

# Research on the Relationship between Social Capital and Community Resilience in the Context of Risk Society——Taking A City in Guangdong Province as an Example

Rixia Luo, Jianfeng Zhou

Guangdong Ocean University, Zhanjiang, Guangdong, China

**Keywords:** Risk Society, Social Capital, Community Resilience.

**Abstract:** In recent years, the new crown epidemic has swept the world, and the prevention of social risks has become an essential topic. The community is the essential element of the social risk prevention system, the scientific construction and utilization of community resilience will help improve the society's ability to deal with risks. Based on the perspective of risk society, this study adopts the method of a questionnaire survey. It explores the relationship between social capital and community resilience through correlation analysis and multiple linear regression analysis. It is found that social capital can promote the improvement of community resilience. On this basis, the corresponding countermeasures are put forward, hoping to provide a useful theoretical supplement for the improvement of community resilience.

## 1. Introduction

As urbanization accelerates, human intervention in nature increases, population mobility becomes more frequent, social instability increases, and society generates more risks. However, risks are often unpredictable when they break out. With the differentiation of society, various intricate triggering factors are intertwined, which increases the difficulty of risk control. Community, as the smallest unit in grassroots social governance, is not only the living community of residents, but also a complex of various closely related and mutually influencing functions. If the role of community resilience in improving social risk prevention and control capabilities can be properly played, and the community can maintain its stability under the threat of multiple risks, it will be of great significance to the improvement of the entire city's emergency governance capabilities and the stable development of the economy and society. Today, as an essential resource for promoting community resilience, the role of social capital is increasingly being valued by academia.

In recent years, the global spread of covid-19 epidemic has made the research on preventing social risks a hot spot in the academic community. In comparison, the construction of community resilience is still in the exploratory stage. Domestic scholars have conducted research from public health, emergency management, and urban governance. However, so far, there has not been a unified theory in the academic community on how social capital affects community resilience. Based on this, this study will specifically start from the perspective of social capital to explore the relationship between social capital and community resilience, and propose corresponding countermeasures to enrich research in community risk prevention and control.

## 2. Literature Review

### 2.1 Definition and Measurement of Community Resilience

Scholars at home and abroad have done some research on community resilience, but due to different disciplinary backgrounds, there is no standard definition. Peng Chong believes that community resilience is a collection of a series of capabilities such as stability, resilience and adaptation. It is not only a growth process, but also the development goal of the community [1]; Liang Hongfei believes that community resilience is the ability of a community to establish, maintain or regain an expected

range of functions in the face of recurrent disasters or after sudden disasters, and the operational effect of this function is the same or improved as before the disaster [2]; Wu Xiaolin believes that community resilience is the ability of a community to link internal and external resources, effectively resist disasters and risks, and recover from harmful effects to maintain sustainable development [3]. It can be seen that many scholars expound the concept of community resilience from the perspective of disaster resistance, recovery and adaptation. By arranging the above viewpoints in the literature, this study believes that community resilience is the ability of communities to prevent, recover, and stabilize when dealing with risks, as well as the resilience to learn from disasters and adapt to future risks.

In the measurement of community resilience, Shu Chengyi obtains the indicators of urban community social resilience from the four dimensions of grass-roots government, residents and families, owners' committee and property management company [4]; Wei Qingong and Liu Wei measured the resilience of the community by the degree of agreement with the description of 10 community conditions through the ability of the community to cope with the impact of disasters at the two levels of resource supply and social support [5]; Wu Xiaolin and Xie Yiyun constructed a resilient community assessment path by dividing six dimensions of pre-disaster assessment and three dimensions of post disaster assessment [6].

To sum up, community resilience is currently measured from the perspectives of the responses of various subjects in urban communities, the time dimension before and after a disaster, and social support. This study believes that the measurement of community resilience should also focus on community learning from disasters. Therefore, we will use the Community Resilience Evaluation Scale (CART) which has been improved by Human, Hao Yanhua and others according to the domestic situation. The five dimensions of community resilience and communication are used to measure community resilience [7].

## **2.2 Definition and Measurement of Social Capital**

Regarding the definition of social capital, Liu Huaan believes that social capital in urban communities is a mutually beneficial relationship formed by individuals and organizations within an urban community during long-term internal and external interactions and under the norms of reciprocal rules [8]. From the social perspective of risk, Gao Shan et al. believe that social capital is a communication system that can promote the benign development of society at the three levels of social relationship, social system and social cognition [9]. Most scholars explain social capital from the perspective of social relations. Therefore, this study believes that social capital is a kind of social relationship resource that exists in the social network relationship, and its internal social members can directly obtain and use it in order to achieve common interests.

In the measurement of social capital, Bi Xiangyang measures from four dimensions: interaction, volunteerism, community trust and identity belonging [10]; The division of capital measures the relationship between social capital and residents' willingness to sort garbage from three dimensions: social network, social trust, and social reciprocity norms [11]. Liu Qian cuts in from the perspective of farmers, and analyzes the factors from the four dimensions of heterogeneity, convergence, instrumentality and emotion. Social capital was quantitatively analyzed [12]. This study will refer to Putnam's division of social capital and the scale of Chai Yan scholars to measure social capital, and measure social capital from three dimensions: social network, social trust, and social reciprocity norms.

## **2.3 The relationship between community resilience and social capital**

From the perspective of public health events, Yang Bihong's research found that the community capital index has a significant positive impact on the community resilience index [13]; from the perspective of social capital, Li Xuewei and Wang Ying's research found that adhesion. There is a complementary relationship between sexual social capital and bridging social capital. The joint efforts of individuals and groups to respond to disasters further strengthen the multiple attributes of community resilience, and ultimately achieve the improvement of community resilience [14]. From the perspective of urban safety management, Bi Hongchang believes that the construction of resilient communities is affected by four factors: community planning, community management, the quality of

community residents and irresistible factors [15]. Based on the theoretical foreshadowing of the above literature, this study believes that there is a positive correlation between social capital and community resilience relation.

### 3. Questions Raised

#### 3.1 Insufficient Research

In terms of research topics, most of the current research is from the perspective of emergency management or studies the influencing factors of community resilience, and the main influencing factors have been gradually determined, mainly reflected in the community's risk prevention and control measures and material preparations, disaster recovery, etc. The construction of community resilience is inseparable from the cooperation and efforts of each community member. These methods have not yet addressed how to improve community resilience by changing the relationships and specific behaviors of community members. In terms of research methods, the current research on community resilience from the perspective of social capital is still at the stage of qualitative research, and quantitative research is not yet sufficient. Empirical research on the relationship between social capital and community resilience is relatively new.

#### 3.2 Research Framework

The control variables of this study are: gender, age, occupation, education level, income, community type, political affiliation and educational background. The independent variable is social capital, and the dependent variable is community resilience. The research structure of this study is shown in Figure 1:



Figure 1. Research Architecture

#### 3.3 Research Hypothesis

Question asked: What is the relationship between social capital and community resilience.

Hypothesis 1: Social capital has a significant positive relationship with the improvement of community resilience.

#### 3.4 Research Significance

The marginal contributions of this paper are: First, in terms of research, this paper intends to enrich and supplement existing results in the field of community resilience research. Second, from a practical point of view, the construction of community resilience has become an essential way to improve the level of urban emergency management. The conclusions of this study will put forward relevant suggestions for the improvement of community resilience, and provide reference for formulating relevant policies, thereby helping grass-roots governments to improve Ability to prevent social risks.

## **4. Methods**

### **4.1 Sample Sampling**

Since social capital and community resilience are subjective concepts, they need to be measured first and then analyzed. This study uses a scale with high reliability and validity, and based on this, a scientific questionnaire is formulated, and random selection is made online. A total of 215 residents in City A were surveyed, and 200 valid questionnaires were finally collected, so as to understand the social capital and community resilience of City A, and provide data support for the writing of the paper. The demographic characteristics of the surveyed residents are roughly as follows: males account for 40.5%, and females account for 59.5%; educational backgrounds are mainly undergraduate or above, accounting for 81.5%; community types are mainly commercial and residential communities, accounting for 69%.

### **4.2 Research Variables and Measurement Methods**

The independent variable of this study is social capital, which includes three dimensions of social network, social trust, and social reciprocity norms. The dependent variable is community resilience, including five dimensions of connection and care, existing resources, potential for change, disaster management, and information and communication. Each dimension uses Richter's five-point method to form specific questions, ranging from "strongly disagree" to "strongly agree", with scores ranging from 1 to 5. Questionnaires are distributed and collected through the Big Data platform, and after the end, statistical analysis of the data is carried out with the help of SPSS software.

### **4.3 Data Management and Statistical Analysis**

Since the questionnaires in this study are distributed and collected through the big data platform, errors and omissions caused by human input data can be avoided, thereby ensuring the authenticity and validity of the data. After data collection, SPSS software was used to conduct statistical analysis on the data, test reliability and validity, select appropriate variables, and finally conduct correlation analysis and multiple linear regression analysis to verify the hypothesis of this study.

## **5. Results**

### **5.1 Reliability Test and Validity Test**

The reliability test of the scale was carried out. The Cronbach Alpha coefficient of the scale was 0.937, which was close to 1, indicating that the scale had good internal consistency and high overall reliability, and further analysis could be carried out. KMO and Bartlett tests were performed on the scale, and the results showed that the KMO value was 0.91, close to 1, and the significance was less than 0.05 and close to 0, indicating that factor analysis was suitable. After principal component analysis, the factor loading of each item was obtained, which was basically greater than 0.5, indicating that the scale had good validity.

## 5.2 Regression Analysis

Table 1. Regression Analysis

Model	R	R-Square	Adjusted R-square	Standard Estimated Error
1	0.875a	0.765	0.753	0.238

  

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Standard Errors	Beta		
(constant)	0.267	0.221		1.204	0.230
Gender	-0.019	0.035	-0.020	-0.539	0.591
Age	-0.065	0.045	-0.055	-1.455	0.147
Educational Level	0.016	0.032	0.019	0.506	0.614
Political Affiliation	0.025	0.021	0.045	1.181	0.239
Identity	0.089	0.027	0.122	3.244	0.001
Community Type	0.026	0.029	0.033	0.913	0.363
Community Residence Time	-0.025	0.023	-0.042	-1.100	0.273
Social Network	0.158	0.042	0.213	3.737	0.000
Social Trust	0.267	0.050	0.305	5.378	0.000
Social Reciprocity Norm	0.468	0.063	0.425	7.430	0.000

a. Dependent Variable: Community Resilience

It can be seen from the table that the adjusted R square is 0.753, which is greater than 0.7, and the fitting degree is good. The significance of social network, social trust, and social reciprocity norm were all less than 0.05, and passed the significance test. The correlation coefficients are ranked from large to small: social reciprocity norm (0.468), social trust (0.267), social network (0.158), and the correlation coefficients are all greater than 0. This indicates that there is a positive correlation between the three dimensions of social capital and community resilience, and at the same time indicates that the increase in social capital is conducive to the improvement of community resilience. The hypothesis of this study has been verified.

## 6. Discussion and Proposition

### 6.1 Discussion

The hypothesis of this study has been verified, and the results are consistent with existing research, indicating that social capital has a positive relationship with the improvement of community resilience. According to the five-point Likert scale, the average score of each dimension was calculated, and the social network score was 4.03, the social trust score was 4.23, and the social reciprocity norm score was 4.29. The results show that the social network has the lowest score, and the construction of the social network still needs to be further strengthened; the social trust is at a medium level and needs to be further improved; the social reciprocity norm has the highest score, indicating that the construction of this dimension is currently in an optimistic state and needs to be focused on. However, the average scores of the three dimensions are not significantly different. Putnam believes that social trust arises from social norms and social networks, and social networks can also foster social norms, and the three dimensions will influence and promote each other [16]. Therefore, from a practical point of view, this result is also reasonable.

(1) There is a positive correlation between social network and community resilience. With other variables held constant, community resilience increases by 0.158 units for every 1 unit increase in the social network. It can be seen that when the interaction between community residents is strengthened and the neighborhood relationship is improved, then the community members' sense of belonging and participation in the community will also be strengthened. After members have established a deeper

relationship with the community, it will be easier to stimulate the sense of responsibility and cohesion of internal members when the community faces risks and disasters, so as to participate more actively in rescue to cope with the crisis, and vice versa.

(2) Social trust is positively correlated with community resilience. With other variables held constant, community resilience increases by 0.267 units for every 1 unit increase in social trust. Social trust is generated in the interaction between residents and other members. During the process of participation, community residents form various voluntary groups or networks that meet different needs. Communication, thus creating the possibility for the governance of community public affairs. In these links, mutual trust gradually grows [17]. On the one hand, the more community residents trust the staff in the community, the easier it will be to cooperate with their work in the event of a disaster; on the other hand, the mutual trust among residents It will also increase the possibility of mutual cooperation, so as to jointly fight against the occurrence of disasters, which is ultimately conducive to the improvement of community resilience.

(3) Norms of social reciprocity are positively correlated with community resilience. With other variables held constant, a 1-unit increase in the social reciprocity norm increases community resilience by 0.468 units. Compared with social networks and social trust, social reciprocity norms have the most obvious impact on community resilience. Residents repeatedly communicate and negotiate on specific issues, such as the maintenance of common rights, the development of cultural activities, community management, and community services. way, thus forming the norm of universal reciprocity [18].

## **6.2 proposition**

### **6.2.1 Strengthen Social Network Relationships**

Residents are the main body of the community social network, and the existence of social network capital depends on certain social relations. Therefore, community residents should be encouraged to strengthen contact, and community activities should be actively carried out in daily life, such as: activities to care for women, children and the disabled, cultural and sports competitions, festival arrangements, condolences and blessings, etc. Attention should be paid to meeting the emotional needs of different resident groups, promoting the interaction between residents, and enhancing residents' sense of belonging and centripetal force. Residents interact in various relationship networks, and this process will promote the communication of risk information, thereby reducing the uncertainty of the risk itself, and ultimately inhibiting the amplification of social risks [18].

### **6.2.2 Increase Social Trust Capital**

The more continuous interaction of trust capital, the richer it will be, and only rich trust can breed a good cooperative relationship [19]. For community managers, they should actively respond to the demands of residents, provide complete infrastructure and services, and improve the transparency of information disclosure. In daily life, common decision-making on public affairs and common sharing of public welfare should be achieved, and community workers should also actively strive to seek welfare for their own communities and enhance residents' trust in community workers. For individual residents, they should actively participate in the decision-making and other activities of community public affairs, improve their understanding of community affairs, and communicate and trust each other among members.

### **6.2.3 Improve the Community Management System**

The institutional level forms the code of action for community risk governance, which is the support for the survival of resilience [20]. For the community, a complete set of institutional norms can effectively guide the community management department in the deployment of risk prevention and control work, and at the same time regulate the personal behavior of residents within the community, thereby Ensure that all work can be carried out in an orderly manner when risks occur, and improve the resilience of communities in responding to risks. For community managers, they should formulate a complete emergency management system based on the characteristics of the community, with clear division of powers and responsibilities, and actively organize emergency drills. At the same time, it is

necessary to strengthen the education and publicity of risk prevention, and increase the knowledge and skills of dealing with risks. Individual residents should consciously abide by the community code of conduct and supervise each other.

## 7. Conclusion

From an individual perspective, if a community has a rich stock of social capital, it is easier to form a relationship pattern of resource cooperation, reciprocal norms, and participation networks. From the perspective of managers, the accumulation of social capital can stimulate the autonomy of the participation of multiple subjects in community emergency management, strengthen the synergistic relationship between community subjects, and reduce the cost of cooperation, thereby improving the performance level of community emergency management [21]. From the perspective of risk society, this study explores the relationship between social capital and community resilience, and puts forward corresponding countermeasures through the analysis results. Through the improvement of social capital and community resilience, the community can enhance the ability of the overall system of the community to respond to risks and disasters. The specific conclusions are as follows:

(1) There is a positive correlation between social network and community resilience, and attention should be paid to improving the social network system.

(2) Social trust is positively correlated with community resilience, and emphasis should be placed on enhancing the communication and interaction between community workers and residents to enhance mutual trust.

(3) There is a positive correlation between social reciprocity norms and community resilience. The community management system should be improved and a complete emergency management system should be formulated.

## References

- [1] Peng Chong, Guo Zuyuan, Peng Zhongren. Theoretical and practical progress of community resilience in foreign countries [J]. *International Urban Planning*, 2017, 32(4): 60-66.
- [2] Liang Hongfei, Experience and Enlightenment of Building Resilient Community in Japan——Taking the Post-disaster Reconstruction of Kobe Rokko Station North Area as an Example [J]. *Planner*, 2017, 33(8): 38-43.
- [3] Wu Xiaolin, Xie Yiyun. Research on Resilient Community Based on Urban Public Safety [J]. *Tianjin Social Sciences*, 2018(3): 87-92.
- [4] Shu Chengyi. Research on the quantitative evaluation method of urban community social resilience from the perspective of capital [D]. Southeast University, 2019.000515.
- [5] Wei Qingong, Liu Wei. Disaster Shock, Community Resilience and Urban and Rural Residents' Development Confidence: An Empirical Analysis Based on the Survey of Yunnan Minority Areas [J]. *China Rural Observation*, 2020(04):70-89.
- [6] Wu Xiaolin, Xie Yiyun. Research on Resilient Community Based on Urban Public Safety [J]. *Tianjin Social Sciences*, 2018(03):87-92.
- [7] Hu Man, Hao Yanhua, Ning Ning, Wu Qunhong, Han Xiaonan, Zheng Bin, Yu Yi, Chen Zhiqiang. Chinese version of the Community Resilience Assessment Scale (CART) Reliability and Validity Evaluation [J]. *China Public Health*, 2017, 33(05):707-710.
- [8] Liu Huan, Community Social Capital: Concepts, Methods and Limits. *Journal of the Party School of Zhejiang Provincial Committee of the Communist Party of China*. 2008, (04): 019
- [9] Gao Shan, Li Weimin, Ling Shuang. Research on the Inhibitory Effect of Social Capital on Social Amplification of Risk. *Journal of Central South University (Social Science Edition)*. 2019, 25(01):018

- [10] Bi Xiangyang, Measurement of Social Capital in Urban Communities Based on Multi-level Confirmatory Factor Analysis—A Review of Case Studies and Related Methods. *Sociological Research*, 2019, 34(06): 213-237+246
- [11] Chai Yan, Research on the Influencing Factors of Urban Residents' Willingness to Sort Domestic Waste from the Perspective of Social Capital Theory. Southwest Jiaotong University, 2020
- [12] Liu Qian, Discussion on Theoretical Methods of Social Capital Measurement: Measurement of Farmers' Social Capital. *Finance and Economics Theory and Practice*, 2018, 39(04): 119-127
- [13] Yang Bihong. A study on the resilience measurement and its influencing factors of urban communities under public health emergencies—based on the evidence of Xi'an. Northwestern University 2021, p. 63
- [14] Li Xuewei, Wang Ying. Community Resilience Research from the Perspective of Social Capital: Retrospect and Prospect. *Urban Issues*, 2021, (07): 73-82
- [15] Bi Hongchang, Analysis of my country's Resilient Community Construction from the Perspective of Urban Security, *Journal of Sichuan Administration Institute*, 2018, (05): 11-17
- [16] (British) Robert D. Putnam (RobertD. Putnam), *make democracy work* [M]. Jiangxi People's Publishing House, 2001
- [17] Wu Guangyun, Yang Long. Community governance from the perspective of social capital. *Urban Development Research*. 2006, (04): 25-29
- [18] Gao Shan, Li Weimin, Ling Shuang. Research on the Inhibitory Effect of Social Capital on Social Amplification of Risk. *Journal of Central South University (Social Science Edition)*. 2019,25(01):018
- [19] Zhang Ruli, Liu Shuaishun. Trust Mechanism in Community Governance Community Construction: Types, Characteristics and Reproduction. *Seek truth*. 2022, (01): 27-42+110
- [20] Wang Jing, Lei Xiaokang. How to achieve resilience: Structural adaptation and functional compounding of community risk governance. *Journal of Northwestern University*. 2021,51(06):106-116
- [21] Chen Tao, Luo Qiangqiang. Resilient Governance: Response and Adaptation of Emergency Management in Urban Communities——Based on a Case Study of the Prevention and Control of the New Coronary Pneumonia Epidemic in J Community in W City. *Seeking Reality*. 2021, (06): 83-95+110