

## Retraction Notice

Title of retracted article: Research on the Impact of Social Capital on Villagers Willingness to Partake in the Supply of Rural Public Products  
 Author(s): Di Sha  
 \* Corresponding author. Email: 297993370@qq.com  
 Journal: Open Journal of Social Sciences (JSS)  
 Year: 2021  
 Volume: 9  
 Number: 5  
 Pages (from - to): 187-200  
 DOI (to PDF): <https://doi.org/10.4236/jss.2021.95014>  
 Paper ID at SCIRP: 109102  
 Article page: <https://www.scirp.org/journal/paperinformation.aspx?paperid=109102>  
 Retraction date: 2022-07-13

### Retraction initiative (multiple responses allowed; mark with X):

- All authors  
 Some of the authors:  
 Editor with hints from  Journal owner (publisher)  
 Institution:  
 Reader:  
 Other:  
 Date initiative is launched: 2022-07-13

### Retraction type (multiple responses allowed):

- Unreliable findings  
 Lab error  Inconsistent data  Analytical error  Biased interpretation  
 Other:  
 Irreproducible results  
 Failure to disclose a major competing interest likely to influence interpretations or recommendations  
 Unethical research  
 Fraud  
 Data fabrication  Fake publication  Other:  
 Plagiarism  Self plagiarism  Overlap  Redundant publication \*  
 Copyright infringement  Other legal concern:  
 Editorial reasons  
 Handling error  Unreliable review(s)  Decision error  Other:  
 Other:

### Results of publication (only one response allowed):

- are still valid.  
 were found to be overall invalid.

### Author's conduct (only one response allowed):

- honest error  
 academic misconduct  
 none (not applicable in this case – e.g. in case of editorial reasons)

\* Also called duplicate or repetitive publication. Definition: "Publishing or attempting to publish substantially the same work more than once."

## History

Expression of Concern:

yes, date: yyyy-mm-dd

no

Correction:

yes, date: yyyy-mm-dd

no

## Comment:

Due to conflicts of interest.

This article has been retracted to straighten the academic record. In making this decision the Editorial Board follows [COPE's Retraction Guidelines](#). Aim is to promote the circulation of scientific research by offering an ideal research publication platform with due consideration of internationally accepted standards on publication ethics. The Editorial Board would like to extend its sincere apologies for any inconvenience this retraction may have caused.

## Instructions for Further Editorial Changes to the Online Publication (to be deleted from final notice)

- On the *article page* ...
  - ... the *title* is preceded by the text:  
RETRACTED:
  - ... the *abstract* is exchanged by ...
    - ... a heading: **Short Retraction Notice**
    - ... body text: The comment from above
    - ... a final text: The [full retraction notice](#) in PDF is preceding the original paper, which is marked "RETRACTED".
  - ... the *reference* under the heading **Cite this paper** is deleted.
  - ... the metadata in the HTML source code of the article page is *only* changed with respect to the abstract:  
<meta name="description" content="..." /> and <meta name="citation\_abstract" content="..." /> and  
<meta name="dc.description" content="..." />  
are set to the same new abstract as explained above and consist of:  
the heading, the body text, a final text (without the link).
- The original *article in PDF*...
  - ... receives on each page a red watermark RETRACTED (running diagonally across each page in big letters),
  - ... is preceded with the **Retraction Notice** from these two pages (but without these instructions), which is showing on top the CrossMark logo with the link \* set to the publication date of the retraction,
  - ... gets the link \* under the CrossMark logo of the original article changed to the publication date of the retraction,
- The original *article in HTML* ...
  - ... is replaced by the **Short Retraction Notice** copied from the article page.
  - ... has a final text: Please see the [article page](#) for more details.  
The [full retraction notice](#) in PDF is preceding the original paper, which is marked "RETRACTED".
  - ... the metadata in the HTML source code is changed as explained above.
- The *XML* of the original article is deleted.

\* The link under the CrossMark logo follows the pattern:  
[http://crossmark.crossref.org/dialog/?doi=10.4236/...&domain=pdf&date\\_stamp=yyyy-mm-dd](http://crossmark.crossref.org/dialog/?doi=10.4236/...&domain=pdf&date_stamp=yyyy-mm-dd)  
yyyy-mm-dd is the date (ISO 8601).

# Research on the Impact of Social Capital on Villagers Willingness to Partake in the Supply of Rural Public Products

Di Sha

College of Economics and Management, Zhejiang Agriculture and Forestry University, Lin'an, China  
Email: 942675266@qq.com

**How to cite this paper:** Sha, D. (2021). Research on the Impact of Social Capital on Villagers Willingness to Partake in the Supply of Rural Public Products. *Open Journal of Social Sciences*, 9, 187-200. <https://doi.org/10.4236/jss.2021.95014>

**Received:** April 10, 2021

**Accepted:** May 14, 2021

**Published:** May 17, 2021

Copyright © 2021 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

The supply of rural public products, as an important indicator to measure rural economic development, plays an important role in improving the quality of life of farmers and promoting the harmonious development of rural society. However, the current supply of public goods in China's rural areas cannot meet the growing needs of farmers. Therefore, this article intends to analyze the specific situation of Chinese villagers' willingness to participate in the supply of rural public products from the perspective of social capital, using the 2018 new rural community governance data and using the binary Logit model. The results of the study show that villagers are generally not very enthusiastic about participating in the supply of public goods in the village. The willingness of villagers in different regions to participate in the supply of public goods in the village is significantly different, and the eastern region is far lower than the western and central regions. Among the various dimensions of social capital, social trust, social networks and social participation of villagers to partake in village transport facilities, medical facilities and clean energy supply facilities willingness to have a significant positive impact. The gender of the villagers, whether he is a village official or not, and the degree of psychological cognition all have a significant positive impact on the willingness of the villagers to participate. Therefore, the Chinese government should pay attention to the positive effect of the informal system on villagers' participation in supply, actively cultivate and develop villagers' social capital in different dimensions, and arrange the supply of village public products in a reasonable manner according to the level of village development in accordance with local conditions.

## Keywords

Villagers, Social Capital, Village Public Product Supply

## 1. Introduction

The imbalance of urban and rural development is one of the prominent contradictions in China's current economic life. The performance of the urban-rural gap is multifaceted, and the gap in the supply of basic public products required by urban and rural residents has attracted more and more scholars' attention (Gao et al., 2012; Li & Liu, 2013; Li & Pei, 2019). The supply of rural public products refers to a supply method in which the government is the main body of supply, through public financial expenditures, transfer payments, and public resources to provide public products to rural areas free of charge to meet the public consumption needs of rural society. At present, China mainly adopts a "top-down" public product supply mechanism led by the government. The lack of funds for rural public product supply caused by a single supplier (Qian & Ying, 2014), unbalanced supply structure and low supply efficiency, etc. (Yang & Li, 2015). The problem makes it difficult to narrow the gap in the supply of public goods between urban and rural areas in China. How to effectively solve the problem of the supply gap of urban and rural public products is the key to achieving the goal of equalization of basic public services in urban and rural areas. Studies have shown that in the process of rural public product supply, farmers, as the main consumer and direct beneficiary of village public products, participate in the village public product supply through voluntary financing and labor cooperation, which can not only increase the total supply of village public products, but also it can also better reflect the differences in farmers' demand for public products in different types of villages, thereby adjusting the unreasonable supply structure of rural public products (Liao, 2016). However, in terms of the current situation of rural households participating in the supply of public products in villages, the participation and contribution of rural households are generally not high, which severely restricts the improvement of the supply of rural public products in my country (Zhang & He, 2008). Therefore, studying the influencing factors of farmers' willingness to participate in the supply of public products in villages is of great significance to increase farmers' enthusiasm for participating in the supply of public products in villages, improve the level of rural public product supply, and narrow the gap between urban and rural public product supply.

From a theoretical point of view, the participation of farmers in the supply of public goods in the village is a process of voluntary participation in the realization of collective actions in the village. Due to the heterogeneity of individual choices, individual rationality and collective rationality are prone to conflicts, which can lead to difficulties in collective action (Olson, 1971). How to break this dilemma and increase farmers' participation enthusiasm has always been a concern of scholars. The development and improvement of social capital theory provide scholars with a new research perspective. French sociologist Bourdieu first proposed the theory of social capital. He defined social capital as "an actual or potential resource complex, which is inevitably linked to a familiar, recog-

nized, and institutionalized grid of persistent networks related” (Bourdieu, 1986). At present, China’s existing research on the impact of social capital on farmers’ participation in village collective actions mainly focuses on two aspects: First, the impact of social capital on farmers’ willingness and behavior to participate in the supply of small-scale farmland water conservancy facilities is analyzed. For example, Cai and Zhu (2016) divide social capital into There are two types of structural social capital and cognitive social capital, they believe that cognitive social capital has no significant impact on farmers’ willingness and degree to participate in the maintenance of small-scale farmland water conservancy facilities, and structural social capital has a significant positive impact on farmers’ willingness and degree to participate; second, research on the influence of social capital on farmers’ participation in cooperatives, such as Liang et al. (2014), Zhang and Pan (2016), Zhou et al. (2019) pointed out that different dimensions of social capital not only affect farmers’ willingness and extent to participate in cooperatives. It has a significant impact on the decision-making of mutual assistance and cooperation among members of the cooperative. The third is to study the impact of social capital on farmers’ participation in collective actions in other villages. For example, Du et al. (2016) found in the process of rural environmental governance that the positive or negative effects of social capital stock will directly affect the effect of village environmental governance; Wang et al. (2018) showed that the total amount of social capital has a significant positive impact on the willingness of farmers to participate in farmers’ water associations. It can be seen that social capital is an important factor affecting farmers’ willingness to participate in the supply of public goods in the village.

There has been a lot of research on the influence of social capital on farmers’ willingness to participate in the supply of public goods in villages, and fruitful results have also been achieved. However, the current research still has shortcomings: First, the existing studies are mostly confined to a certain region, lacking national data, and failing to better reflect the overall situation of farmers’ willingness to participate in the supply of public goods in villages; Second, the existing research on the willingness of social capital to supply farmers’ participation in village public products mainly selects certain types of public products, such as small-scale farmland water conservancy facilities, and few consider the differences of farmers’ willingness to participate in the supply of public goods in different types of villages.

## 2. Theoretical Analysis and Research Hypothesis

Bourdieu (1986) believes that social capital is a network of social relationships that exists in a certain group, and this relationship exists in kinship, neighbor relationships, and workplace relationships. Coleman (1990) constructs the theoretical framework of social capital more systematically and comprehensively. From the perspective of the function of social capital, he believes that social cap-

ital is a kind of social relationship, which is related to social structure and mainly includes trust, rule and network of relationships. To a certain extent, certain social goals can be achieved. Putnam et al. (1993) definition of the concept of social capital has attracted widespread attention. He introduced the concept of social capital into the “participation and cooperation” of citizens. He believes that social capital mainly includes social trust, social networks, and social norms, which plays an important role in resolving the “collective action dilemma”.

Coleman (1990) and Putnam et al. (1993) expounded the concept of social capital from three aspects: social trust, social norms and social networks. With the further development and improvement of social capital theory, some scholars have also incorporated social prestige and social participation into the concept of social capital in the research process (Miao, 2014). This article is based on the availability of data, according to Putnam et al. (1993) research on social capital in resolving the “collective action dilemma”, with reference to Xin et al. (2018), Li and Wang (2013) on the measurement of social capital. Three dimensions of trust, social network and social participation are used to analyze the impact of farmers’ willingness to participate in the supply of public goods in the village.

Social trust mainly refers to the expectations of mutual honesty and cooperation among members in an organization (Fukuyama, 1995). Ostrom (1990) believes that the mutual trust and other social capital formed by people through long-term contacts can alleviate the contradictions that exist in the process of participating in collective action by various subjects, and promote the cooperation and participation of various subjects. The emotional identification and mutual trust between farmers and relatives will greatly reduce the cost of cooperation and negotiation between the two parties, and it will be easier to reach cooperation (Yan et al., 2016). The farmers living in a certain familiar village environment, the higher their trust in the villagers, the more harmonious their interpersonal relationships will be, and they will also be more willing to believe that the villagers will not have dishonest behaviors, so that they have a positive role in participating in the village’s public product supply. Influence of (Li & Wang, 2013; Yan et al., 2014). In addition to the level of trust in relatives and friends will have an impact on farmers’ willingness to participate in collective actions, Huang (2009) found through research that the higher the level of farmers’ trust in managers, the easier it is to form collective actions.

Social network mainly refers to a relatively stable social relationship formed by interaction and communication between individual members of society in a certain area. Shi et al. (2018a) studied the influence of social capital on herders’ willingness to participate in grassland community governance and found that a broad social network is conducive to broadening herders’ access to information, making it easier to obtain others’ willingness to cooperate and convey their willingness to cooperate. Liu and Guo (2016), Xu et al. (2015) and Han et al. (2017) also believed in the research on the influence of social capital on farmers’ willingness to participate in collective action that a rich social network would en-

hance the exchange of information between farmers and follow suit. With the rich social network of farmers, farmers will obtain more resources and their willingness to participate in cooperation will gradually increase. Therefore, this article believes that in the decision-making process of farmers participating in the supply of public goods in the village, farmers with richer social networks will communicate with the outside world more frequently and obtain more comprehensive information, and they will be more willing to choose to participate in the supply of public goods in the village.

Social participation refers to the degree of concern and investment of social subjects in all aspects of social life (Miao, 2014). Farmers who often participate in collective activities will have a strong sense of belonging to their familiar living environment. Farmers who often follow social news will broaden their horizons, increase their awareness of things, and increase their probability of participating in collective actions in the village (Shi et al., 2018b). The research of Miao (2014) shows that the more frequent farmers participate in collective affairs of the village, the more they can significantly increase the probability of cooperation with other farmers and promote the realization of collective actions. Based on the research conclusions of the above-mentioned scholars, this article believes that in the decision-making process of rural households participating in the supply of public goods in the village, farmers who are more concerned about and participating in village public affairs and social organizations are more willing to participate in the supply of public goods in the village.

### 3. Research Method

#### 3.1. Selection and Meaning of Variables

**Explained variable.** Whether there is non-competitiveness and non-exclusiveness is an important basis for distinguishing between public products and private products. From this perspective, compared with rural private products, the consumption and income of rural public products are difficult to be completely exclusive. Rural public products include pure rural public products and quasi-rural public products. Most of the existing rural public products in real life are quasi-public products (Zhang et al., 2009). On the basis of reference to existing research (Wang & Zhuang, 2018; Cui & Zhang, 2009), rural public goods are defined as public goods with villages as a unit, which are highly related to farmers' production and life, and whose consumption and income are not completely exclusive. It is mainly divided into three categories of public products: economic, social development, and ecological and environmental protection, including transportation facilities, water supply and power supply, communication and medical facilities, cultural and sports facilities, education facilities, and village environmental protection and greening facilities. For the accuracy and comprehensiveness of the research, this paper selects three indicators from the village public products, whether they are willing to participate in the supply of village transportation facilities, whether they are willing to participate in the supply of

village medical facilities, and whether they are willing to participate in the supply of village clean energy facilities as the explained variables (Table 1).

Core independent variables. The core variable is the social capital variable of farmers. Based on the research of Xin et al. (2018), Li and Wang (2013), the three measurement dimensions of social trust, social network, and social participation are mainly selected (Table 1). Among them, the social trust dimension selects

**Table 1.** Variable definitions and descriptive statistics.

Variable type	Variable name	Meaning and value	Mean	Standard deviation
The dependent variable	Participate in the supply of village transportation facilities		0.704	0.457
	Participate in the supply of village medical facilities	Yes = 1, No = 0	0.655	0.476
	Participate in the supply of village clean energy facilities		0.649	0.477
Social capital	Social trust	Average of 4 social trust indicators	3.549	0.633
	Social network	Average of 4 social network indicators	7.002	4.517
	Social participation	Average of 4 social participation indicators	0.156	0.177
Personal and family characteristics	Age	Actual age (years)	46.750	13.180
	Gender	Male = 1, female = 0	0.609	0.488
	Years of Education	Actual years (years)	7.897	3.895
	Village cadre or not?	Yes = 1, No = 0	0.056	0.231
	Physical fitness level	Very poor = 1; Poor = 2; General = 3; Good = 4; Very healthy = 5	3.916	0.847
	The share of household income from agriculture	household income from agriculture/gross annual household income	0.156	0.501
Psychological cognition	The importance of participating in villager autonomy	Not important = 1; Less important = 2; General = 3; Relatively important = 4; Very important = 5	4.243	0.811
Village characteristics	Village collective annual income	Actual village collective income in 2017 ( $\times 10^6$ yuan)	2.123	10.050
	Total expenditure on village-level public services	Actual expenditure in 2017 ( $\times 10^4$ yuan)	20.730	50.390
	Village type	Urban Village = 1; Center Village = 2; Merged Village = 3; Traditional village = 4	2.903	1.230
Present situation of village public goods supply	The number of bus routes to the village	The actual number of routes	1.310	1.151
	At present, there are several clinics in the village	Including hospitals, health stations, village clinics, individual clinics, etc.	2.263	2.812
	Does the village promote the use of clean energy?	Yes = 1, No = 0	0.508	0.500
Regional dummy variable	East or not?	Yes = 1, No = 0	0.393	0.489
	West or not?	Yes = 1, No = 0	0.199	0.399

**Note:** The micro data used in this study comes from the 2018 survey data on the construction and governance of new rural communities. This research project was organized and initiated by the China Rural Development Research Institute (CARD) of Zhejiang University to conduct a questionnaire survey of four types of rural communities in cities (towns), central villages, merged villages, and traditional villages nationwide. The survey mainly adopts household surveys and semi-structured interviews, using two sampling principles: stratified sampling and equidistant sampling.

four questions: the degree of trust in relatives and friends, the degree of trust in neighbors, the degree of trust in residents of the same village other than their relatives and friends, and the degree of trust in residents in the village. The degree is assigned 1, 2, 3, 4, and 5 from low to high. From the social network dimension, select how many relatives you visited during the Spring Festival this year, how many friends you visited during the Spring Festival this year, how many relatives visited your home this Spring Festival, and how many gifts or gifts your home gave last year, each indicator is assigned a value according to the actual. The social participation dimension selects four questions: whether you are a village representative, whether you know the financial affairs of the village, whether you are a member of a public welfare organization, and whether you are a member of a religious organization. Yes and no are assigned a value of 1, 0. With reference to the research of Cai and Zhu (2016), the arithmetic mean of each question item is used to deal with the various dimensions of social capital.

Control variables. Individual and family characteristics variables. Individual heterogeneity may affect the behavioral choices of farmers to some extent. The gender, age, years of education, whether or not they are village leaders, physical health, and the proportion of household agricultural income are selected as indicators of individual and family characteristics of farmers. Psychological Cognitive Variables of Farmers. The process of farmers participating in the supply of public goods in the village is also the process of farmers participating in villagers' autonomy, and the farmers' opinions on the importance of villagers' participation in village autonomy related activities are selected as farmers' psychological cognitive variables. Village characteristic variables. The economic development level of the village may affect the supply level of public goods in the village, and thus also affect the willingness of farmers to participate. Select village collective annual income, village public service expenditure and village type as village characteristic indicators. The current variable of the supply of public goods at the location of the farmer. The current situation of the supply of public goods in the village may also affect the willingness of farmers to participate in the supply. How many bus lines are selected to reach the village, how many medical points are in the village, and whether the village promotes the use of clean energy such as solar energy or biogas as the farmers Variables of the current supply of public goods in the locality.

In addition to the above variables, considering the heterogeneity of the data, this paper sets up regional dummy variables. According to the research of Wang and Fan (2004), the study area is divided into eastern, central and western regions, and the two variables are used to distinguish whether it is eastern or western. The meanings of related variables and their descriptive statistics are shown in Table 1.

### 3.2. Model Establishment

In analyzing whether farmers are willing to participate in the supply of public

goods in the village, since the explained variables are divided into willing and unwilling to be a typical qualitative dichotomous variable, this paper chooses the binary Logit model for analysis, and its specific form is:

$$\ln\left(\frac{p}{1-p}\right) = \alpha + \sum_{i=1}^n \beta_i \chi_i + \mu$$

In the formula:  $p$  is the probability that farmers are willing to participate in the supply of village transportation facilities, medical facilities, and clean energy facilities,  $\chi_i$  is the  $i$ -th influencing factor that farmers are willing to participate in the supply of village transportation facilities, medical facilities, and clean energy facilities, and  $\alpha$  is a constant term.  $\beta_i$  represents the regression coefficient of the  $i$ -th influencing factor,  $\mu$  represents the intercept, and  $n$  is the number of influencing factors.

## 4. Results and Analysis

### 4.1. Descriptive Statistics and Analysis

From the perspective of the overall willingness of farmers to participate in the supply of public goods in the village, in addition to the 70.4% of farmers who choose to participate in the supply of village transportation facilities, the proportion of farmers who choose to participate in the supply of village medical facilities and clean energy facilities is only 65.5% and 64.9% (Table 1). It can be seen from this that the enthusiasm of farmers to participate in the supply of public goods in the village is not high; from the average of social trust, social network, and social participation, the overall level of trust and social network in rural society is relatively high, but the level of social participation low, It shows that most farmers in China are not paying enough attention to village public affairs, and their participation in some social organizations is also very low; from the control variables, the sample farmers are mostly male, with an average age of about 46 years old, and their overall education low.

From the perspective of farmers' willingness to participate in the supply of village public products in different regions, farmers in the western region have the highest willingness to participate. The proportion of farmers in the eastern region who are willing to participate in the supply of village transportation facilities, medical facilities and clean energy facilities are 54.0%, 50.6%, and 53.7% respectively (Table 2), which is significantly lower than the proportion of

**Table 2.** Willingness of farmers in different regions to participate in the supply of public goods in villages.

Village public goods supply	East		Central		West	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Supply of transportation facilities	0.540	0.499	0.780	0.415	0.876	0.330
Supply of medical facilities	0.506	0.601	0.739	0.440	0.779	0.416
Supply of clean energy facilities	0.537	0.500	0.750	0.433	0.783	0.413

farmers willing to participate in supply in the central and western regions. Qian and Ying (2014) pointed out that this kind of deviation from economic theory should consider the influence of informal institutions. When farmers choose whether to participate in the supply of public goods in the village, they may be more susceptible to the influence of informal systems such as folk beliefs, morals and ethics, customs, and social habits. Such informal systems are more common in Southwest my country, so they are more willing to participate. On the contrary, the northern rural areas are mainly dominated by national consciousness, and there is relatively little mutual identity among villagers, and the willingness of farmers to participate in collective actions in the village is also low.

#### 4.2. Analysis on the Influence of Farmers' Willingness to Participate in the Supply of Public Goods in the Village

In Table 3, Model 1 examines the influence of social capital on farmers' willingness to participate in the provision of transportation facilities in the village; in Model 2, two variables, namely, the health of farmers and the number of medical points in the village, are added to investigate the impact of social capital on farmers' participation in the village. The influence of willingness to supply medical facilities; Add in Model 3 whether your village promotes the use of clean energy variables such as solar energy or biogas to analyze the impact of social capital on farmers' willingness to participate in the supply of clean energy facilities in the village.

Social trust in Model 1, Model 2, and Model 3 passed the significance tests at the 1%, 5%, and 10% levels respectively, and the influence coefficients were all positive (Table 3). In the case of distinguishing different types of village public products, social trust has a significant positive impact on farmers' willingness to participate, indicating that social trust has indeed played an important and positive role in the process of farmers participating in the supply of village public products; the more farmers trust their relatives and friends, neighbors, villagers, and people from outside the village, the easier it is to believe that others will not violate the rules in collective actions. The negotiation cost of cooperative actions with others will be greatly reduced, and the possibility of cooperative behavior will be greatly reduced. Sex becomes greater, thereby promoting the success of collective action.

In Model 1, Model 2, and Model 3, the social network passed the significance tests at the 1%, 5%, and 1% levels, and the influence coefficients were all positive (Table 3). In the case of distinguishing different types of village public products, social networks have a significant positive impact on farmers' willingness to participate, indicating that farmers with richer social networks are more likely to choose to participate in the supply of village public products; In such a "acquaintance society" in rural China, the selection behavior of farmers is easily affected by "acquaintances". Farmers with more relatives and friends and more frequent and close contacts will have a richer social network, a wider range of

**Table 3.** Estimation results of the model.

Variable type	Variable name	Model 1		Model 2		Model 3	
		Coefficient	Standard deviation	Coefficient	Standard error	Coefficient	Standard error
Social capital	Social trust	0.330***	0.126	0.269**	0.116	0.226*	0.119
	Social network	0.054***	0.020	0.045**	0.018	0.056***	0.019
	Social participation	2.701***	0.512	2.042***	0.450	2.219***	0.465
Personal and family characteristics	Age	-0.009	0.007	-0.009	0.006	-0.004	0.006
	Gender	0.169	0.155	0.273*	0.144	0.228	0.147
	Years of Education	0.034	0.024	0.022	0.021	0.022	0.022
	Village cadre or not?	1.744***	0.550	0.749**	0.375	1.052***	0.410
	Physical fitness level			-0.063	0.088		
	The share of household income from agriculture	0.458	0.328	0.194	0.214	0.381	0.272
Psychological cognition	The importance of participating in villager autonomy	0.267***	0.093	0.191**	0.087	0.237***	0.089
Village characteristics	Village collective annual income	0.012	0.009	0.014*	0.008	0.010	0.008
	Total expenditure on village-level public services	0.005***	0.002	-0.000	0.001	0.005***	0.002
	Village type	0.047	0.062	0.202***	0.060	0.188***	0.058
Present situation of village public goods supply	The number of bus routes to the village	-0.225***	0.070				
	At present, there are several clinics in the village			0.024	0.026		
	Does the village promote the use of clean energy					-0.067	0.152
Regional dummy variable	East or not?	-1.425***	0.181	-1.171***	0.170	-1.517***	0.182
	West or not?	0.716***	0.250	0.091	0.208	0.092	0.214
	Constant	-1.588**	0.683	-1.566**	0.731	-2.056***	0.653
	Prob > chi2	0.000		0.000		0.000	
	Pseudo R <sup>2</sup>	0.185		0.120		0.154	

Note: \*, \*\*, \*\*\* represent the significance level of 10%, 5% and 1% respectively.

access to information, and more detailed and accurate information, making cooperative actions easier to succeed.

Social participation in Model 1, Model 2, and Model 3 have passed the significance test at the 1% level, and the impact coefficients are all positive (Table 3). In the case of distinguishing different types of village public products, social participation has a significant positive impact on farmers' willingness to participate, indicating that social participation has indeed played an active role in the process of farmers participating in the supply of village public products; Villagers who are more concerned about village public affairs will have a strong sense of belonging to their hometown, a stronger sense of responsibility for village

construction, and will be more willing to participate in projects that are beneficial to village construction.

The gender of a farmer and whether it is a village cadre has a significant positive impact on the willingness to participate in the village cadre. Whether it is a village cadre has a more significant impact, indicating that the characteristics of the individual and family of the farmer are also important factors that affect their willingness to participate in the supply of public goods in the village. Farmers' perception of the importance of villagers' participation in village autonomy related activities has a significant positive impact on farmers' willingness to participate. The possible explanation is that the farmers who believe that the more important the villagers' participation in village self-government activities are, the higher the level of awareness of participating in the village's public product supply and the stronger willingness to participate in the supply.

From the perspective of village characteristics, the collective income of the village and the total expenditure of village-level public services have a significant positive effect on the willingness of farmers to participate; the type of village has a significant positive effect on the willingness of farmers to participate in Model 2 and Model 3. From the perspective of the current situation of the supply of public goods in the village, the number of bus lines that reach the village has a significant negative impact on the willingness of farmers to participate in the supply of village transportation facilities. This shows that the characteristics of the village and the current status of the supply of public goods in the village will affect whether farmers are willing to participate in the supply of public goods in the village, and will also affect the type of village public goods they choose to participate in the supply of public goods.

Whether it is in the eastern region has a significant negative impact on farmers willingness to participate, and whether it is in the western region has a significant positive impact on farmers willingness to participate, indicating that regional heterogeneity is an important factor affecting farmers willingness to participate in the supply of public goods in the village.

In summary, it can be seen that the overall willingness of farmers to participate in the supply of public product in the village is low, and there are significant differences in the willingness to participate in the central, western, and eastern regions. Among them, the willingness to participate in the eastern region is much lower than that of the central and western regions. Social trust and social participation in social network society in the social capital dimension have a significant positive impact on villagers' willingness to participate in the supply of village transportation facilities, medical facilities and clean energy facilities. The gender of the villager, whether it is a village cadre, and the degree of psychological awareness all have a significant positive impact on the willingness of the farmer to participate.

## 5. Conclusion

Research shows that the overall willingness of farmers to participate in the

supply of public products in the village is low, and there are obvious differences in the willingness of farmers in different regions to participate in the supply of public products in the village. The government should consider regional differences when increasing the enthusiasm of farmers in the supply of public products in the village. By distinguishing the different types of village public products, it is further discovered that the incentive effect of social capital such as social trust, social network and social participation on farmers' participation is not only manifested in the supply of economic public products such as transportation facilities and small water conservancy facilities, but also for farmers' participation. The positive impact of the supply of other types of public goods is also significant. In addition, farmers' personal characteristics, psychological cognition, village characteristics and the status of village public goods supply also have an impact on farmers' willingness to participate. Therefore, the Chinese government should pay attention to the promotion of farmers' personal awareness and quality when promoting farmers' participation, and provide appropriate public products according to the actual development needs of the village.

In order to make up for the shortcomings of existing research in the single research area and research object, this paper distinguishes the types of public products in different regions and different villages, discusses the influence of social capital on farmers' willingness to participate in the supply of public products in the village, and makes the research conclusions more accurate. In the future research, we should pay more attention to the differences of farmers with different levels of social capital in choosing ways to participate in the supply of public goods in the village, and fully grasp the influence mechanism of social capital on the behavior selection of farmers in participating in the supply of public goods in the village.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

### References

- Bourdieu, P. (1986). *The Forms of Capital: Handbook of Theory and Research in the Sociology of Education*. New York: Greenwood Press.
- Cai, Q. H., & Zhu, Y. C. (2016). Influence of Social Capital and Income Inequality on Village Collective Action: Based on Farmers' Participation in the maintenance of small irrigation systems in Three Provinces. *Journal of Public Management*, 13, 89-100. (In Chinese)
- Coleman, J. S. (1990). *Foundation of Social Theory*. Cambridge: Belknap Press.
- Cui, B. Y., & Zhang, Z. G. (2009). Influencing Factors Analysis on Farmers Supplying Behavior of Agricultural Public Goods. *Journal of Nanjing Agricultural University (Social Sciences Edition)*, 9, 25-31. (In Chinese)
- Du, Y. Q., Liu, P. Y., & Bao, C. K. (2016). A Study on the Rural Environmental Governance through the Lens of Social Capital: A Case of Livestock Farming Pollution in the Undeveloped Region. *Journal of Public Management*, 13, 101-112. (In Chinese)

- Fukuyama, F. (1995). *Trust: The Social Virtues and the Creation of Prosperity*. New York: Free Press.
- Gao, Y., Zhou, Q., & Zheng, J. H. (2012). Why Is Public Goods Underprovided in Rural China? *China Rural Survey*, 6, 40-52. (In Chinese)
- Han, Y. Q., Du, Y. Q., Su, S. P., & Wei, Y. Z. (2017). Social Capital and Farmer Willingness for Forest Carbon Sequestration Management in Underdeveloped Regions of Fujian. *Resources Science*, No. 7, 1371-1382. (In Chinese)
- Huang, J. (2009). Analysis on the Factors Influencing farmer Household Cooperation Demand in Perspective of Trust. *Issues in Agricultural Economy*, 30, 45-49. (In Chinese)
- Li, B. B., & Wang, S. G. (2013). Social Capital, Rural Public Goods Supply and Rural Governance: Based on Survey of Farmers in 17 Villages in 10 Provinces. *Economic Science*, No. 3, 61-71. (In Chinese)
- Li, D., & Pei, Y. (2019). A Research on the Impact of Urban-Rural Public Service Gap on Urban-Rural Income Gap. *Journal of Finance and Economics*, 45, 111-123. (In Chinese)
- Li, Y., & Liu, Y. (2013). The Endogenous Mechanism of Urban and Rural Disparities: An Analytical Framework about Capitalization of Public Service. *Issues in Agricultural Economy*, 34, 15-23. (In Chinese)
- Liang, Q., Wu, W., & Liu, M. (2014). Impacts of Social Capital on Member Participation and Performance of Farmer Cooperatives. *Issues in Agricultural Economy*, No. 11, 71-79.
- Liao, Y. H. (2016). Farmers' Voluntary Influence Contribution to Rural Public Goods and the Influence on It: Based on the Beijing Region. *Comparative Economic & Social Systems*, No. 4, 143-155. (In Chinese)
- Liu, C. X., & Guo, H. P. (2016). Rural Social Capital, Income Level and Farmers' Participation in Rural Environmental Public Goods Cooperation Supply: An Empirical Study based on Hierarchical Model. *Journal of Agrotechnical Economics*, No. 11, 56-65. (In Chinese)
- Miao, S. S. (2014). Farmers' Small-Scale Irrigation Facilities Participative Behavior under Multi-Dimensional Social Capital Perspective. *China Population, Resources and Environment*, 24, 46-54. (In Chinese)
- Olson, M. (1971). *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge: Harvard University Press.
- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press.  
<https://doi.org/10.1017/CBO9780511807763>
- Putnam, R. D., Leonardi, R., & Nantti, R. (1993). *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press.  
<https://doi.org/10.2307/j.ctt7s8r7>
- Qian, W. R., & Ying, Y. X. (2014). Farmers' Willingness to Participate in Rural Public Infrastructure Supply and Analysis of Influencing Factors. *Chinese Rural Economy*, No. 11, 39-51. (In Chinese)
- Shi, H. T., Ju, D. C., Wu, H. X., & Yuan, H. (2018a). The Influence of Social Capital on Farmers' Participation in Watershed Ecological Management Behavior: Evidence from Heihe Basin. *Chinese Rural Economy*, No. 1, 34-45. (In Chinese)
- Shi, Y. X., Yao, L. Y., & Zhao, M. J. (2018b). The Effect of Social Capital on Herdsmen's Participation Willingness in Grassland Community Governance: An Analysis Based on

- Triple-Hurdle Model. *China Rural Survey, No. 3*, 35-50. (In Chinese)
- Wang, C. Y., & Zhuang, J. C. (2018). Farmers Entrepreneurship, Villages Public Goods Supply and Village Depression Governance. *Journal of South China Agricultural University (Social Science Edition)*, 17, 128-140. (In Chinese)
- Wang, J., Wang, L. L., & Wang, Y. N. (2018). Study on the Influences of Social Capital on Farmers' Willingness to Participate in the Water User Association. *Research of Agricultural Modernization*, 39, 309-315. (In Chinese)
- Wang, X. L., & Fan, G. (2004). Analysis on the Regional Disparity in China and the Influential Factors. *Economic Research Journal, No. 1*, 33-44. (In Chinese)
- Xin, B., Zhang, Y. X., & Geng, D. M. (2018). An Empirical Analysis of the Influence of Rural Social Capital on the Autonomous Supply of Public Goods. *Public Finance Research, No. 11*, 107-120. (In Chinese)
- Xu, L., Luo, D. L., & Liu, A. J. (2015). Effects of Social Capital on Farmers' Willingness to Participate in Irrigation Management Reform. *Resources Science*, 37, 1287-1294. (In Chinese)
- Yan, F. X., Wu, Z. Y., & Huang, L. L. (2014). Agricultural Mitigation Public Goods: Farmers' Intention of Self-Supply and its Impact Factors Based on the Research Data of Hubei Province. *Chinese Rural Economy, No. 11*, 52-64. (In Chinese)
- Yan, T. W., He, K., & Zhang, J. B. (2016). Analysis of Social Capital Influencing Farmers' Willingness of Environmental Protection Investment: Evidence from Empirical Study on Reusing Agricultural Wastes in Hubei Rural Areas. *China Population, Resources and Environment*, 26, 158-164. (In Chinese)
- Yang, X., & Li, J. (2015). The Comparison of Urban and Rural Infrastructure Financing Sustainability. *Reform of Economic System, No. 3*, 43-48. (In Chinese)
- Zhang, D. Y., & Pan, W. (2016). Social Capital Logic of Mutual Funds Mutual Assistance in Farmer Professional Cooperatives: Taking Huiming Professional Cooperative of J County, Anhui Province as an Example. *Rural Economy, No. 1*, 119-125. (In Chinese)
- Zhang, K. Z., & He, X. F. (2008). Community Involvement, Collective Action, and the Construction of New Countryside. *Economist, No. 1*, 32-39. (In Chinese)
- Zhang, S. Y., Jiang, J. Y., & Luan, J. D. (2009). Supply and Demand of Rural Public Goods: Based on the Analysis of 364 Surveys in Anhui. *Chinese Agricultural Science Bulletin*, 25, 331-336. (In Chinese)
- Zhou, Y., Zhao, M. J., & Kang, J. (2019). The Influence of Social Capital on Farmers' Decision-Making Behaviors on Participation in Cooperatives. *Research of Agricultural Modernization*, 40, 226-233. (In Chinese)