



Rural policing in China: Criminal investigation and policing resources for police officers

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ABSTRACT

This study examines the state of policing resources in rural areas of central China and investigates how police officers conduct criminal investigations. Semi-structured interviews were conducted with 20 police officers who had experience in criminal investigations in rural areas. The study found that police officers have developed a well-established model of criminal investigation that is effective in responding to minor crimes such as theft, drink driving, and fighting. However, there may be compliance issues with the criminal investigation skills of police officers. Additionally, rural areas lack policing resources compared to urban areas and do not have access to necessary police information resources. The results of this study suggest that rural policing in areas where resources are scarce should focus on improving the compliance of criminal investigation skills among police officers and increasing the allocation of police resources to rural areas. Policymakers and practitioners can benefit from the insights provided by this study when addressing the challenges faced by rural policing in China and other countries with similar circumstances.

1. Introduction

With urbanisation, rural areas' population density has been declining, and the policing resource allocation has changed [1,2]. In China, the distribution of policing resources shows similar characteristics, with cities gathering a large amount of policing resources, while rural police units have very few [3,4]. In particular, the financial situation of local governments directly affects policing resources within their jurisdictions, while rural areas have little access to financial support from local governments [5]. This creates a further imbalance in the distribution of policing resources.

Policing in rural areas may encounter additional challenges. While young adults are employed in urban areas, certain villages are characterized by a demographic composition that is predominantly comprised of the elderly and children, rendering them more susceptible to victimization by crimes such as sexual assault and fraud [6,7]. Consequently, policing efforts may be directed towards crime prevention and community policing. In rural policing, some police units may lack adequate resources for conducting criminal investigations, and may instead perform preliminary investigations and refer cases to specialist investigation units. Furthermore,

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substantial population movements are often associated with crime hotspots in rural areas. For instance, during the Chinese New Year, a significant influx of urban workers into the countryside can result in a marked increase in gambling and violent crime [8]. Nonetheless, rural policing units may be hampered by insufficient manpower and policing resources to cope with this heightened level of criminal activity, thereby posing a challenge to local policing.

This research focuses on the resource requirements of police officers in rural areas, and how these policing resources affect criminal investigations. In Chinese rural policing, police officers are often required to maintain law and order and conduct criminal investigations with scarce resources. In the long-term, this lack of resources puts enormous pressure on police officers and is detrimental to the maintenance of security in rural areas. The frontline police officer's needs and the policing resources allocated may not be matched in policing practice. This mismatch may make criminal investigation resources in rural areas even more scarce. Therefore, the potential value of this study is to obtain the criminal investigation resource needs of frontline police officers. This study interviewed police officers working in rural areas to understand their needs for policing resources and the difficulties they face in criminal investigations. Generally, this study is an exploration of the state of rural policing resources and a practical analysis of how criminal investigations are conducted in rural areas.

2. Literature review

2.1. Daily policing in rural areas

In rural areas, policing patterns and policing strategies of police units differ markedly from those of urban police units [9,10]. Specifically, a small number of police officers are required to cover a large area, which distinguishes them from the traditional urban patrol model. Police officers in rural areas tend to be more "self-policing", i.e., they organise voluntary patrols within the village and are responsible for security within the village [11]. In this model, the village chief or an elder villager is usually responsible for liaising with the police and assisting them in dealing with crime. The advantage of this is that it saves on the manpower costs of police officers and acts as a deterrent to offenders in the area. It is noteworthy that while both the self-policing and community policing models underscore collaboration and interaction between law enforcement officials and community members, there exist notable distinctions between them. Specifically, the self-policing model places greater emphasis on police presence and visibility within the community, whereas the community policing model prioritizes the establishment of strong bonds and the cultivation of trusting relationships between police officers and community residents. Moreover, the self-policing model highlights personal prestige of individual police officers rather than trust in the police institution as a whole. This personal prestige is often acquired through extensive experience in law enforcement, and may be subject to change upon transfer to a different position.

The reception of new police officers in rural regions of China is generally favorable. Rural areas tend to hold law enforcement officials in high regard [5], and thus are typically welcoming towards new police officers, actively assisting them in acclimating to their new environment. Nevertheless, in the context of law enforcement practice, villagers and local officials may exhibit skepticism regarding the involvement of new police officers in law enforcement activities due to the prevailing power structures and traditions within rural society [12].

Fei analyses the model of governance in China's rural areas, and suggests that it stems from the rural area's traditional culture [13]. In the social structure, the village chief (the head of the village committee) is central to the rural area, and usually has dual authority. On the one hand, the village chief is the representative of government authority in rural areas, and is responsible for coordinating public affairs [14]. On the other hand, the village chief is usually held by a person of prestige in the village, and whose family has local prestige [15]. Therefore, village chiefs can mediate villagers' conflicts and can resolve disputes, such as family and economic disputes. In policing practice, the support of the village chief is required by the police to conduct criminal investigations within the village, which can be greatly facilitated.

However, this policing pattern requires public relations skills for police officers [16,17]. In rural areas of China, villagers have a sense of rejection of outsiders [18]. It is particularly difficult for young police officers to integrate into rural society and villagers, and for police officers to gain the support and trust of villagers [19,20]. Normally, there is a "succession" of social relationships within the rural police force, whereby long-serving police officers take young police officers to visit village chiefs. This is in effect a long-term policing partnership in which the police unit and the village form an interdependent relationship [21–23]. Specifically, this public relationship is similar to a mutual agreement. For the village chief, the visit may reflect on the dignity of the chief within the village, which helps to enhance the chief's authority [24]. In particular, police officers may have more authority than general government officials, which represents the government's support for the village chief. For the police, this may significantly improve policing efficiency and provide more support and information during criminal investigations [12]. However, this mutual relationship is not always beneficial. A community of interest may form between village chiefs and the police, thus threatening legal justice [25].

2.2. The dilemma of policing resources

The resource dilemma of rural policing units is largely related to local government [26,27]. Specifically, local policing units in China are governed by both the local government and the Ministry of Public Security, with the local government having significant influence over the budgets of police units within its jurisdiction [28]. In rural areas, the management of grassroots police agencies, such as police stations, falls under the responsibility of county public security bureaus. In terms of funding, the Chinese policing system relies primarily on government financial allocation, supplemented by additional financial support from some local governments. As a result, some local governments allocate significant policing resources to urban police units, while police units in rural areas lack

adequate financial support. For example, urban policing units have criminal intelligence systems, public safety surveillance systems, and criminal technology support [29–31]. In comparison, none of the rural police units have sufficient human resources [12]. Some rural policing units even have a police-citizen ratio of 4.19:10000, meaning that each police officer is responsible for the security of 2386 people [32]. In contrast, Wuhan City's police-to-citizen ratio is 1:466, which demonstrates a glaring quantitative difference [33]. However, policing patterns in rural areas differ from those in urban areas, and a key to this may be the trust of local residents in the police. Sun et al. [34] examined the trust of local officials and villagers in the police, and found that villagers had less trust in the police than local officials, which difference was closely related to the police's capacity for crime control and public safety. Wang and Sun compared urban and rural residents' trust in the police in Taiwan, and the study found that rural residents may have more faith in the performance of outcome-based police [35]. Generally, residents in rural areas' trust in the police may be related to the ability to enforce the law, i.e. more result-oriented.

This imbalance in policing resources further contributes to the lack of police officers in rural areas [36]. In essence, this can be understood as a manifestation of industrialisation in policing practices, where large numbers of police personnel and policing resources are concentrated in cities, thus creating shortages in rural areas [37]. Specifically, policing units in rural areas lack the benefits and conditions to attract police officer [38]. For example, there are insufficient allowances [39], lack of training opportunities [40], and difficulties in career development [41]. As a rule, the number of police officer in an area is strictly controlled by the local government in order to prevent a financial crisis caused by too many public servants. As a result, police units in rural areas are supplemented by internal transfers, whereby the manpower department of the police station arranges for police officers to work in rural areas as needed. In policing practice, such internal transfers are often "involuntary", with police officers not wanting to work in rural areas on a permanent basis, or even asking to resign and be transferred to other areas [42]. This has resulted in a chronic shortage of police officers in rural areas, especially those with long experience in law enforcement.

2.3. Criminal investigation in rural areas

In policing practice, criminal investigations in rural areas face more challenges than in urban areas [43], such as the need for technical support and the lack of funding for criminal investigations [44,45]. When dealing with telecom and online fraud, police officers need to contact banks to freeze transfers, and use internet technology to track down and arrest offenders [46,47]. However, police officers in rural areas lack direct access to banks, making it difficult to prove their identity as police officers, and initiate freezing procedures at short notice. The most rural police units do not have the capacity to provide web-based tracking technology. This makes it difficult for police officers to complete criminal investigations and recover losses for victims.

In addition, the lack of funding also limits the ability of police officers to conduct criminal investigations [48]. In criminal investigations, the police officer's skills are important for evidence collection and scene analysis, such as footprints. Specifically, footprints are represented by criminal investigation techniques, which require police officers to be able to use scene investigation equipment and to acquire evidence collection skills through professional training [49,50]. Such techniques can support the identification of suspects and have courtroom evidence functions [51]. While professional training is a conduit for police officers to acquire criminal investigation techniques, which also involve skills such as criminal intelligence analysis and psychological profiling [52,53]. Police officers often require systematic training to acquire these skills, and regular training to update their knowledge [54]. Specifically, police officers lack the capacity to investigate cross-regional criminal cases and have difficulty investigating relatively complex criminal cases. For example, it is difficult for rural policing units to directly deploy personnel to pursue offenders who have fled to other provinces [55]. This is because rural policing units find it difficult to pay for the travel costs of police officers. For interregional criminal investigations, different police units can also cooperate by wanted notices [56,57]. However, this often requires two requirements to be fulfilled, i.e., a clear suspect and a relatively close proximity. Specifically, the police unit issuing the wanted notice needs to travel to the local police unit to escort the suspect, which remains a serious financial burden for some rural police units [58]. This constraint on criminal investigation capacity, caused by a lack of funding, is likely to have a negative impact on regional policing. At the same time, the population may lose confidence in the police unit. It's crucial to understand that "trust" and "loss of confidence" are two distinct concepts [59]. Although the public may trust the police unit, they may not think it is able to effectively complete a criminal investigation [60].

Previous research has discussed the current state of resource constraints in rural policing and their implications, which are not limited to law enforcement capacity, confidence, and policing structures. These constraints can have far-reaching effects on public safety and social order in rural areas. In summary, police officers face challenges in conducting criminal investigations in rural areas and are constrained by policing resources. The value of this empirical study lies in assessing the criminal investigation needs in rural areas from the perspective of police officers, rather than the traditional perspective of governance in rural areas. This approach may help to further the efficient use of criminal investigation resources in rural areas. Therefore, the goal of this study was to explore in depth the needs of police officers in relation to policing resources. This study analyses the resource needs of police officers to advance criminal investigations in rural areas, and to contribute to further balancing the gap in policing resources between rural and regional areas.

2.4. Research questions

This study focuses on the state of criminal investigations in rural areas, and the views of police officers on criminal investigations and policing resources. Specifically, the research followed the following research questions:

- 1 How do police officers perceive criminal investigations in rural areas?
- 2 What impact do policing resources have on criminal investigations?

3. Methodology

3.1. Research area

This study is part of a research project¹ by People's Public Security University of China (PPSUC), which covers a municipal policing area in the southern region of China. It should be noted that this study cannot publish the names and location information of the policing units due to the restrictions of the study approval agreement. The study is being conducted between June and September 2020. This policing area is a typical rural policing discard, with approximately 43% of the area being rural and with a population of approximately 420,000 people living there. In terms of policing resources, the region has a total of 12 rural police stations and approximately 60 police officers on duty. Compared to other regions, the study area is clearly geographically representative. Specifically, the region is a traditional cultivated agricultural area with typical agrarian cultural characteristics. In addition, the impact of industrialisation is evident in the region, with a large number of labourers going out to work resulting in a steady loss of rural population. At the same time, social media and the internet have caused a cultural impact and a collision of values in the region.

The following three standards were used to collect the sample for this study. First, the interviewees had to have at least three years' experience in law enforcement. This was to ensure that the interviewees had experience of frontline law enforcement and had repeated knowledge of the different type cases. Second, the interviewee's current place of work was a police unit in a rural area. This was to ensure that the interviewee's narrative was current, i.e., the current situation of law enforcement. Third, the interviewee has full law enforcement powers and is qualified to use firearms. This was to ensure that the interviewee had performed arrest missions in criminal investigations. Therefore, a total of twenty police officers met these criteria and agreed to participate in this study.

In policing practice, rural police stations usually consist of five officers and are responsible for policing in the region. The rural police stations are usually located in the middle of a town or in the middle of several villages. The functions of a rural police station are broader than those of a specialist investigation department and include crime prevention, civil services (e.g. issuing certificates of innocence), investigation of minor crimes (e.g. fights without serious injury), and investigation of offense cases (e.g. offences that are not crimes). In criminal investigations in rural areas, police officers are only responsible for the investigation of minor crimes, evidence collection, and arrests. In terms of types of crime, this includes, but is not limited to, drink driving, theft, indecent assault, brawling, and fraud. There are also crimes involving children in rural areas, such as child abduction, indecent assault and rape.

3.2. Data collection

The study has informally released recruitment information to police officers. Specifically, the researcher posted the recruitment letter in the police WeChat group. If police officers wished to participate in the study, they could contact the researchers via the contact details provided in the recruitment letter (WeChat and Telephone).

It is worth noting that the data collection process for these studies coincided with the COVID-19 pandemic, which made the data collection process more difficult. Due to travel restrictions, the researchers had to undergo multiple health checks and medical isolation. In order to ensure reliable data collection, the researchers still adopted face-to-face interviews. This may have helped to collect more information from the interviews.

In order to be able to gather the perceptions of police officers in rural areas regarding policing resources and criminal investigations, we conducted semi-structured interviews with 20 serving police officers ($n = 20$). Specifically, the police officers were all formerly employed in rural areas and had more than three years of criminal investigation experience. Among them, four police officers had been heads of police units in rural areas ($n = 4$); 12 officers had been independently responsible for the investigation of criminal cases ($n = 12$). Recruitment information was published by the researcher to police officers in the area and a total of 23 police officers were willing to participate in the interviews ($n = 23$). As this study required police officers to have experience of participating in criminal investigations in rural areas, only 20 police officers met the recruitment requirements for this study.

Due to ethical considerations, the study submitted an interview application to the police unit through official channels and was formally approved. Before the interviews officially started, the researcher explained the purpose of the research to the interviewees, and the status as academic staff. Before the official interviews, the researcher contacted the interviewees by telephone and explained the details of the study. Specifically, the researcher explained to the interviewees the purpose of the study and the interviewees' rights. First, interviewees were informed that they had the right to withdraw from the study at any time and that they could destroy the data. Second, interviewees were informed of the anonymity of the study, i.e., that no personal information would be stored, that the recordings had been anonymised and that identifiable information had been eliminated. The researcher reconfirmed this information with the interviewees before the official interview. Furthermore, this study chose to conduct the interviews in the police unit's meeting room, where only the researcher and the interviewee were present, so that the anonymity of the interviews could be ensured.

In accordance with interview procedures, two researchers briefed police officers on the study before the interviews formally began and informed them that the interviews would be recorded. After obtaining the consent of the police officers, the two researchers asked

¹ The purpose of the research project is to evaluate policing resources in rural areas of China and to make corresponding policy recommendations. This study is the third part of the research project, and focuses on the evaluation of criminal investigations in rural areas.

the interviewees questions according to the interview outline. Specifically, the interview outline relates to police officers' experiences of criminal investigations and daily law enforcement experiences in rural areas. This included the criminal investigation process, types of crime, difficulties in the investigation, and perceptions of policing resources. Specifically, the study interviewed a total of 20 respondents, with the average length of each interview being approximately 100 min. At the end of the interviews, the audio recordings were transcribed in Chinese. In order to avoid possible transcription errors, the transcriptions were carried out by three trained researchers separately and cross-checked.

As the identities and work units of police officers are confidential information, data security management was adopted for this study. The audio files were kept on storage devices that were not connected to the network and the transcription process took place on a password protected server. After transcription was completed, the researcher destroyed all the audio files of the interviews, retaining only the transcripts. At the same time, any information in the transcripts that involved the names and identifiable details of police officers was anonymised. This process was carried out by two researchers, and the transcripts were rechecked by another researcher to ensure the validity of the anonymisation process.

3.3. Analytical framework

The analytical framework for this study is derived from social identity theory, which states that police officers differentiate between 'in-groups' and 'out-groups' based on perceptions, which further influence the behaviour of group members [61]. In view of this, we assume that police officers' positions and identifications may influence their perceptions, which may be accompanied by long-term behavioural change [62]. Specifically, the current study involves two social perception processes. First, police officers may differentiate between groups of police officers and other groups based on 'identity'. In this research, the term "police group" encompasses regular police officers and auxiliary police officers (APOs). The other distinction is made based on the "location" factor, which primarily pertains to police officers and APOs involved in law enforcement activities in rural areas. These individuals also form the 'in-groups' within the context of this study.

This study conducted a thematic analysis of the transcribed documents obtained from the interviews. Specifically, the two groups of researchers separately identified themes for the coded results and for the definition of themes. After forming a pre-determined theme list, the researchers merged similar themes and discussed the coding results that did not fit the themes. After identifying the themes, the theme lists and definitions were checked with the final themes identified. In policing practice, police officers' perceptions and experiences of criminal investigations reflect the situation of criminal investigations in rural areas [63]. Such reality-based, subjective experiences can explain social phenomena and provide a deeper understanding of them [64,65]. Specifically, the researchers were divided into two coding groups to record perceptions (or keywords) that appeared repeatedly in the transcriptions, and also to record significant perceptions related to 'policing resources' or 'criminal investigation'. After the initial coding was completed, the two groups were double coded to prevent important information from being missed in the transcriptions. The two coding groups then cross-checked the codes and verified the categories contained in the codes. Finally, the categories and themes were reviewed by researchers independent of the two coding groups.

4. Findings

4.1. Criminal investigation in rural areas

4.1.1. Crime status

In rural areas, police officers usually investigate many types of minor crime. These crimes usually have a clear motive, such as financial or hatred. In particular, there are obvious social ties between residents in closed rural areas, such as relatives or clans. In turn, conflicts between residents are often limited, i.e. they may not lead to serious harmful consequences. Some police officers say that most fights are sparked by disputes and that onlookers are involved in persuasion.

The village where I work is relatively simple, which means that although there are vicious incidents, they are not as complicated as in the city. The criminal cases in our area are relatively simple fights with a clear causal link, and there are very few murders (Police Officer C).

This shows that police officers perceive the security situation in rural areas to be relatively good and that there are very few cases of serious violence. On the one hand, this may be due to the fact that southern China still retains traditional clan values and elders have a high level of prestige in the villages. Some conflicts may be mediated and dealt with within the village and do not lead to serious cases of violence. On the other hand, this may also be related to the demographic structure of the rural areas. A large number of people from rural areas have moved into the cities to work, and the majority of the permanent residents of rural areas are elderly people and children. This demographic structure may be one of the reasons for the relatively low number of serious violence cases in rural areas.

4.1.2. Criminal investigation

Another important perception of criminal investigations by police personnel in rural areas is the sheer volume of work. Although serious violent crime is rare in rural areas, police officers are still heavily involved in criminal investigations such as fights, drunken driving, and theft.

Basically, the daily work (criminal investigation) is relatively saturated, mainly is to deal with a large number of disputes every day fighting, basically is a case has not been dealt with, the second case came again (Police Officer O).

We are responsible for traffic offences in rural areas, and the workload is so heavy that our police station is responsible for a traffic police squadron dedicated to this area (Police Officer A).

There are still more cases of theft in rural areas (Police Officer Z).

This shows that the number of criminal investigations in rural areas is not insignificant and has even put pressure on police officers. As far as police officers are concerned, criminal investigations in these cases are not complicated, but there is a lot of procedural work² to be completed. Such long and repetitive criminal investigations make it necessary for police officers to put in more hours of work. In addition, criminal investigations are time-sensitive and police officers are required to submit evidence and cases to the prosecution service within the deadlines set by law. This results in police officers being compelled to work extended shifts and even engaging in concurrent handling of multiple criminal investigation tasks.

In practice, criminal investigations require a multidisciplinary approach, which includes witness interviews, evidence collection, victim interviews, and paperwork. In rural areas, police officers are responsible for the entire criminal investigation of a case, which results in police officers being responsible for multiple stages of work. This poses a challenge to the criminal investigation skills of police officers.

The village is located in a mountainous area, and in mountainous areas, there is basically no public surveillance. When we visited the victim, he (the victim) didn't know when he disappeared, and there was a lot of this ambiguity (Police Officer G).

At the time (when the scene was investigated), all the original evidence that could be collected was collected, such as footprints and photographs of pry marks (Police Officer B).

This shows that police officers in rural areas need to acquire a wide range of criminal investigation skills. These skills may come from training at the police academy or be passed on by other senior civilian police officers. However, there is no single standard for identifying these competencies. In other words, there are concerns about the reliability of these criminal investigation skills. It is important to note that these police officers have completed the necessary police training courses and have been tested for law enforcement qualifications. However, as criminal science continues to evolve, so do the requirements of the courts for criminal investigation evidence. For example, evidence of footprints taken by police officers may not be directly admissible in court, but rather require specialist identification.

In addition, some police officers spoke of the dangers involved in the criminal investigation process. In police practice, police officers in rural areas need to stop crimes in progress, such as mass fights. The number of participants may be several times greater than the number of police officers, who then need to quickly control the situation.

The police force is indeed relatively inadequate, especially for the first police officers who go to the scene. Usually there might be one civilian police officer or two civilian police officers with two co-officers. However, it is likely that the number of people on both sides of the fight is now around thirty (Police Officer S).

The main thing is to control the scene, that is to say, to separate the suspects from each other quickly. Then the person who provoked the fight inside should be quickly brought under control, this is the most crucial (Police Officer H).

In rural areas, police officers may need to expand their criminal investigation skills, particularly with regard to control of the situation at the scene. As mentioned earlier, clans still exist in southern China, which can be understood as a collectivised way of life. In short, an ordinary violent conflict can lead to a violent 'war' between two clans. For police officers, they need to stop the escalation of violence in time and deal with the offenders in accordance with the law. Such fights may not be difficult to deal with from a criminal investigation point of view, but the relationship between two clans needs to be handled more carefully. This could lead to a larger violent conflict.

In general, police officers' perceptions of criminal investigations are complex and dangerous. On the one hand, multiple minor criminal investigations take up a great deal of time and energy for police officers and result in serious stress for police officers. On the other hand, criminal investigations in rural areas can also be dangerous, especially when dealing with large-scale violent conflicts. In the long term, police officers in rural areas have the criminal investigation skills to meet the day-to-day needs of law enforcement and also have the capacity to deal with violent clan conflicts.

4.2. The dilemma of policing resources

4.2.1. Human resources in rural policing units

Some police officers described the staffing of their rural policing units, while others refused to give details of the number of officers. According to the police officers' descriptions, a rural policing unit (police station) usually consists of 5–7 police officers who are required to do all the policing work in the jurisdiction, especially criminal investigations.

² Procedural work refers to the paperwork that needs to be completed by police officers during the criminal investigation, which includes the investigation report, evidence report, and arrest report, etc.

At that time the police station was almost seven regular civilian police officers. The population of the district was close to 100,000 (Police Officer T).

Because the police force is very little, we are on duty is two civilian police, a deputy chief with a police officer on duty, this week are given to us responsible. The whole township's policing is handled by us. In case of an emergency, the only way to deal with it is to rely on these qualities (law enforcement skills) of your own and then go to the scene (Police Officer S).

This indicates that policing units in rural areas are very short of police officers. Interestingly, even though the police units in the rural areas lacked sufficient police officers, the social order was not collapsed. This phenomenon may be explained by the traditional social order in rural areas. Specifically, police officers do not have to deal with many 'disputes', but rather investigate minor crimes. In this social order, police officers act as the guardians of the social order and representatives of the authority of the state.

The people still have a higher regard for the prestige of the police. The weight of the words of the police officers of our Public Security Bureau (police unit) is obviously heavier than the words of the cadres of other departments. Every word spoken on the spot has a stronger deterrent effect or generates a stronger force of obedience (Police Officer F).

However, this lack of human resources might lead to a number of potential risks. Although police officers in rural areas maintain the security of their areas by virtue of their personal competence, this enforcement is sometimes based on the personal prestige of the police officer more than the authority of the policing unit. In other words, this model of district security being maintained by a small number of police officers might lack the necessary oversight, which can lead to an expansion of police powers. For example, Officer S mentioned that two police officers were responsible for a week's worth of criminal investigations. This is a huge boost to the personal prestige of the police officer, but it could also lead to difficulties in controlling over police powers.

4.2.2. Police information resources

Almost all police officers mentioned the desire for more policing information resources, which include policing system permissions, criminal intelligence support, and public video surveillance systems. Specifically, policing system permissions are common systems within policing agencies that can be used to query information in policing practice, the system is divided into a variety of permissions depending on the level, where grassroot rural policing units have lower permissions and some functions are not available or convenient, such as fingerprint queries. The criminal intelligence system and the public surveillance system can be seen as measures of an 'intelligence-supported policing' policy. However, rural police units lack the adequate infrastructure and intelligence analysis support. Compared to rural areas, public security surveillance is more intensive in urban areas, and is often used for criminal investigations [31]. At the same time, police officers' use of public security surveillance is regulated by law, and requires reporting and approval [66].

The priority is definitely urban police stations, there are two police stations in the urban areas of our jurisdiction, and the greatest demand for this (criminal intelligence support) is also in the urban police stations, the ones in the rural areas are generally very few[...].If they (Police units in rural areas) have a need, the Criminal Intelligence Centre will respond. However, they (rural area police units) are only half as likely to receive the results of the Criminal Intelligence Centre's analysis (i.e., the other half of their criminal intelligence needs may not be answered) (Police Officer O).

Video surveillance is not too widespread, there may be some at junctions, but there are still many blind spots (areas without video surveillance). We still work mainly by walking around (Police Officer H).

The important thing is some information technology tools, we are now building a digital police station in the countryside, which is still at the initial stage, and in the future, we will try to bring together the data from the social side to the police station. I believe this will basically lead to a leap in police efficiency. (Police Officer J).

This shows that there is a great demand for police information resources for police officers in rural areas. Deploying more police information resources in rural areas may be the way to improve the efficiency of policing, as in the words of police officer J. At the same time, police information systems may also help to alleviate human resource constraints. For example, deploying more public video surveillance in rural areas may reduce the time police officers spend visiting witnesses and also allow for quick targeting of offenders' movements [67]. Considering the vast geography of rural areas, police information systems can reduce the investigative distance of police officers. Specifically, police officers can search for perpetrators through video surveillance or criminal intelligence and make targeted arrests. At the same time, another role of police information systems in rural areas may lie in the patrolling of multiple locations. For example, police officers can monitor security in multiple villages in real time from a police station.

However, some police officers are also concerned about funding for the deployment of police information systems in rural policing units. Local governments may not be able to provide sufficient budgetary support to police units in rural areas, and the Ministry of Public Security (MPS) may only be able to provide limited support.

The money this piece of words, our unit is actually relatively small. It's because township police stations have very little funding compared to the (urban) kind (Police Officer A).

Lack of financial support can have a serious negative impact on police personnel in rural areas, and this may not be limited to difficulties in deploying police information systems. Some police officers also mentioned other dilemmas of lack of financial support, such as the inability to hunt down offenders. Some burglars flee to other cities to avoid capture. In such cases, even if the police officers have identified the offenders, they are unable to arrest them due to lack of travel funds. A common solution at present is to upload the offender's identification information to the policing information system, and all policing units across the country would take note of

this information in their enforcement efforts. However, this may result in the offender not being apprehended for a short period of time, making it difficult to recoup the victim's losses.

In summary, the lack of resources for criminal investigations in rural areas is evident and is already having an impact on their criminal investigation capabilities. One discernible trend is that criminal intelligence and criminal technology are the way forward for criminal investigations in rural areas. In the short term, the lack of resources for criminal investigations in rural areas is probably not changing. However, criminal technology may improve this situation, such as drone patrols and video surveillance. In addition, criminal technology can also provide police officers in rural areas with standardised evidence collection and processing solutions. For example, police fingerprint collection terminals have been developed based on automated fingerprint matching systems, which can enable the automatic collection and matching of fingerprints. Nonetheless, the implementation of numerous criminal technology measures may potentially exert adverse effects on rural policing [68,69], such as digital authoritarianism and formalism. Generally speaking, the adoption of technical measures for criminal investigations in rural areas ought to adhere to the principles of prudence and necessity, and comply with a rigorous approval process.

5. Conclusion

This study discusses the perceptions of police officers regarding criminal investigations and policing resources in rural areas of China. The study found that although police units in rural areas do not have sufficient policing resources, their criminal investigations can still be completed. However, some police officers felt that this pattern of work was extremely stressful for them and that it could lead to an expansion of police powers. The COVID-19 pandemic has had an impact on criminal investigations in rural areas. Specifically, it resulted in a "self-governance phenomenon" whereby criminal cases were reported at a significantly lower rate, and there was a corresponding decrease in the involvement of the criminal police in village governance. This was due to the vacuum created by the cessation of movement of people. However, even after the COVID-19 pandemic subsided, the criminal investigation situation in rural areas did not change significantly and remained critical.

In addition, another important finding of this study is the criminal investigation skills of police officers in rural areas. The study found that police officers in rural areas are required to complete multiple steps in a criminal investigation, a skill that may not be similar to police officers in urban areas. Even though this criminal investigation skill was only applied in the investigation of minor offences, the repetitive criminal investigations led to the development of an 'instinctive' investigative ability among police officers. This is extremely beneficial in dealing with the high incidence of petty crime in rural areas. However, there are concerns about the compliance of such criminal investigation skills. First, the criminal investigation skills of police officers come from police academy training, but the style (practical style) in criminal investigations comes exclusively from the teachings of senior police officers in rural places. This overly pragmatic style of criminal investigation might not always fully comply with internal regulations and laws. Second, the criminal investigation skills of police officers lack the necessary updating and supervision. In an era of updated criminal technology, biological evidence has become the primary source of evidence in criminal investigations [70]. Some police officers claim that they lack training in these criminal investigation skills, and this lack of skills training may result in police officers being unable to cope with new rules of evidence.

Inevitably, this study has limitations. The respondents to this study were all from sub-municipal rural policing units. While these police officers could provide experience of policing practices in rural areas, there was a lack of policy understanding of policing resources and criminal investigations in rural areas. For example, the MPS principles for allocating resources to rural policing, the regional government's budget for rural policing, and the training of police officers in criminal investigation skills in the region. However, some of the police officers in this study were already working at the managerial level in policing units at the time of the interviews. The perspectives of these police officers can compensate for this limitation and provide multiple perspectives on policing in rural areas. In addition, the study was an exploration and was based on qualitative interviews with police officers. Therefore, the results of this study may be biased from a "police perspective", which may have an impact on objectivity. Also, because the study was conducted out in a rural area of China, there might be variations in how the study's experience to other countries. This would need to consider local policing practices and crime conditions.

The significance of this study is that it may provide new perspectives for understanding policing resources and criminal investigations in rural China. The challenges in rural policing cannot be explained solely by a 'lack of policing resources', but are more of a social dilemma. In the context of population loss in rural areas, policing policies of police units should also be adjusted. As a whole, this study describes how police officers in rural areas use fewer police and human resources to complete criminal investigations and to ensure security in their jurisdictions. In particular, this model of working with fewer policing resources may provide lessons for rural policing in other countries.

In addition, this study has potential implications for policing policy in rural areas. Specifically, policing policy is more oriented towards community policing and intelligence-led policing, and the increased deployment of criminal techniques. In policing practice, rural police stations use online courses for training in criminal techniques, and have established criminal intelligence systems that rely on villagers and social software.³ It is important to note that the key to policing policy in rural areas remains the "villagers", as in provision of information and cooperation between the police and the public. Thus, policing policy may combine criminal investigation

³ In policing practice, the term "social networking software" generally refers to WeChat, TikTok, Weibo, and Kuaishou. Local police departments set up public pages on these social media and regularly post police information. At the same time, villagers can also report suspicious situations to the police via the public page.

techniques and local residents for more effective criminal investigation systems.

Future research may possibly need to focus more on the impact of policing policies on rural policing. Such policing policies may have a profound impact on policing in rural areas going to the country. At the same time, such an exploration of national policing policies could provide a more in-depth perspective for understanding rural policing.

Ethics statement

This research is conducted as part of the research program at the People's Public Security University of China (PPSUC). The study has undergone examination and supervision by the School of Public Order Science, and it has been granted approval under the reference number 2022JKF439.

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Data availability statement

Not applicable.

Author contribution statement

Peng Keke: Conceived and designed the experiments.

Gao Mengxi: Performed the experiments.

Chen Huijun, Tang Jinyao, Xing Yuqiu: Analyzed and interpreted the data.

Jiang Feng: Conceived and designed the interview; Wrote the paper.

Additional information

No additional information is available for this paper.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix

1. Policing resources: refers to the various material and human resources available to the public security sector (police agencies) to maintain law and order, including police officers, vehicles, communication equipment, weapons and other equipment, etc.
2. Rural policing model: refers to a specific way of policing in rural areas, including the organizational structure, division of responsibilities, workflow, and response strategies of the police.
3. Rural policing strategy: refers to specific measures and methods adopted to maintain law and order in rural areas, including strategies for crime prevention and public order management, etc.

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