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A Grounded Theory Study on Factors Influencing Emergency Information Acquisition among Rural Left-Behind Children (Postprint)

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Abstract

Investigating the influencing factors of emergency information acquisition among rural left-behind children during major public health events can provide valuable recommendations for improving their emergency information acquisition capabilities. This study conducted interviews with 34 rural left-behind children, utilized grounded theory to analyze and code the interview data, and constructed a model of influencing factors for emergency information acquisition among rural left-behind children during major public health events. It elucidates the impact and mechanism of five factors—individual factors, information factors, guardian factors, channel factors, and environmental factors—on emergency information acquisition among rural left-behind children, and indicates that individual factors, information factors, guardian factors, channel factors, and environmental factors respectively play a leading role, driving role, supporting role, facilitating role, and guaranteeing role in emergency information acquisition among rural left-behind children.

Full Text

Preamble

A Study on Influencing Factors of Emergency Information Acquisition among Rural Left-Behind Children Based on Grounded Theory

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Exploring the influencing factors of emergency information acquisition among rural left-behind children during major public health events can provide useful suggestions for enhancing their ability to obtain emergency information. This study conducted interviews with rural left-behind children, analyzed and coded

the interview data using grounded theory, and constructed a model of influencing factors for emergency information acquisition among rural left-behind children during major public health events. The study elucidates the impact and mechanisms of five factors—individual factors, information factors, guardian factors, channel factors, and environmental factors—on emergency information acquisition among rural left-behind children. It identifies that individual, information, guardian, channel, and environmental factors play dominant, driving, supporting, facilitating, and ensuring roles, respectively.

Keywords: Major public health event; Rural left-behind child; Emergency information acquisition; Grounded theory

In recent years, regional dengue fever outbreaks and other national sudden public health events have seriously affected economic and social development [1] and posed significant threats to public health. Compared with other groups, rural left-behind children lack the capacity to respond to major public health events, often remaining in a passive state during such crises and consequently suffering greater harm and loss. The COVID-19 pandemic alone has demonstrated that based on their own safety needs, these children experience urgent demand for emergency information. However, different social groups exhibit varying degrees of perception and acquisition regarding emergency information. Rural left-behind children, located in remote areas with inconvenient transportation and underdeveloped networks, are particularly vulnerable to viral infections. According to a white paper on building a moderately prosperous society in all respects and the development of China's human rights cause, the number of rural left-behind children nationwide reached 6.97 million in 2020 [2]. Investigating the emergency information acquisition of rural left-behind children during major public health events thus holds important theoretical value and practical significance.

Theoretically, research on emergency information acquisition behavior among rural left-behind children involves core aspects of information public management theory, including information resource allocation. Practically, it helps improve rural children's emergency information acquisition capabilities, narrow the information gap between different groups, promote information equity, and provide useful reference for public libraries—especially rural grassroots libraries—to deliver effective emergency information services to this population.

1. Related Research Review

Academic research on information acquisition among rural left-behind children falls into two categories: studies in general contexts and studies in crisis contexts. Regarding general context research on information needs, Zhao Junming et al. [3] used questionnaires to conclude that school cultural information services and guardians' education levels both influence rural left-behind children's cultural information needs. Peng Lihui [4] similarly employed questionnaires and found that left-behind children have cultural information needs. Cai Yingying

[5] investigated rural left-behind junior high school students, discovering that their primary channels for obtaining physiological information were the Internet, for academic information were friends, for career planning information were parents, and for self-cognition information were discussions with classmates. Other researchers [6] suggested that cooperation between grassroots libraries and rural book houses could broaden book information acquisition channels for rural left-behind children. Xiao Peng et al. [7] noted that due to remote school locations and large numbers of left-behind children whose cultural information needs remain unmet, these children may resort to improper channels for information.

Research on information acquisition behavior among rural left-behind children in crisis contexts has primarily focused on analyzing emergency information acquisition channels. Jia Yonghong et al. [8] identified school teachers and reading as main channels. Yang Lijuan et al. [9] used grounded theory to analyze how rural children obtain book information through school-distributed materials and classroom book corners. Chen Yilan [10] proposed that disease control and medical institutions at all levels should use television, TikTok, and other new media to establish epidemic knowledge consultation platforms and provide timely online health knowledge for left-behind children. Wan Xinrui et al. [11] used questionnaires and interviews to point out that during COVID-19, left-behind children could access hand hygiene knowledge through WeChat and bulletin boards, helping them acquire emergency information. Hou Xiaojuan [12] found through surveys and interviews that many left-behind children did not understand how to protect themselves, necessitating strengthened education in this area.

While existing research has yielded valuable results, most studies have focused on channel analysis, with relatively weak investigation into other aspects of emergency information acquisition behavior and its influencing factors. This study employs interviews and grounded theory to investigate emergency information acquisition among rural left-behind children during major public health events, constructing an influencing factor model to clarify the mechanisms and provide theoretical and practical references for improving their situation.

2. Research Design

2.1 Data Collection

Grounded theory extracts concepts from raw empirical materials and integrates scattered concepts at different levels based on an analytical framework to form a concise and generalizable theoretical model [13]. This research primarily used in-depth interviews, with data collected from rural left-behind children in Chenzhou City, Hunan Province. Considering younger children's comprehension and expression abilities, the survey focused on students in grades 2-3 (ages 8-12), with a few first-graders, totaling 4-6 participants. Face-to-face interviews were the main method. Before interviews, researchers communicated with children to assess their understanding of major public health events and explain emergency

information concepts, ensuring their willingness and ability to respond.

A semi-structured interview outline was designed based on existing literature and the characteristics of rural left-behind children during COVID-19. The outline covered: (1) emergency information needs and satisfaction, (2) active acquisition behaviors and channels, (3) difficulties encountered, and (4) expectations for improving acquisition ability. With respondents' consent, all interviews were recorded.

2.2 Sample and Coding

The valid sample comprised 23 respondents. Nineteen were randomly selected as the basis for coding, with the remaining 4 used for theoretical saturation testing. Respondent details are shown in Table 1. The coding process included open coding, axial coding, and selective coding using NVivo software.

3. Research Process

3.1 Open Coding

Open coding extracts initial concepts from raw data. To ensure authenticity, only meaningless pauses and modal particles were removed. Through open coding, initial concepts were summarized into categories. Due to space limitations, only partial original statements and coding are presented.

Partial Interview Data and Initial Coding:

- "I clearly know I have needs. I feel I need emergency information." → Clear awareness of needs
- "I want to know how to take protective measures in time if I really get COVID-19." → Content of needs
- "My grandparents paid special attention to emergency information." → Guardian attention status
- "Grandparents didn't tell me emergency information during COVID-19." → Guardian did not disseminate
- "School held themed class meetings on pandemic prevention and control." → School pandemic courses
- "Grandpa tells me all emergency information from village notices." → Guardian acquisition channels
- "Home TV is broken, can't watch news." → Tool availability
- "I search online because the Internet spreads wider." → Channel selection reasons

Partial Open Coding Results:

Categories included: clarity of needs, types of needs, information satisfaction, guardian attention level, guardian acquisition channels, guardian dissemination level, information comprehension ability, and acquisition frequency.

3.2 Axial Coding

Axial coding organizes open coding categories into main categories based on relevant literature and practical experience. Main categories included: individual factors (cultural level, acquisition ability), information factors (need clarity, types, satisfaction, exchange), guardian factors (attention level, acquisition channels, dissemination level), channel factors (channel types, tool availability, selection reasons), and environmental factors (school, village infrastructure, committee publicity).

3.3 Selective Coding

Selective coding integrates main categories into core categories and analyzes their relationships. The core category was identified as "influencing factors of emergency information acquisition among rural left-behind children during major public health events." The relationships are: individual factors play a dominant role; information factors play a driving role; guardian factors play a supporting role; channel factors play a facilitating role; and environmental factors play an ensuring role.

3.4 Theoretical Saturation Test

After coding, the remaining 4 samples were used for saturation testing. No new concepts, categories, or relationships emerged, indicating that the coding was complete and valid, thus passing theoretical saturation test.

4. Model Interpretation and Findings

4.1.1 Wilson's Information Seeking Behavior Model

Wilson's model posits that information behavior includes information seeking and information use, with users' information seeking behavior triggered by perceived needs [15]. Influencing factors include necessity of need satisfaction, consequences of seeking without complete information, source credibility, and information costs. The 1996 revised model places users in a context of need, highlighting how environmental factors affect needs and search behavior [16].

Drawing on Wilson's model and children's information acquisition models, this study constructed its influencing factor model from three aspects: information acquisition subject, need status, and channels.

4.2 Individual Factors

Individual factors, as intrinsic elements, directly dominate whether and how rural left-behind children acquire emergency information. Their cultural level and acquisition ability significantly impact emergency information acquisition. During interviews, most children reported encountering unfamiliar words and characters in emergency information. Their cultural level is affected by age,

experience, and education. Emergency information often contains professional terminology that is obscure to children, so dissemination should use simple, understandable language tailored to this special group.

Compared with urban children of the same age, rural left-behind children have relatively weaker information acquisition abilities, influenced by acquisition experience, tool limitations, and guardians' emphasis on cultivating acquisition skills. During COVID-19, most actively acquired emergency information only once every 2-3 weeks or once a week, far slower than the pace of pandemic information updates.

4.3 Information Factors

Information factors encompass the needs, use, and other aspects of emergency information among rural left-behind children. Need clarity: Some children lack clear cognition of their emergency information needs. In early interviews, they were unaware of their needs, but as interviews progressed, they realized they did require emergency information. Improving need clarity is the first step toward active acquisition.

Need types: The types of emergency information needed by children relate to what guardians and village committees disseminate. While committees focused on COVID-19 control, they often neglected other types of information children also needed, such as case numbers, death tolls, and geographic spread. Dissemination should meet diverse emergency information needs.

Information satisfaction: Satisfaction with acquired emergency information affects acquisition attitude. Higher satisfaction leads to greater initiative, while lower satisfaction results in more passive attitudes.

Information exchange: Exchange enables two-way dissemination. Main content includes pandemic control and nearby infection situations. However, children may confuse pandemic information with other safety information, hindering acquisition. Monitoring these exchanges is necessary to prevent confusion.

4.4 Guardian Factors

Guardians' emphasis on emergency information significantly influences children's acquisition. Guardians with high awareness play better supporting roles. Guardian attention level, acquisition channels, and dissemination level all affect children's acquisition. The more guardians emphasize emergency information, the more children will value it and actively acquire it.

Guardians' acquisition channels also affect children's channels. Some guardians subscribe to newspapers or watch evening news, naturally exposing children to these sources. Most guardians rely on village notices, influencing children's acquisition effectiveness.

Guardian dissemination level is crucial. When guardians disseminate more emergency information, children's needs are better met. When guardians disseminate little or none, children must seek other channels, reducing acquisition efficiency.

4.5 Channel Factors

Information acquisition channels are a critical link. Convenient channels facilitate emergency information acquisition. Main channels include TV news, consulting family, consulting classmates, and school broadcasts, with TV news, searching, and consulting others being primary.

Network availability and stability, along with tool availability and usability, affect acquisition. Some children reported having no internet cable or computer at home. When using computers, guardians often suspected them of playing games rather than searching for emergency information, reflecting indifferent attitudes that directly affect children's emphasis on COVID-19.

Reasons for channel selection include accessibility, convenience, and safety. Channels meeting these characteristics are more likely to be adopted. Some online emergency information is incomprehensible to children, and consulting others is inconvenient, highlighting the need for child-appropriate emergency information platforms.

4.6 Environmental Factors

Rural left-behind children primarily live in schools and villages. Schools' and village committees' emphasis on emergency information affects children's valuation. Greater emphasis creates more convenient and faster acquisition, with environmental factors providing guarantee for basic emergency information acquisition.

Schools are the most convenient places for acquisition. While many conduct fire drills, few hold public health emergency exercises. Schools should conduct activities to improve emergency information acquisition ability, such as training courses on emergency information retrieval and themed class meetings. Teachers' daily dissemination and instruction are particularly valuable.

Village committees manage village affairs, and their attitude toward COVID-19 affects villagers' attitudes. Some committees' prevention publicity was well-executed through online platforms, posters, and leaflets, while others' efforts were weaker, affecting children's acquisition.

4.7 Recommendations

Based on these findings, this paper proposes several suggestions to improve emergency information acquisition among rural left-behind children:

1. **Enhance information literacy**: Strengthen rural grassroots library construction by enriching book collections and periodicals, particularly emer-

gency information resources, to facilitate borrowing.

2. **Improve guardian awareness**: Consciously cultivate guardians' emergency information acquisition awareness. Migrant worker children should frequently educate elderly guardians. Village committees should conduct guidance classes, teaching illiterate elderly to use voice search for emergency information.

3. **Ensure smooth channels**: Improve network availability and stability. For children lacking device access or wireless networks, village committees should install wireless networks in offices to ensure smooth channels.

4. **Create supportive environments**: Schools should add daily emergency courses to cultivate awareness and critical thinking, improving children's ability to distinguish authentic information. Village committees should strengthen emergency information publicity and conduct control drills during major public health events.

5. Research Conclusions and Outlook

This study collected raw data through in-depth interviews, analyzed it using grounded theory, and constructed a model of influencing factors for emergency information acquisition among rural left-behind children during major public health events. The main influencing factors are individual, information, guardian, channel, and environmental factors. Individual factors play a dominant role, information factors a driving role, guardian factors a supporting role, channel factors a facilitating role, and environmental factors an ensuring role. These factors align with information ecology theory's view that information ecosystem elements primarily comprise information, technology, etc. [20].

Based on these factors, the study proposes strengthening rural grassroots libraries, enhancing guardian awareness, ensuring smooth channels, and creating supportive environments. Schools should conduct themed class meetings on major public health events to cultivate emergency information acquisition awareness and skills, improving children's response capabilities. Rural grassroots libraries should conduct emergency information education activities, such as young reader programs, independent children's reading rooms, special lectures, and emergency information dissemination activities to enhance motivation.

Limitations and Future Research

This study has limitations. Interview data came primarily from 4th-6th grade children in Chenzhou, Hunan, with limited sample size. Younger children were difficult to interview. Future research should expand scope and sample size, using multiple methods to study emergency information acquisition among lower-grade left-behind children.

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Figures

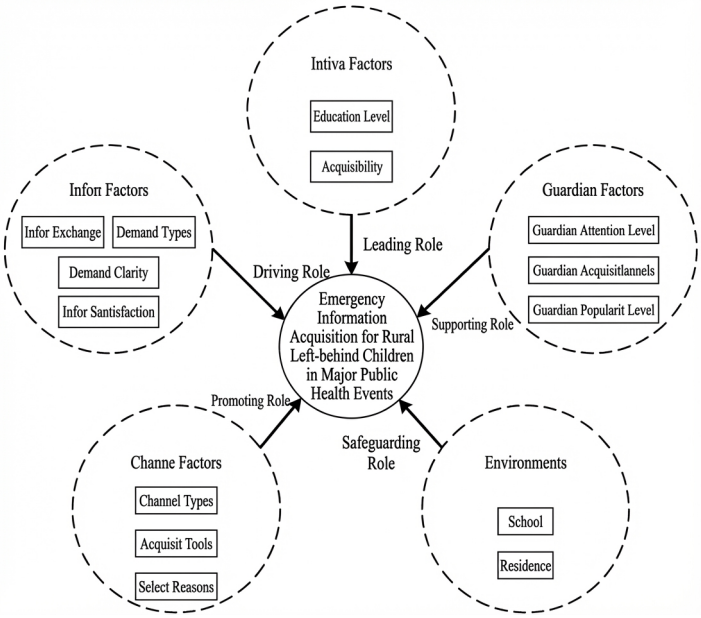

Figure 1: Figure 1

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