishment mechanism, in order to ensure all the residents to participate in domestic waste recycling, To realize the effective management of urban household waste classification.

(4)The community actively responds to the national garbage classification implementation policy, promotes the orderly development of household garbage classification behavior within the community, and sets up appropriate community reward and punishment system. The community can give appropriate material and spiritual rewards to encourage the community residents to classify garbage. Small gifts will be sent regularly to community residents who actively participate in household waste classification, such as souvenir environmentally-friendly shopping bags for garbage classification, small garbage sorting cans, etc. It can also use the method of accumulating points to record the number of residents participating in the activities of garbage classification in the community and the number of implementing garbage classification according to the requirements. It can regularly publish the list of residents who have more times and better performance in the community as an example, and give certain spiritual incentives to these residents, such as issuing certificates and MEDALS for "garbage classification experts". Posters praising outstanding community individuals in garbage sorting; Community evaluation of excellent grade, one star, two star, three star household waste classification actively involved in the individual.

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