Left-behind children, as a special phenomenon group stationed in rural areas, lack parents’ education and care for a long time and shoulder the burden of life early. Moreover, in rural areas with relatively closed information, their communication with their parents only relies on short-term telephone contact. If things go on like this, it may lead to mental health problems in children. In recent years, the group of left-behind children began to get the attention of the society. The social people want to help the left-behind children mainly through the information provided by the school, which cannot actually understand the real situation of the left-behind children, and the help to the left-behind children is only a drop in the bucket. Therefore, it is necessary to use the internet as a convenient and fast platform to build a mobile information system for the mental health of rural left-behind children, input the mental health of left-behind children, and pay attention to and track the left-behind children. This paper mainly studies the construction of the rural left-behind children’s mental health mobile information system based on the Internet of Things. This paper expounds the related concepts of the Internet of Things, which has a good connection effect on the construction of the left-behind children’s mental health mobile information system. Then, it analyzes the functional requirements of the rural left-behind children’s mental health mobile information system, in terms of design, the C/S model is used, the database in the data server is designed to analyze the mental health information management needs of left-behind children, and the data model is established by defining the key domains in the system. This paper also collects and sorts out the left-behind children’s mental health data through data mining technology, studies the factors affecting the left-behind children’s mental health, and clarifies the necessity of constructing the rural left-behind children’s mental health mobile information system and focuses on the observation objects. The results show that the evaluation factors of left-behind children’s mental health are significantly higher than those of non-left-behind children, and their mental health needs attention because left-behind children lack the care of their parents for a long time. The mental health status of left-behind children aged 7–12 is the most worrying, which is significantly different from other age groups in obsessive-compulsive disorder, interpersonal sensitivity, anxiety, hostility, paranoia, and mental illness. It may be because left-behind children aged 7–12 are in the development stage, they are not as ignorant as left-behind children aged 1–6, and they are not as mature as left-behind children aged 13–17.

1. Introduction

With the continuous development of urbanization, there is a lack of a large number of labor forces in urban construction, and many rural surplus labor forces turn to urban migrant workers. Because the migrant workers’ knowledge level is not high, their work is relatively difficult, and their living environment is not ideal, the migrant workers leave their children in grandparents or other relatives’ homes, and the group these children refer to is left-behind children [1, 2]. The reason why rural left-behind children are prone to mental health problems is the lack of care and love of their parents. Parents go out to work for a long time, have no time to communicate with their children, do not understand their children’s inner feelings, and do not have the habit of paying attention to their children’s mental health growth in rural areas [3, 4]. In this case, the left-behind children who live in other people’s homes lack attention and care, and they are forced to be sensible since childhood. Their physical and psychological development is unbalanced, and their values
are vague, which easily leads to their mental health and going astray [5, 6]. Groups and caring people from all walks of life in the society want to understand and help the left-behind children, but they have no time to deeply understand the family situation of each left-behind child and conduct a field investigation. They can only go to the local education department or the working committee of customs and other institutions, and these institutions choose schools to recommend students for help [7, 8]. We establish an information management system for rural left-behind children to facilitate relevant departments to pay attention to and track left-behind children so that parents of migrant students can understand their children’s situation through this information platform. Through this system, caring people from all walks of life can grasp the current situation of left-behind children and provide them with the help they need as much as possible, care and concern about their study and life, and promote their psychological, ideological, and other aspects of healthy development, so that they can grow up happily in the childhood when their parents are not around [9, 10].

We establish a rural left-behind children information management system [11]. By collecting detailed information of left-behind children and entering this system database, on the one hand, it is convenient for relevant departments to pay attention to and track these children, and it can also grasp the direction and number of the floating population [12, 13]. Through this information platform, parents of students who are migrant workers can easily understand the learning and living conditions of their children in their hometowns. In addition, caring people and social groups from all walks of life can inquire and understand related information about left-behind children through this system and use this information to grasp the status quo of left-behind children as much as possible to provide them with the help they need, caring and paying attention to their study and life [14].

This paper mainly studies the construction of the rural left-behind children’s mental health mobile information system based on the Internet of Things. This paper expounds on the related concepts of the Internet of Things, and its network information collection and other integrated information networks have a good connection function for the construction of the left-behind children’s mental health mobile information system. Then, this paper analyzes the functional needs of the rural left-behind children’s mental health mobile information system and summarizes some corresponding functional needs by considering the group objects. The design of the mobile information system for the mental health of rural left-behind children is relatively simple, using C/S mode, and there are only two layers in the architecture, namely, client and data server. The database design of the data server is to analyze the left-behind children’s mental health information management needs and to establish the data model by defining the key fields in the system. This paper also collects and sorts out the left-behind children’s mental health data through data mining technology, studies the factors affecting the left-behind children’s mental health, and clarifies the necessity of constructing the rural left-behind children’s mental health mobile information system and focuses on the observation objects.

2. Research on the Mobile Information System of Mental Health of Rural Left-Behind Children Based on Internet of Things

2.1. Related Concepts of Internet of Things. The Internet of Things refers to the integration of intelligent perception and identification technology and pervasive computing ubiquitous network, which is known as the third wave of the development of the world information industry after the computer Internet. Specifically, the Internet of Things connects objects to the Internet through various information sensing technologies and various communication technologies, so as to realize the integrated network of identification, tracking, management, and control of things [15, 16]. The Internet of Things is a global open-loop ubiquitous network system, which is the extension and expansion of the Internet. It extends the original communication between people to the information interaction between people and things and between things. Its network structure is shown in Figure 1. One can see from the flow chart that the low layer of the network is the sensing layer. Information sensing and communication are the purpose of converging things and the basis of IoT applications. There is an important role played by radio sensor networks in this layer. It is through the wireless network that sensor nodes transmit the sensed information to the aggregating nodes and establish a direct connection into the IoT [17]. Using the Internet of Things to build a rural left-behind children’s mental health mobile information system, we can realize rapid information exchange, timely feedback the actual situation of left-behind children to parents, guardians, and support personnel, and can pay attention to the changes in the mental health of left-behind children in real time.

Compared with the wired network, a wireless network has a weak anti-interference ability. ZigBee network in the system chooses tree network topology which is more convenient for management. The addresses of sensor nodes in the ZigBee network can be determined by the distributed routing algorithm, and with the continuous addition of nodes, a stable tree network is formed [18, 19]. The following is a brief introduction of the construction process of the ZigBee network, in order to achieve the formation of network topology on mobile terminals and collect network information.

2.1.1. Introduction of Network Topology Self-Construction. Firstly, the algorithm of a 16-bit short address allocation in an ad hoc network is introduced. Let \( C_m \) be the maximum number of children allowed as the parent node in ZigBee network, that is, the number of children connected by a single hop, let \( R_m \) be the maximum number of routes among the children of the parent node, and let \( D_m \) be the hierarchical depth of the tree network topology. Then, the address range assigned by the routing node with depth \( d \) of the tree can be obtained according to the following algorithm:
According to the type of node, a specific network address is assigned to the routing and terminal nodes. Routing node:

\[
Address_d = \begin{cases} 
1 + C_m \cdot (D_m - d - 1), R_m = 1, \\
\frac{1 + C_m - R_m - C_m \cdot R_m^{d+1}}{(1 - R_m)}, R_m > 1; R_m = 0.
\end{cases}
\]

(1)

According to the type of node, a specific network address is assigned to the routing and terminal nodes. Routing node:

\[
RNetAddress_d = RNetAddress_{\text{parent}} + Address_d \cdot (k - 1) + 1.
\]

(2)

Terminal node:

\[
ENetAddress_d = RNetAddress_{\text{parent}} + Address_d \cdot (R_m) + n.
\]

(3)

Among them, \(RNetAddress_{\text{parent}}\) is the address of the parent node, and \(k\) and \(n\) represent that the node is the \(n\)th node of the \(k\)th route. The mobile terminal generates network topology information through the parent-child relationship between the nodes reported by the ZigBee network and further abstracts the specific algorithm steps for visualization [20].

2.1.2. Network Information Collection

(1) Network Information Collection Based on Link Evaluation. At the core of web information collection, algorithms based on link evaluation are not telling the relevance between web pages and topics, for example, judging the importance of web pages and determining no-crawling according to the importance of web pages. There are currently a PageRank algorithm and HITS algorithm in network information collection which are mainly based on link evaluation, and the algorithm has its own competitive advantages; it could effectively improve the accuracy when judging the web page and the work efficiency [21].

PageRank algorithm was first used to sort search results and has been gradually used to evaluate the importance of web pages in recent years. The PageRank value of a web page depends on the number of links from other web pages to the web page. The PageRank calculation formula is as follows:

\[
PR(X) = (1 - \gamma) + \gamma \cdot \left( \frac{PR(P_1)}{S(P_1)} + \frac{PR(P_2)}{S(P_2)} + \cdots + \frac{PR(P_n)}{S(P_n)} \right),
\]

(4)

where \(X\) is the page to be evaluated, \(PR(X)\) represents the PageRank value of page \(X\), \(\gamma\) represents the damping factor, \(\gamma < 1\), \(PR(P_i)\) represents the PageRank value of page \(P_i\) pointing to page \(X\), and \(S(P_i)\) represents the chain number of page \(P_i\) [22].

HITS algorithm determines the collection order of web pages by calculating the Authority value and Hub value of the page. Let the Authority value and Hub value of page \(P\) be \(A(P)\) and \(H(P)\), respectively. The calculation method is as follows:
\[ A(P) = \sum_{q(p) \in E} H(P), \]
\[ A(P) = \sum_{q(p) \in F} H(P). \]  
(5)

Among them, \( E \) represents the web page linked to \( P \), and \( F \) represents the web page linked to \( P \) [23].

(2) Network Information Collection Based on Content Evaluation. The core of a specific topic-oriented network information collection strategy is to judge the relevance between web pages and topics and determine whether to collect according to the relevance between web pages and topics. At present, the network information collection strategy algorithm based on content evaluation mainly includes the BestFirst algorithm. The BestFirst algorithm can calculate the correlation degree between the web pages to be collected in the queue and the topic, sort the web pages through the correlation degree, and give priority to the collection of high similarity web pages [24]. The calculation formula of relevance assessment is as follows:

\[ \text{sim}(s, w) = \frac{\sum_{p \in \mathcal{P}} \omega_{wp} \cdot \omega_{wp}}{\sqrt{\sum_{p \in \mathcal{P}} \omega_{kp} \cdot \sum_{p \in \mathcal{P}} \omega_{wp}^2}} \]  
(6)

Among them, \( s \) represents a specific topic, \( p \) represents the collected web page, \( \omega_{wp} \) represents the frequency of the keyword \( w \) appearing in the collected web page \( p \), and \( \omega_{kp} \) represents the frequency of the keyword \( w \) appearing in the collected web page \( p \) [25].

2.2. Functional Requirements’ Analysis of the Mental Health Mobile Information System for Rural Left-Behind Children. According to the functional requirements of rural left-behind children’s mental health mobile information system, this paper makes a series of interviews and data collection and arranges them. According to the opinions of most of the headteachers, teachers, left-behind children’s parents, and temporary guardians, and referring to the module design methods and operation elements of other related software types in the past, combined with the regional and group objects of the system, this paper summarizes some corresponding functional requirements and finds out the operation functions suitable for such a group. These functional requirements are mainly manifested in the following aspects.

2.2.1. The Operation of the System Is Simple and Uncomplicated. The system login, query, and browse operations are very simple and clear at a glance, there are no redundant and complex operations, and the system interface is fresh and natural, is easy to use, and will not take too much time to understand and master. Parents and temporary guardians of left-behind children can quickly understand and grasp the relevant information of children through the system and can quickly query, browse, and print the information, which makes the operation of the system simple and convenient. And the maintainer can effectively and quickly upload and update information, as well as information maintenance and other related operations. The regular users can query, search, and print the school information, supportive organization information, and basic information of left-behind children when they log in to the system with the account and password assigned by the system, and they are able to modify their login password. After login, the system administrator has the opportunity to enter information about the schools, sponsorships, and children left behind to conduct information management in order to maintain the system and to fully manage the system users, which includes adding and deleting users, specifying system user rights, and installing system applications. The system utilization diagram is shown in Figure 2.

2.2.2. The System Is Simple and Clear with Strong Pertinence. The system should be highly targeted, do what it is, not have too much irrelevant content, be concise and clear, know what it does at a glance, and be able to find out what it needs to find. It is not allowed to plant some advertisements or other irrelevant links for profit-making purposes to mislead users, especially some parents or temporary guardians with low education level, affect their use, which will affect the construction and maintenance of the system in the future, and also make the relevant users and students’ parents doubt the purpose of the system itself. So, the system function only aims at the left-behind children’s school information and helps management information, left-behind children’s personal information, and system management.

2.2.3. Enter the Information of the Left-Behind Children with the Consent of Their Parents or Temporary Guardians. Ordinary users must use the account and password uniformly assigned by the system administrator to log in and can only query, browse, and print the relevant information but cannot modify the information, so as to ensure the integrity and security of the left-behind children’s information. The information of the left-behind children belongs to personal privacy, and the administrator needs to obtain the consent of the parents or temporary guardians of the left-behind children before entering, including the information range allowed to enter. On the one hand, we should respect the privacy protection of left-behind children and their parents, so as to avoid the adverse impact of public information on their studies and life. On the other hand, we should protect the personal safety of left-behind children and prevent some lawbreakers from mastering students’ information.

2.2.4. Release the Latest Information and News of Left-Behind Children in Time. The information in the system should be updated and maintained in time, not from the beginning of the school to the end of the semester. All the information content is the same. Timely updating the information can enable parents, temporary guardians, and relevant departments to track and understand the latest developments of students. On the one hand, it can find students’ problems,
guide or deal with them in time, and also enable the school and relevant departments to carry out their work well. On the other hand, it can also show that the system maintainer is responsible, and the system is useful and reliable.

2.2.5. Help Information Work. Parents and temporary guardians also want to know more about counterpart assistance. It includes the work and address of the helpers or groups, their social background, what help they can provide for the children, and what help plans they have for the next step. Such help is not limited to material donations in a short period of time but is expected to be a long-term process. In addition to material help, there are also psychological communication and counseling and all kinds of concerns in the process of growing up. If you need to change the object of assistance in this process, you should timely input the latest information in the system to maintain the continuity of such a public welfare activity. This requires that you can accurately find out the list and information of the students under the corresponding assistance institutions in the system.

2.2.6. Can Import Data from the Excel Spreadsheet. Although this requirement is simple, it is very useful. Because a lot of information is mainly established by using Excel forms, the system must be able to import information from Excel forms, so that the system maintainer does not have to reenter the data for many years, which saves time greatly. It also allows people who are proficient in using Excel spreadsheets to input more information; it not only improves the efficiency of information input but also improves the speed of information update.

2.2.7. Browse Print Function. Browsing and printing are necessary system functions, which require the system to preview and print the information of left-behind children.

2.2.8. System Scalability Requirements. When the amount of input data continues to grow and a load of host and client reaches the limit, we can increase the terminal server and improve the hardware configuration of the client computer to realize the expansion and the need for load balancing. In addition, the problems of system upgrading and function improvement in the future should also be properly solved.

2.3. Design of the Mental Health Mobile Information System for Rural Left-Behind Children. Such an effective information center is mainly used to collect and count the basic information and related facts of the left-behind children in the region. This information is convenient and fast for these children and can make the system serve as a bridge. It is mainly used by both common users and system manager users. With the entered information pertaining to left-behind children, by the system, the parents or, in the case of ordinary users, the temporary guardians are being assigned an account number and password. From that account and password, they can log in, whereby they stop some criminals from using the previous enrolled information and registrations with false information who do something illegal and criminal in order to get the abandoned children’s data. Of course, the system requires users to master a certain basis of Internet and computer operation, so that they can easily and quickly browse through the system and network and obtain the relevant information of left-behind children.

In the user registration stage, it is necessary to complete the registration first and output the user ID and password PW in the mobile terminal, computing in mobile terminal:

\[
PH = H_1(PW).
\] (7)

Then, send the user ID and PH to the gateway device with the registration function. After receiving the registration request of the mobile terminal, the registration device calculates...
The mobile terminal stores \( PH, N, \) and \( P \), and the mobile terminal obtains \( IH \) through \( H_2 \):

\[
IH = H_2(I D).
\]

After being displayed to the user, the user saves the value to complete the registration and can log in to the mobile terminal access gateway for verification. The calculated value of user login mobile terminal is as follows:

\[
DI D = H_1(I D \parallel PH) \oplus H_1(J \parallel T_1),
\]

\[
V = H_1(N \parallel J \parallel T_1).
\]

Then, send \( DID, V, P \), and \( T_1 \) to the gateway to enter the verification. Gateway Computing is

\[
H_1(I D \parallel PH)^* = DI D \oplus H_1(J \parallel T_1),
\]

\[
V^* = H_1(H_1(I D \parallel PH) \parallel J \parallel T_1).
\]

If \( V^* \) and \( V \) are equal, the user authentication is successful, and a request is sent to the terminal node [26].

The client of the system is a program that provides local services for customers. It is installed on the ordinary client and runs with the database service of the server to ensure the normal operation of the application. The client is mainly used for ordinary users to log in and use and realizes the basic permissions of ordinary users through the operation on the client; that is, it can query, browse, and print the relevant information of left-behind children, modify the login password of the user, but cannot modify the information entered by the system administrator. The database server is mainly the system administrator login operation; system administrator can operate all the permissions of the system.

This system belongs to the C/S mode small product system; in the architecture, it only needs two levels; the two-tier cycle can be achieved, namely, the client layer (client) and data server layer (DB server), in which the client layer contains the client application layer and the client is only responsible for the completion of simple functions such as query, browsing, and printing. The data server layer includes the application layer and the database service layer; that is, the application service and the database service are provided on one server at the same time, and most of the work of the system is undertaken by the server [27].

### 3. Experimental Design

#### 3.1. Research Object and Process

This paper mainly studies the construction of rural left-behind children’s mental health mobile information systems based on the Internet of Things. In order to better build the system, this paper starts with the mental health status of rural left-behind children, collects and collates the data information of left-behind children through big data, and takes the mental health diagnostic test (MHT) and SCL-90 scale as index variables [28]. This paper analyzes the mental health status of left-behind children in rural areas to see the differences. Through consulting references, this paper makes analysis and judgment on the investigation of mental health of rural left-behind children, determines the research direction of this paper, selects the investigation field, and determines to use the mental health diagnostic test and SCL-90 scale as index variables to analyze the mental health of rural left-behind children.

#### 3.2. Design of the Left-Behind Children Database System

The requirement analysis of the left-behind children information management system database is to describe the requirements of the system and establish the data model by defining the key fields in the system. According to the system analysis and functional design of the left-behind children information management system, the data table of the left-behind children information management system database is established with the data model of the relational database. The database requirements of this paper mainly include four entities: school information entity, assistance information entity, basic information entity of left-behind children, and system management entity. The school information is mainly the basic information of the left-behind children’s school, as shown in Table 1.

As the object of the left-behind children’s assistance, the personnel of the assistance group also need to know the corresponding information in the left-behind children’s mental health to help the left-behind children to carry out psychological counseling. Therefore, in the system, the assistance information plate is also needed. The assistance information includes the maintenance and browsing of the information of the assistance organization, as shown in Table 2.

Left-behind children’s basic information, including school children’s name, gender, nationality, ID card number, date of birth, home address, home phone number, and class number, helps schools, guardians, and staff to better understand the situation of left-behind children. The database design is shown in Table 3.

The construction of a system is also inseparable from its management optimization. The rural left-behind children’s mental health mobile information management system also needs the system administrator to register and maintain. The administrator will make the information of children and helpers public on the system, which is convenient for parents to view and understand their children’s mental health. The basic information of system management includes the management of system users and password modification, as shown in Table 4.

#### 4. The Experimental Research and Analysis of the Mobile Information System of Rural Left-Behind Children’s Mental Health Based on the Internet of Things

##### 4.1. Analysis of the Assistance Situation of Rural Left-Behind Children

Love groups from all walks of life pay attention to the left-behind children and help them. They are concerned
about their mental health. However, due to their work, life, and a series of things, they have no time to deeply understand the situation of the left-behind children. They cannot help the left-behind children on the spot. They can only rely on local education departments and schools to help them. The construction of rural left-behind children's mental health mobile information system can make these caring groups understand the left-behind children online and facilitate their help. As for the situation of caring groups to help left-behind children's mental health, the results are shown in Figure 3.

It can be seen from Figure 3 that the importance of psychological health assistance for left-behind children is

---

**Table 1: School information sheet.**

<table>
<thead>
<tr>
<th>Serial number</th>
<th>Field name</th>
<th>Data type</th>
<th>Default value</th>
<th>Can it be empty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ID</td>
<td>GUID</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Schoolid</td>
<td>Nchar (10)</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Schoolname</td>
<td>Nchar (30)</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>Schoolmaster</td>
<td>Nchar (10)</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>Address</td>
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<td>No</td>
</tr>
<tr>
<td>6</td>
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<td>Zipcode</td>
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<td>No</td>
</tr>
<tr>
<td>8</td>
<td>Isdelete</td>
<td>Bit</td>
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<td>No</td>
</tr>
<tr>
<td>9</td>
<td>Createtime</td>
<td>Datetime</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>10</td>
<td>Updatetime</td>
<td>Datetime</td>
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<td>No</td>
</tr>
</tbody>
</table>

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**Table 2: Information sheet of supporting institutions.**

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<th>Can it be empty</th>
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<td>Organizationname</td>
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<td>Helpmode</td>
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<td>No</td>
</tr>
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<td>8</td>
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**Table 3: Information sheet for left-behind children.**

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<th>Can it be empty</th>
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</thead>
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</tr>
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<td>Nchar (20)</td>
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<td>No</td>
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<td>Createtime</td>
<td>Datetime</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>14</td>
<td>Updatetime</td>
<td>Datetime</td>
<td>Nothing</td>
<td>No</td>
</tr>
</tbody>
</table>

---

**Table 4: User information table.**

<table>
<thead>
<tr>
<th>Serial number</th>
<th>Field name</th>
<th>Data type</th>
<th>Default value</th>
<th>Can it be empty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ID</td>
<td>GUID</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Userid</td>
<td>Nchar (10)</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Passwd</td>
<td>Nchar (16)</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>Rolename</td>
<td>Nchar (10)</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>Isdelete</td>
<td>bit</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>Createtime</td>
<td>Datetime</td>
<td>Nothing</td>
<td>No</td>
</tr>
<tr>
<td>7</td>
<td>Updatetime</td>
<td>Datetime</td>
<td>Nothing</td>
<td>No</td>
</tr>
</tbody>
</table>
affirmed by the people of love groups. However, due to the influence of personal and family affairs, the frequency of their participation in the actual psychological health assistance for left-behind children is not high. Therefore, it is imperative to establish the rural left-behind children’s psychological health mobile information system.

4.2. Difference Analysis of Mental Health Status between Left-Behind Children and Non-Left-Behind Children.

Left-behind children lack parental care for a long time, and their mental health is prone to problems. Compared with non-left-behind children, the mental health of left-behind children is not optimistic. This paper collects the mental health of left-behind children and non-left-behind children under big data in China through Internet technology, the differences of mental health were analyzed by SCL-90, and the data are shown in Table 5.

A significantly higher evaluation factor of mental health for those left-behind children than for non-left-behind children can be seen from Table 5. With a long-term lack of parental care and relying on others, the remaining children’s mental hardship needs attention, and the remaining children display much higher moral values than nonresidue children in the horror and on the spiritual methodology, which have a P value of about 0.4.

4.3. Analysis of the Overall Mental Health Level of Left-Behind Children.

This paper presents the mental health of left-behind children in the form of mental health diagnostic test (MHT), compares the mental health level of left-behind children and non-left-behind children in China under eight variables, and provides support for the further construction of rural left-behind children’s mental health mobile information system. The data results are shown in Figure 4.

It is clear from Figure 4 that the study anxiety of non-stay-behind schoolchildren is much higher than that of stay-behind children, because of study pressure given by their parents, but the loneliness anxiety and impulsive propensity of stay-behind children are much higher than those of non-stay-behind children, who lack instruction from parents, the unaccompanied instruction, and poorer self-control. It would, therefore, be helpful to construct a pilot mobile informatics management system for the abstention children’s mental well-being to improve their attention to their mental conscience.

4.4. Analysis of the Mental Health Status of Left-Behind Children with Different Genders.

In order to analyze the migrant children’s mental health status, we use the boys and girls left behind as the respondents of this paper to study the migrant students’ mental state from the gender perspective, collect and organize the result of migrant children’s mental health under the Chinese big picture data by Internet, and analyze their mental health index data based on SCL-90 scale, as shown in Figure 5.

As can be seen from Figure 5, for left-behind children of different genders, their mental health status is different. Left-behind girls have greater psychological pressure on somatization than left-behind boys. Because their mothers go out to work, girls have no role guidance from female elders in the process of development, which leads to greater psychological pressure on left-behind girls on somatization. In addition, in other indicators, the psychological pressure of left-behind boys is significantly higher than that of left-behind girls. In the role of left-behind children, boys suffer more psychological pressure.

4.5. Mental Health Status of Left-Behind Children of Different Ages.

This paper holds that left-behind children generally refer to children under the age of 18 who are left at home, but the mental health status of left-behind children is not the same in different ages. In this paper, the left-behind children are divided into three age groups, namely, 1 to 6 years old group, 7 to 12 years old group, and 13 to 17 years old group.
Table 5: The difference analysis of mental health between left-behind children and non-left-behind children.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Non-left-behind children</th>
<th>Left-behind children</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatization</td>
<td>1.31 ± 0.34</td>
<td>1.39 ± 0.41</td>
<td>-2.38</td>
<td>0.018</td>
</tr>
<tr>
<td>Obsession</td>
<td>1.73 ± 0.47</td>
<td>1.83 ± 0.48</td>
<td>-2.13</td>
<td>0.034</td>
</tr>
<tr>
<td>Interpersonal sensitivity</td>
<td>1.61 ± 0.49</td>
<td>1.72 ± 0.53</td>
<td>-2.05</td>
<td>0.041</td>
</tr>
<tr>
<td>Depressed</td>
<td>1.52 ± 0.51</td>
<td>1.57 ± 0.48</td>
<td>-1.11</td>
<td>0.27</td>
</tr>
<tr>
<td>Anxious</td>
<td>1.46 ± 0.39</td>
<td>1.59 ± 0.47</td>
<td>-2.83</td>
<td>0.005</td>
</tr>
<tr>
<td>Hostile</td>
<td>1.56 ± 0.53</td>
<td>1.69 ± 0.56</td>
<td>-2.36</td>
<td>0.019</td>
</tr>
<tr>
<td>Terror</td>
<td>1.35 ± 0.41</td>
<td>1.44 ± 0.45</td>
<td>-2.04</td>
<td>0.042</td>
</tr>
<tr>
<td>Paranoia</td>
<td>1.52 ± 0.48</td>
<td>1.59 ± 0.51</td>
<td>-1.49</td>
<td>0.138</td>
</tr>
<tr>
<td>Mental illness</td>
<td>1.39 ± 0.37</td>
<td>1.42 ± 0.36</td>
<td>-0.82</td>
<td>0.411</td>
</tr>
</tbody>
</table>

Figure 4: Analysis on the overall mental health level of left-behind children.

Figure 5: Analysis on the mental health status of left-behind children with different genders.
The data are analyzed with the SCL-90 scale, and the results are shown in Figure 6.

It can be seen from Figure 6 that the mental health status of left-behind children aged 7–12 is the most worrying. There are significant differences in obsessive-compulsive disorder, interpersonal sensitivity, anxiety, hostility, paranoia, and mental illness between them and other age groups. It may be because left-behind children aged 7–12 are developing, and they are not as ignorant as left-behind children aged 1–6; they are not as mature as the left-behind children aged 13–17.

4.6. Analysis of the Mental Health Status of Left-Behind Children with Different Types of Guardianship. Different types of guardianship also have different effects on the mental health of left-behind children. This paper studies the mental health of left-behind children under five types of guardianship: single-parent guardianship, alternate generation guardianship, previous generation guardianship, mixed guardianship, and peer guardianship; the results are shown in Figure 7.

The difference in the mental health of left-behind children in different types of custody is most notable in single-
parent custody and, secondly, in previous generation supervision, as can be seen from Figure 7. The long-term lack of the parents’ care for the left-behind and left-behind children who are in single-parent guardianship is likely to cause disparities in mental health. On the contrary, left-behind sons and daughters remaining in the guardianship above generation do not give enough care to left-behind subordinates who are not immediate relatives, which leads to behavioral health problems of abandoned children.

5. Conclusions

The advent of the information age has brought great changes to our work and life, making it easier and easier for us to manage and process some information, reducing a large amount of manpower and material resources needed in the past, and there are many systems for processing information. The information management platform such as the left-behind children information management system is designed to easily grasp the information about left-behind children, so as to get first-hand information as quickly and accurately as possible. The mobile information management system for the mental health of rural left-behind children uses the Internet of Things technology as a means of information circulation support to complete the multiparty circulation of left-behind children’s information from guardians to helpers to schools to parents and pay close attention to the mental health of left-behind children. At the same time, according to the results of the mental health diagnostic test (MHT) and SCL-90, we should pay close attention to the mental health of left-behind children. The establishment of left-behind children’s mental health information management system, such as an information management platform, can easily grasp the relevant information of left-behind children, which provides great support and protection for the care of left-behind children.

Data Availability

The data that support the findings of this study are available upon request to the author.

Conflicts of Interest

The author declares that there are no conflicts of interest.

References

[18] L. Wang, Y. Wei, Y. Ma, and T. Wang, “Fundamental literature and hot topics on rural left-behind children in China:


