

The Evolution of Actor Networks about Shenzhen's Action to Build a Child-Friendly City: A Research Based on 450 News Texts

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ABSTRACT

On the basis of the 450 child-friendly city related news texts from Shenzhen Municipal Government Information Open Directory System in 2016 to 2019, we use the method of social network analysis to take an exploratory study on the evolution of actor networks in Shenzhen's action of building a child-friendly city. The child-friendly cities initiative responded by multi-subjects is led by the women and children's work department. With the increase of participation, the cooperative network tends to be decentralized. The mass organization is a link between the Party, the government and the people. Even though the women's federation is a promoter all the time, male groups should be actively guided to participate in the action. And more attention should be paid to special groups of children, such as children of rural migrant workers.

Keywords: Child-Friendly City, Shenzhen, Social network analysis, the multi-subjects

1. INTRODUCTION

Since the international child-friendly cities initiative launched in 1996, more and more municipalities around the world have taken action to build local management systems that are conducive to child development and have successively obtained UN certification.

In China, as one of the pioneer cities of reform and opening-up and one of the national economic centers, Shenzhen has given priority to the practice of effectively protecting the legitimate rights and interests of children, and clearly set the child-friendly city as one of urban development goals as early as 2016 in its 13th Five-Year Plan on national economic and social development.

The creation of child-friendly city as an important entrance for local governments to improve the urban governance system and enhance social governance capabilities, is a huge and complex public affair that transcends the responsibilities of existing governance institutions, requiring the coordinated participation of multiple subjects, including the close cooperation of governments at all levels, various departments, and even the strong support of social forces. In the process of creating a child-friendly city by the authorities in Shenzhen, government information and news reports from various departments reproduce the behavior and movement of participants. Objectively, the participation of different government agencies and social groups in different events under the same theme reflects the complexity to create a child-friendly city and the special network relationships between participants.

Based on this, this paper refers the news text published on the official website of the Shenzhen Municipal

Government from 2016 to 2019. In data collation, the time, events and participants recorded in the text are the focus, and the year is the time node. Social network analysis methods are used to build a network of actors and to quantify the degree of collaboration. Through an empirical analysis of the process of creating child-friendly cities, we have examined the cooperative network and evolutionary characteristics of urban action agencies in different time periods.

2. LITERATURE REVIEW

2.1. Related Work in Occident

Broadly speaking, the concept of child-friendly city proposed by the United Nations Children's Fund (UNICEF) in the 1990s is a city system that can hear the voice of children and realize their needs, priorities and rights [1]. Western countries have already had a lot of theoretical and practical experience on how to build a child-friendly city, forming a trend of trans-disciplinary.

Surveys of children's cognition in different geographical, cultural and social contexts, construction of evaluation framework for child-friendly degree in regional Cities [2] are being made for case and country studies.

From the perspective of children's needs, researchers pay attention to the interaction between children and the environment, advocating to reshape the relationship between children and nature[3] and to do some optimization designs about the space, which, in addition to gaming venues, informal gaming spaces such as

communities and streets should also be included for children[4].

From the perspective of children's rights protection, Communication strategies between local governments and children has played a crucial role in the implementation of child-friendly city policies [5]. Researchers are committed to exploring the establishment of a long-term child participation mechanism, emphasizing that in the process of urban planning and development, children's opinions and suggestions should be incorporated into the decision-making process.

The International Child Friendly Cities Initiative (CFCI) jointly developed by UNICEF and United Nations Human Settlements Programme (UN-HABITAT) points out that child-friendly cities are the result of a wise government fully fulfilling children's rights in all aspects of the cities, whether it is large, medium or small cities or communities all should give children political priority in public affairs and include children in the decision-making system. Although there is no universal and specific standard to build child-friendly cities in the world, the *Child-Friendly Cities and Communities Handbook* issued by UNICEF in 2018 provides a framework for many municipalities committed to building child-friendly cities.

2.2. Related Work in China

Researches on child-friendly cities in China are connected with social practices, but it is concentrated in urban planning. The theme of child development has gradually become independent from the protection of women and children's rights and interests and has gained increasing attention. The concept of child-friendly cities combined with urban governance and social governance has been put on the development agenda of some local governments, and its case studies have shown obvious local characteristics. Besides drawing lessons from country-specific cases and experiences, scholars also supplemented China's urban planning strategies from a child-friendly perspective [6] including research and redesign of urban environmental systems such as urban traffic routes [7], old urban spaces, and public services. Of course, there have been explorations and trials of "child-friendly communities", "child-friendly streets", and "child-friendly schools" in practice.

It is a symbol of urban civilization to put children's specific needs for development into urban construction and pay attention to such vulnerable groups. Thus, increasing the research on child-friendly cities from various disciplines is very necessary. At present, there isn't any city in China been certified by UNICEF, and Chinese scholars are more from a rational perspective to provide suggestions for the municipal department in a certain aspect. What efforts have the relevant municipalities made so far? What else needs to be done? Action based on the practices of local government need to be demonstrated.

With the increasing complexity of public affairs, a common phenomenon appears, differentiated cooperation

networks increase gradually between different governance institutions [8]. The same thing is true here. Creating child-friendly cities is a complex social and public affair at the whole city level, which has gone beyond the capacity of a single functional department. The network of actors in the child-friendly city initiative not only reveals the relationship between institutions but also reflects the cognition of children-friendly city concept from all walks of life.

3. RESEARCH DESIGN

3.1. Data Sources

News is important information released to the public by organizations and mass media. Considering the authority and validity of the information, daily reports about child-friendly cities in state media are the most intuitive embodiment of government actions.

This study focuses on urban action, and the data, that all come from the content published by the official website of Shenzhen Municipal People's Government "Shenzhen Government Online" are text information released by various departments of the city government or released by other news media and social organizations, and at the same time reproduced by State media.

Access to the Shenzhen Government Information Disclosure Catalogue System to search the headlines and content of government news containing "children-friendly cities" "children-friendly" words, the time limit from 2016 to 2019, a total of 651 news texts were obtained. After eliminating the duplicate content, the remaining 450 valid texts were selected.

There are two types of network relationships discussed in this paper. One is between various government departments, and the other is between the government and multiple social entities. In order to reduce the pressure on data, the daily activity reports of various units (streets, communities) below the district government were eliminated when the textual materials were integrated and verified. Finally, we sorted out 203 incidents related to Shenzhen's actions about creating a children-friendly city from 2016 to 2019, including 5 in 2016, 34 in 2017, 66 in 2018, and 98 in 2019. And 287 single groups are involved in 203 activities. According to the group properties, single groups were further divided into 80 types of small groups and 9 types of main groups.

3.2. Research Method

Social network analysis is a structural analysis method that uses graph theory and mathematical models to study the relationship between actors and actors, actors and their social networks, and the relationship between one social network and another social network. The "actor" or "node" in the definition can be an individual, a group, an

organization, or even a country. These actors and their relationships constitute a social network [9]. Applying the social network analysis to the child-friendly city action participants networks can indicate the relationship between the subjects of urban governance.

In the affiliation network, "row" represents the "social actor" from a set of actors, "column" represents the event to which the actor belongs, and the matrix element represents the status of the actor belonging to the "event" [10]. To clearly present the network of actors in the events, we constructed affiliation matrix based on 203 events during 2016 to 2019 and 80 types of action groups.

First, using UCINET 6.0 software to convert the 2-mode matrix (affiliation matrix) into 1-mode matrix based on the actor relationship, and then using the visualization function of Netdraw to draw network about the cooperation relationship of 80 types of actors. As shown in the Figure 1- Figure 4, nodes (dots in the figure) refer to the actors. Setting the size of the node in degree, the larger the node, the more the actor is connected with other actors; lines refer to the connection of different actors, and the thicker the line, the more inseparable between the two subjects.

Then, we focus on the changes of cooperation network between actors to analyze the role of multi-subjects in society, in the process of creating a child-friendly city. According to the affiliation in table 1, the group centrality of the 9 main categories of actors can be further calculated.

4. ANALYSIS

4.1. The Evolution of the Network

As shown in figure1, in a multi-valued network relationship, it is obvious that the government agencies were not active enough and only a few departments were involved in this period, With the necessary support of the municipal government and the Working Committee on Women and Children, the health and education sectors directly related to children's rights were among the first to respond.

On the whole, the mass organizations represented by the Women's Federation, occupied the core position of the network, and have been the most energetic promoters, who facilitated the establishment of the Women's and Children's Development Foundation and the implementation of some child-friendly projects, in child-friendly city actions.

The entire network in 2016 was composed of social groups that are directly related to children, including 20 nodes and 160 partnerships. The density is small, and the average density of the two-valued network after transposition is 0.4211.

After more than one year of practical exploration, network in 2017 changed significantly, with more nodes and stronger connection. In government agencies, the Working Committee on Women and Children has been playing a

leading role, over the same period, the statistics bureau, science and innovation departments, cultural and sports departments, meteorological bureau and urban management departments joined in.

There is a trend of continuous expansion of the boundaries of urban actions. Relevant departments, such as the State Council and provincial-level units and other higher-level institutions have visited Shenzhen so many times, laying the foundation for subsequent intergovernmental exchanges.

Undoubtedly, the Women's Federation has played a powerful role as an organizer, and has become a bridge between government departments and social forces. Driven by the Women's Federation, parents and women entrepreneurs joined in. The first step to create a child-friendly city is to promote a good parent-child relationship and a harmonious family atmosphere. Parents are indispensable actors in childcare training, parent-child activities, and protection of minors.

The government began to establish cooperative relations with universities to implement child-friendly city research. Child-friendly pilot projects have emerged one after another, including child-friendly hospitals, libraries, and child-friendly practice bases.

To absorb more groups and deepen society's child-friendly awareness, the role of the media cannot be ignored. From newspapers to radio and television and the internet, a three-dimensional propaganda network is under construction. Shortly afterward, publishing, distribution companies and promoting ambassadors have been covered in.

By 2018, the cooperation network has continued to grow, and all-district governments have initiated the construction of child-friendly urban areas. Relying on the industrial resources of streets and communities, a large number of enterprises joined stepped to this stage, such as property industry, manufacturing, transportation, and design companies, etc., and child-friendly pilot industrial zones jointly established by the government and enterprises emerged.

Shenzhen's Child-Friendly City Strategic Plan (2018-2035) and *The Shenzhen's Child-Friendly Action Plan (2018-2020)* established three strategic systems including child social security, child participation and child-friendly space. Under the theme of "child-friendly travel" and "child-friendly space", departments about transportation and housing construction in government agencies gradually moved closer to the main network.

Social network density in 2019 is 0.2015, with 62 nodes and 762 connections, presenting a diffuse center-edge structure. In addition to exchanges between the municipal governments and relevant government agencies of the State Council, other cities such as Jiangsu, Hunan, Sichuan, Guangdong, Hong Kong, etc., Shenzhen municipal government have also established contacts with foreign municipalities through UNICEF. At the same time, universities have ushered in a wave of participation. Relevant scholars are active in various city seminars, creating ideas for China's child-friendly cities.

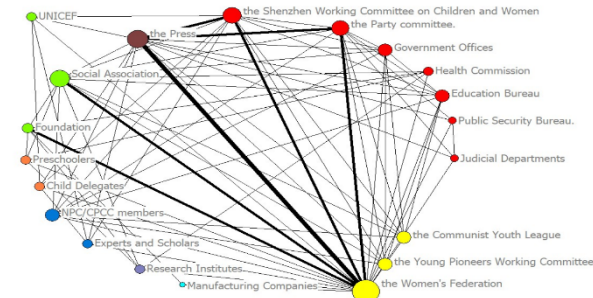


Figure 1. Actor Network of 2016

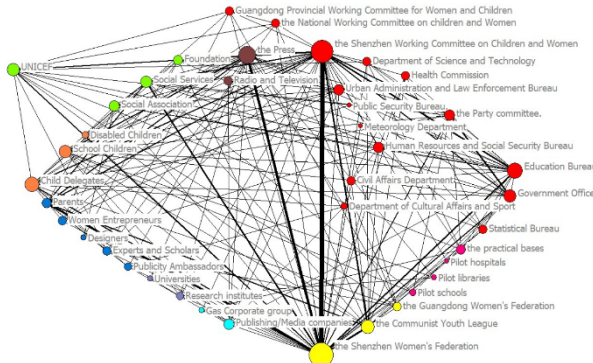


Figure 2. Actor Network of 2017

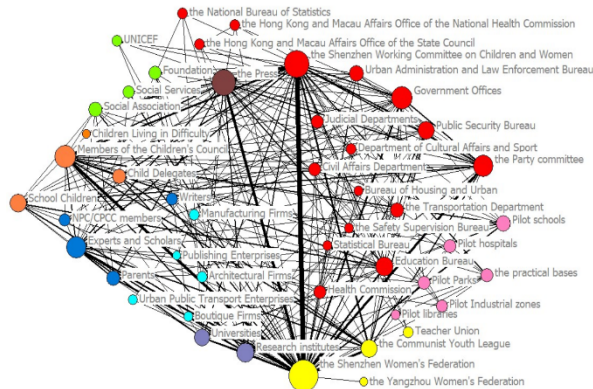


Figure 3. Actor Network of 2018

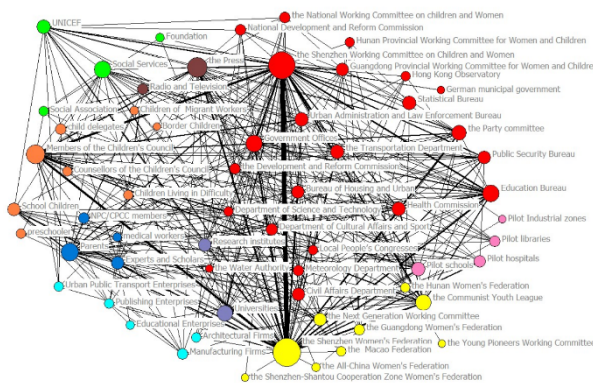


Figure 4. Actor Network of 2019

4.2. Group Degree Centrality

For the entire network of actors, based on the division in table 1, each actor in figure 5 is a small group. The influence of the small group in the entire network can be measured by centrality. The greater the degree of the centrality, the more important the position in the network. As shown in figure 5, each participant tends to more influential. Volatility on the centrality of research organization is up, mass organization and society organization are promoting the actions of child-friendly cities all the time. Of course, government and enterprise keep coming in.

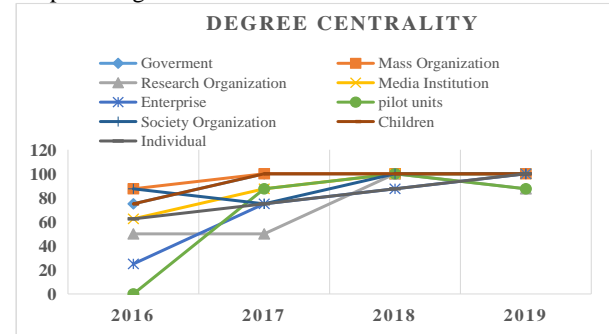


Figure 5. Group degree centrality

5. CONCLUSION

Creating a child-friendly city is a process, in which relevant departments need to continue to practice, to advocate, calling for more social groups to join the team. Shenzhen's practice to be a child-friendly city is inseparable from the strong support of the municipal party committee and government. In a social governance model with Chinese characteristics, mass organization is a link between the Party, the government and the people. Among them, the Women's Federation has been the promoter of the child-friendly city action. Emphasizing the responsibility of men to children, male groups should be actively guided to participate in the action.

Pure brokerage means that there is no relationship between any two persons connected by the intermediary. When doing the honest broker index analysis, we found that Members of the Children's Council had the largest number of pure brokerage index, totally 238 pairs. There is very little linkage between the other actors associated with the Members of the Children's Council, and Children's Council will break the old block of group communication. But more attention should be paid to special groups of children, such as children of rural migrant workers.

The number of times that Shenzhen Women and Children Working Committee acted as intermediary was 52, connecting 1326 pairs of relationships, but only 6 pairs of pure brokerage relationships. This also reflects the close relationship between various actors, and the government plays a leading and guiding role. With the strengthening of participation, the cooperative network tends to be decentralized.

Table 1. Division of actors in Shenzhen Child-Friendly City Action

Main Categories	Subclass
Government	Central or Provincial Government Agencies, Local Government
Mass	the Women's Federation, the Communist Youth League, Labor Union, the Next Generation Working
Organization	Committee, the Young Pioneers Working Committee
Society	Foundation, Social Association, Social Services
Organization	
Enterprise	Education, Property Industry, Infrastructure
Research	University, Research Institute
Organization	
Media Institution	the Press, Radio and Television
Pilot units	School, Hospital, Library, Park, Practice Base
Children	Child Delegates, Preschooler, School Children, Children Living in Difficulty, Disabled Children, Cross-Border Children, Children of Migrant Workers, Member of the Children's Council
Individual	Parents, Experts and Scholars, NPC Member, CPCC Members, Publicity Ambassadors, Woman Entrepreneurs, Designers/Planners, Writers.....
(NPC Member) Representatives of People's Congress NPC member, (CPCC Members) the Committee of the People's Political Consultative Conference	

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