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Balancing rehabilitation and public safety under AI-powered governance: a three-stage mixed-methods empirical analysis of misdemeanour record sealing in China

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Article

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Abstract

Against the backdrop of the growing integration of artificial intelligence into public security governance and the increasing prevalence of minor offences in China's crime structure, defining the scope of misdemeanour record sealing has become central to balancing crime prevention and control with the protection of individual rights. The existing research is dominated by normative analyses and lacks empirical support and frontline practical perspectives. Therefore, the overarching goal of this study is to establish an appropriate scope of misdemeanours eligible for the misdemeanour record sealing system. To this end, an exploratory sequential mixed-methods approach was adopted. Through qualitative interviews with practitioners in 10 regions across China, combined with quantitative measurement and cross-validation using criminal judgment data from grassroots people's procuratorates and courts, this study systematically measured factors including the sentencing standard for the sealing scope, the list of excluded charges, and recidivism risk. The results indicate that the sealing scope should adopt a sentencing standard of public surveillance, criminal detention, and fixed-term imprisonment of up to one year (extendable to three years for negligent crimes); exclude crimes endangering national security, serious violent crimes, terrorist activities, gang-related crimes, and sexual crimes against minors; and exclude high-recidivism–risk groups such as recidivists and habitual offenders. This study offers preliminary empirical evidence that may inform ongoing policy discussions on the scope of misdemeanour record sealing in China. The findings should be interpreted in light of the study's limited geographic coverage and convenience sampling.

Introduction

The misdemeanour record sealing system is an important judicial institution in the field of public security. Particularly in an era where artificial intelligence (AI) technologies are deeply embedded in social governance and public security maintenance, the scientific delineation of the scope of misdemeanour record sealing has important practical implications for balancing crime prevention and control with the protection of citizens' rights. It also serves as an important pillar for enhancing the modernisation of public security governance. In recent years, the structure of criminal cases in China has undergone profound and systematic changes, with misdemeanours emerging as the primary target of criminal justice, laying the practical foundation for further institutional exploration.

From a legislative perspective, following multiple revisions and improvements to China's Criminal Law, there are 106 charges with a maximum statutory penalty of fixed-term imprisonment of no more than three years, accounting for more than 20% of all charges (Gou, 2023), indicating a gradually improved legislative system for misdemeanours. Based on national judicial data, the trend of misdemeanourisation of crime has become increasingly evident, with the proportion of serious violent crimes continuing to decline. In 2023, serious violent crimes prosecuted by procuratorates accounted for only 3.6% of all cases, while misdemeanour cases punishable by less than three years of imprisonment rose to 82.3% (Shan, 2024). According to the major judicial statistics released by the Supreme People's Court for January–September 2024, 1.03 million offenders received sentences of less than three years'

imprisonment, representing an increase of 3.49% year-on-year. Such offenders accounted for 87.41% of all convicted persons, a year-on-year rise of 1.09 percentage points (Supreme People's Court, 2024).

From the perspective of offenders, those involved include young people just entering society and middle-aged individuals supporting their families, most of whom are first-time, occasional, or negligent offenders. However, the collateral consequences of misdemeanours are excessively harsh, far exceeding the punitive significance of the penalty itself (Lageson & Apel, 2025). A misdemeanour does not equate to a lenient punishment; the restrictions imposed by a criminal record are nearly identical to those for felonies. While criminal penalties have a fixed term, restrictions on employment, education, credit, and other aspects last a lifetime (Li, 2025). Criminal punishment adheres to the principle that liability is personal to the offender, yet the impact of a criminal record extends to children and relatives, affecting their access to higher education, Party membership, employment, and many other scenarios. Many misdemeanour offenders are denied even jobs in basic service industries due to a single negligent act, and even housing becomes difficult to obtain (Couloute & Snyder, 2022). Families lose their source of income, young people lose opportunities for development, and enterprises involved in crimes fall into operational difficulties due to criminal records, triggering a chain of problems such as employee unemployment and economic losses (Corda et al., 2023; Horowitz et al., 2024; Kimpel, 2022).

Such a status quo, in which a single misdemeanour results in lifelong exclusion from basic employment opportunities and implicates family members (Boches et al., 2022; Pinard, 2010), violates the criminal policy of tempering justice with mercy and becomes a hidden danger affecting social harmony and stability. Against this background, China's proposal for a misdemeanour record-sealing system is a landmark reform.

Scope of Criminal Record Sealing

Although China formally proposed the establishment of a misdemeanour record sealing system in 2024, the specific scope of misdemeanour record sealing has not been clearly defined, sparking extensive academic debate. Previous discussions have centred on three dimensions. First, the number and proportion of offenders sentenced to different types and terms of punishment. Some scholars advocate limiting the scope to public surveillance, criminal detention, and fixed-term imprisonment of less than three years (Wang, 2025a). Others argue that the scope should be restricted to public surveillance, criminal detention, and fixed-term imprisonment of less than one year (Song & Wang, 2024). Another view proposes limiting the scope to public surveillance, criminal detention, fixed-term imprisonment of up to one year for intentional crimes, and up to three years for negligent crimes (Yu, 2025). Some researchers further suggest that the sealing scope should cover minor negligent crimes and intentional crimes punishable by up to one year of imprisonment, criminal detention, public surveillance, or exemption from punishment (Jiang, 2025). Second, the exclusion of specific charges from application. Existing studies present divergent views on which charges should be excluded. Third, the exclusion of cases based on factors such as the severity of punishment, viciousness of the offence, recidivism risk, and social impact. Scholars hold differing opinions on these factors; some emphasise a strict distinction

between intentional and negligent crimes (Shi, 2025), while others highlight the importance of assessing recidivism risk (Wang, 2025b).

Extensive research has covered various dimensions of the scope of misdemeanour record sealing, laying an important foundation for understanding and scientifically defining this scope and providing key information and directions for subsequent scholars.

Current knowledge about the scope of misdemeanour record sealing is primarily derived from normative analyses, using logical deduction to form viewpoints and illustrate them with individual cases. While such studies have explored certain dimensions and provided some justification and argumentation, they mainly relied on logical reasoning by scholars based on policy documents and individual cases, without obtaining optimal evidentiary support from frontline practice. Therefore, although a foundational body of literature on the scope of misdemeanour record sealing has been established, the scientific validity of this knowledge remains untested, and much of it remains at the level of research hypotheses.

Conclusions drawn from logical deduction may not fully align with real-world conditions, creating an urgent need for empirical research to provide evidentiary support in the literature on misdemeanour record sealing. For instance, little is known about whether the multiple dimensions of the current misdemeanour record sealing scope are recognised by frontline practitioners, or how investigators, procurators, judges, prison police, community correction officers, and other personnel directly dealing with offenders and public security understand and perceive this sealing scope, especially in an era when AI technologies are deeply embedded in public security governance.

Current Research

This study sought to measure the scope of misdemeanour record sealing using a mixed empirical research method. The research proceeded through three sequential stages: unstructured interviews, analysis of structured data from grassroots criminal judgments, and cross-validation using structured data from other regions, ultimately achieving the research's measurement objectives.

Measurement Objectives

Overarching Objective

The overarching measurement objective is to establish an appropriate scope of misdemeanours eligible for the misdemeanour record sealing system. Major countries and regions worldwide have established mature misdemeanour record sealing systems, whose application scope generally follows the core rule of ‘excluding felonies and including misdemeanours'. Canada explicitly excludes weapons, sexual, terrorist, and military offences, applying the system only to ordinary misdemeanours; juvenile criminal records are automatically destroyed or archived upon expiration of the relevant period. The United Kingdom uses the declared sentence as the standard, excluding serious violent crimes, sexual offences,

and terrorist crimes; misdemeanours punishable by imprisonment of less than four years are automatically deemed invalid after the completion of a rehabilitation period, enjoying the effect of criminal record sealing. At the federal level, Australia limits eligibility to misdemeanours punishable by imprisonment of up to 30 months, with most states further restricting it to less than six months; sexual offences and offences against minors are ineligible. France and Germany adopt a negative list model, excluding felonies, specific sexual offences, and offences against children, while including misdemeanours and petty offences. Japan and the Republic of Korea use sentence length as the classification criterion, allowing sealing for minor fines and short-term imprisonment, while excluding felonies and serious sexual offences. China's Hong Kong, Macao, and Taiwan regions apply the system to minor offences punishable by short-term imprisonment or small fines, excluding serious crimes.

While mainland China has made substantial progress in implementing the juvenile criminal record sealing system, the full rollout of the misdemeanour record sealing system for adults has not yet been realised. The most fundamental issue, and the core focus of this study, is determining the appropriate scope of misdemeanours covered by the misdemeanour record sealing system.

Specific Objectives

Drawing on existing literature, China's national conditions, and the experience of foreign countries and regions, the overarching measurement objective is subdivided into three specific sub-objectives. The first is to measure the number and proportion of offenders sentenced to different types and terms of punishment, and to determine the appropriate breadth of the misdemeanour record sealing scope. This is a critical issue balancing public security and citizens' rights protection, as both excessively broad and excessively narrow scopes are inappropriate. Accurately estimating the number and proportion of people covered by different sentencing thresholds is essential to developing an evidence-based scheme.

The second sub-objective is to measure the exclusion of specific charges from application. Mainland China must determine whether and which specific charges to exclude when defining the scope of misdemeanour record sealing; both questions require empirical measurement based on practical conditions.

The third sub-objective is to measure the exclusion of cases based on factors that serve as critical considerations for misdemeanour record sealing, such as the severity of punishment, viciousness of the offence, recidivism risk, and social impact. How to weigh and select them in the exclusion process represents a key theoretical and practical issue. These factors are closely linked to the delineation of the misdemeanour record sealing scope, particularly in the current AI era, where digital information flows rapidly and the public's ability to access criminal record information is increasing, alongside growing public demand for public security.

Methods

Research Design

Given the complexity of supplementing literature on frontline practitioners' perceptions and the sensitivity of measuring the scope of misdemeanour record sealing, this study adopted a mixed-methods empirical approach that integrates qualitative and quantitative empirical paradigms. Specifically, an exploratory sequential empirical method was employed to systematically collect, code, and analyse diverse types of data and achieve a more comprehensive, accurate, and scientific measurement of the scope of minor criminal record sealing. The exploratory sequential mixed-methods design is an empirical research approach with distinctive research value. Although quantitative and qualitative research each have unique strengths and characteristics, they also inevitably suffer from certain limitations. Mixed methods research refers to studies that integrate qualitative and quantitative research methods, tools, or concepts (Koskey et al., 2016). During the research process, mixed methods research combines and embodies the perspectives, data collection, analysis, reasoning, and other techniques of both qualitative and quantitative approaches, enabling a more in-depth and comprehensive understanding and verification of the research problem (Onwuegbuzie et al., 2010). Mixed methods research is also known as the ‘third methodological movement' or ‘third paradigm' following quantitative and qualitative research paradigms.

Although an exploratory sequential mixed empirical method was employed, the research design was not arbitrarily constructed. The research design was developed through phased data collection and analysis and was based on existing advanced research to refine the final measurement protocol. For example, existing studies generally agree that offenders sentenced to public surveillance or criminal detention should be included in the misdemeanour record sealing system, but scholarly debate persists over whether the imprisonment threshold for sealing should be set at less than three years or limited to less than one year. Instead of focusing on investigating and measuring widely accepted academic viewpoints, this study concentrated on contested issues in prior research. As such, it can provide strong data support to resolve academic disputes, offering definitive evidence to guide technological development and the modernisation of governance capacity in an era where AI is deeply integrated into public security governance.

While mixed empirical research designs have been applied in many fields, they have not been widely adopted in public security research, likely due to the difficulty of accessing data from practical departments. Unlike the studies outlined above that examine misdemeanour record sealing based on policy documents, individual cases, and logical deduction, this study's exploratory sequential mixed-methods approach used qualitative interviews and structured data from full judgments of grassroots courts. This method mutually corroborated the findings, forming empirical data support and yielding a more nuanced, evidence-based understanding of the scope of misdemeanour record sealing. This integrated use of empirical research methods can provide more thorough explanations for the research results and merits further scholarly investigation.

The exploratory sequential mixed-methods research design was divided into three progressive stages. In the first stage, unstructured interviews were employed as a qualitative research method to collect data. The primary objective of this stage was to fully clarify the original perspectives of practitioners in practical departments through exploratory research. Interviewees were allowed to freely express their views on the scope of minor criminal record sealing based on their own understanding and perception of crimes. In-depth communication and follow-up inquiries were conducted with minimal researcher influence on the interviewees' viewpoints. The second stage aimed to measure the coverage scope of different categorical schemes. Based on the findings of the exploratory stage and the controversial focal issues in the existing literature, structured data of adjudicated criminal cases from a county-level procuratorate were used to conduct measurements across multiple schemes with different types and terms of criminal penalties. In the third stage, confirmatory research was conducted. Based on the results of the previous two stages, court data from other regions were selected to repeat the measurement and comparison of different schemes. The core purpose of data measurement in this stage was cross-verification and comparative analysis.

Sample

Based on the aforementioned mixed-methods research design, the sample data varied across different stages, and convenience sampling was adopted throughout all stages. The field interviews in the first stage were conducted across 10 regions in China, with focus group interviews adopted in each region. Public servants with professional working experience in the management of offenders and criminal record sealing were recruited in each region. They were drawn from, but were not limited to, public security organs, procuratorates, people's courts, judicial administrative authorities (including prisons, community correction institutions, and other affiliated departments), and political and legal affairs commissions. The 10 regions were coded A1, A2, A3, A4, A5, A6, A7, A8, A9, and A10, respectively. Among these, A1 and A2 belonged to Northeast China; A10 to North China; A8 to Northwest China; A3 and A9 to Central China; A4, A5, and A6 to South China; and A7 to East China.

The sample distribution was generally consistent with the population structure distribution of mainland China. The sample in the second stage was mainly drawn from Region A11 in North China. It consisted of legally effective criminal judgment records from a county-level procuratorate, covering the period from January 2024 to August 2025, with 322 individuals.

The sample data in the third stage comprised adjudicated court records from Region A12 and other areas for cross-validation. Region A12 is located in North China, and the data were structured records of legally effective judgments obtained from local people's courts. The time span ranged from January 2024 to December 2024, involving 253 individuals.

Data Processing and Statistical Analysis

Data processing and statistical analysis were divided into two main components: processing and statistical analysis of unstructured data, and statistical analysis of structured data.

Analysis of Unstructured Data

Based on the data collected from the interviews, grounded theory was adopted to conduct qualitative data analysis. The overall analytical procedure consisted of three sequential coding stages. The first was open coding, which aimed to establish an initial coding framework through the coding and analysis of raw data. By verbatim collation of interview transcripts, this study refined the scope of record sealing for minor criminal offences involved in the materials. The second stage was axial coding. Following open coding, discrete codes could not form a complete conceptual system or theoretical framework. Axial coding aggregated the fragmented codes. Through the continuous comparison and analysis of concepts, it explored the correlations between empirical realities and conceptual connotations, identified the implicit logical relationships among categories, realised the linkage and classification of concepts and categories, and constructed relational frameworks. This stage conducted progressive coding of all factors affecting the scope of record sealing for minor offences collected from the 10 regions. The third stage was selective coding. It referred to the process of identifying the core category, systematically associating it with other categories, verifying the inter-category relationships, and supplementing and refining incompletely conceptualised categories.

Analysis of Structured Data

Structured data analysis commenced after optimal measurement criteria covering criminal offence categories had been developed through preliminary qualitative analysis. This was followed by quantitative data analysis in the second stage and cross-validation analysis in the third stage.

Quantitative measurements were conducted in the second stage based on all offenders in criminal cases recorded by a county-level procuratorate over a 20-month period. The following six measurement schemes were formulated according to penalties of different types and durations: Scheme One (three years or less), Scheme Two (less than three years), Scheme Three (one year or less), Scheme Four (less than one year), Scheme Five (intentional crimes with a sentence of one year or less and negligent crimes with a sentence of three years or less), and Scheme Six (intentional crimes with a sentence of less than one year and negligent crimes with a sentence of less than three years).

The third stage used all criminal case data within one year from the court of another county for re-measurement, and multiple measurements were further conducted using full criminal case data from more complete administrative regions to cross-verify the research results. Both the second and third stages adopted identical data analysis procedures, which included three rounds of screening: the first round screened all subjects by sentence duration in accordance with the requirements of each scheme. For instance, under Scheme One, which targeted fixed-term imprisonment of three years or less, individuals who met the sentencing criterion were retained and those who did not were eliminated. The second round filtered the sample based on the offence categories defined in the first stage, excluding

individuals convicted of ineligible offences and retaining those with eligible offence types. This was exemplified by the case of an offender convicted of robbery who was sentenced to fixed-term imprisonment of less than three years, whose data were excluded because the findings of the first stage confirmed that robbery was not applicable to criminal record sealing. The third round removed individuals with a high likelihood of reoffending based on the recidivism potential identified in the first stage, and retained the rest of the sample.

Results

The qualitative analysis in the first stage generated substantive insights into the scope of criminal record sealing for minor offences, which were summarised in three dimensions. First, regarding penalty modalities, six classification criteria were extracted from interview data: (1) public surveillance, criminal detention, and fixed-term imprisonment of three years or below; (2) public surveillance, criminal detention, and fixed-term imprisonment of less than three years; (3) public surveillance, criminal detention, and fixed-term imprisonment of one year or below; (4) public surveillance, criminal detention, and fixed-term imprisonment of less than one year; (5) public surveillance, criminal detention, fixed-term imprisonment of one year or below for intentional crimes, and fixed-term imprisonment of three years or below for negligent crimes; (6) public surveillance, criminal detention, fixed-term imprisonment of less than one year for intentional crimes, and fixed-term imprisonment of less than three years for negligent crimes. Second, this stage obtained statistical results concerning the inapplicability of record sealing for specific criminal charges. Third, it derived statistical findings regarding other influencing factors such as recidivism risk. The statistical results obtained in the second and third stages constituted sequential screening outcomes formulated strictly upon the three-dimensional scope criteria established in the first qualitative stage.

Exclusion of Specific Charges

Qualitative analysis in Stage 1 examined 33 valid viewpoints from the 10 regions, each containing multiple statements on the content of misdemeanour record sealing. Table 1 presents the results for the exclusion of specific charges. The 33 charge-related viewpoints from the 10 regions covered 12 categories of charges, ranked by frequency and proportion.

Table 1
Axial Coding Results for Exclusion of Specific Charges

No.	Charge Category	Number of Viewpoints	Proportion
1	Crimes endangering national security	12	36.36%
2	Gang-related crimes (triad-related organisations)	11	33.33%
3	Terrorist crimes	10	30.30%
4	Sexual crimes (mainly against minors)	7	21.21%
5	Serious violent crimes (intentional homicide, rape, robbery, kidnapping, arson, explosion, poisoning, organised violent crimes, etc., parole provisions, Criminal Law Article 81)	7	21.21%
6	Drug-related crimes	5	15.15%
7	Crimes for criminal liability ages 14–16 (intentional homicide, intentional injury causing severe injury/death, rape, robbery, drug trafficking, arson, explosion, poisoning, Criminal Law Article 17)	4	12.12%
8	Duty-related crimes	4	12.12%
9	Telecom fraud crimes	2	6.06%
10	Serious crimes endangering public security	1	3.03%
11	Cult-related crimes	1	3.03%
12	Intra-family crimes	1	3.03%

[Table 1 here]

The charge categories ranked 5 and 7 were highly similar, differing only in interviewees' reference standards. These two categories can be merged as follows: intentional homicide, rape, robbery, kidnapping, arson, explosion, poisoning, organised violent crimes, intentional injury causing severe injury or death, and drug trafficking. To avoid an overly complex list of excluded charges that hinders practical implementation, this study selected the most frequently cited major charges for exclusion: crimes endangering national security, 10 categories of serious violent crimes, terrorist crimes, gang-related crimes, and sexual crimes against minors (e.g., child molestation).

Interviewee B1 clearly articulated this view:

Offences with egregious circumstances and extreme social harm should not be eligible for misdemeanour record even if the final declared sentence is minor, such as crimes endangering national security or serious violent crimes. These crimes pose severe threats to social order and public security, and the general public would find it unacceptable to seal records for such offences.

Recidivism Risk and Other Sealing Factors

The exclusion of cases based on factors such as penalty severity, offence viciousness, recidivism risk, and social impact was addressed in regional interviews (Table 2). The 33 viewpoints from the 10 regions identified eight categories of additional factors affecting record sealing.

Table 2
Axial Coding Results for Recidivism Risk and Other Influencing Factors

No.	Influencing Factor	Attribute	Number of Viewpoints	Proportion
1	Form of guilt (2)	Intentional crimes	1	3.03%
2		Negligent crimes (serious negligence)	1	3.03%
3	Recidivism risk (22)	High-risk assessment (prior convictions, records of misconduct)	6	18.18%
4		Recidivists	9	27.27%
5		Habitual offenders	7	21.21%
6	Joint offence (2)	Ringleader of a criminal gang	1	3.03%
7		Principal offender	1	3.03%
8	Offence circumstances (3)	Egregious nature, cruel means, major social impact	1	3.03%
9		Egregious circumstances, high personal danger	2	6.06%
10		Serious social harm	2	6.06%
11	Penalty enforcement performance (2)	Recorded demerit or above in prison	1	3.03%
12		Resistance to reform during imprisonment	1	3.03%
13	Offender characteristics (4)	Severe violent tendency, criminal depravity, or special criminal proclivities	2	6.06%
14		Professional/habitual offenders	2	6.06%
15	Victim characteristics (1)	Strong opposition from victims and close relatives	1	3.03%
16	Catch-all clause (1)	Other cases unsuitable for sealing	1	3.03%

[Table 2 here]

Table 2 shows that recidivism risk and offender characteristics are the most important additional factors. Recidivism risk can be directly determined using objective criteria such as recidivism and habitual offending. Offender characteristics require comprehensive case-based assessment: individuals with severe violent tendencies, inherent criminal depravity, special criminal proclivities, or professional/habitual offenders should be excluded from record sealing. Most factors in Table 2 are broadly related to recidivism risk and can be categorised as generalised recidivism risk factors. Interviewee B2 commented:

Some people have an extremely high risk of reoffending; they are addicted to crime. For example, theft yields quick money; they refuse to work regular jobs because the income is too slow. Gambling is similar; it is now highly accessible via WeChat mini-programs and group chats, often resulting in minor convictions. These individuals easily relapse into criminal behaviour.

Sentencing Proportions for Different Penalty Types and Terms

Qualitative findings identified charges and recidivism risk as key criteria for misdemeanour record sealing. Sentencing thresholds were then measured, yielding three core perspectives from interviews: (1) imprisonment of less than three years; (2) imprisonment of less than one year; and (3) imprisonment of less than one year for intentional crimes and less than three years for negligent crimes (with inclusion of the threshold term creating six total schemes). Measurement was conducted using full criminal offender data from Region A11 (322 individuals), following three rounds of screening: sentence, charge, and recidivism risk. Results are presented in Table 3 and Fig. 1.

Table 3
Comparison of Measurement Schemes for Sentence Type and Term

Measurement Schemes	Round 1: Sentence Exclusion	Round 2: Charge Exclusion	Round 3: Recidivism Risk Exclusion
Measurement Scheme 1 (≤ 3 Years)	275/322 = 85.40%	272/322 = 84.47%	261/322 = 81.06%
Measurement Scheme 2 (< 3 Years)	266/322 = 82.60%	263/322 = 81.68%	252/322 = 78.26%
Measurement Scheme 3 (≤ 1 Year)	207/322 = 64.29%	205/322 = 63.66%	200/322 = 62.11%
Measurement Scheme 4 (< 1 Year)	194/322 = 60.25%	192/322 = 59.63%	187/322 = 58.07%
Measurement Scheme 5 (Intentional Crimes ≤ 1 Year; Negligent Crimes ≤ 3 Years)	207/322 = 64.29%	205/322 = 63.66%	200/322 = 62.11%
Measurement Scheme 6 (Intentional Crimes < 1 Year; Negligent Crimes < 3 Years)	194/322 = 60.25%	192/322 = 59.63%	187/322 = 58.07%

[Table 3 here]

[Figure 1 here]

Measurement Scheme 1: The applicable penalties under this scheme were public surveillance, criminal detention, and fixed-term imprisonment of three years or less. Initially, 47 individuals were excluded based on penalty criteria, leaving 275 valid samples, which accounted for 85.40% of the total population. Further screening was conducted in accordance with the aforementioned conviction criteria, eliminating another three offenders. The relevant offences included robbery (fixed-term imprisonment of two years and three months), child indecency (exempted from criminal punishment), and child indecency (fixed-term imprisonment of six months). After this round of screening, the remaining sample accounted for 84.47% of the total population. Finally, screening was performed by recidivism risk, with 11 individuals excluded: 1 with administrative punishment records, 5 with previous criminal convictions, 3 with bad behavioural records, 1 with both previous convictions and bad behavioural records, and 1 with recidivist status. The proportion of the remaining sample dropped to 81.06% of the total population.

Measurement Scheme 2: This scheme defined the applicable penalties as public surveillance, criminal detention, and fixed-term imprisonment of less than three years. 56 individuals were first excluded by penalty qualifications, leaving 266 individuals (82.60% of the sample). Subsequent screening based on the established conviction criteria removed another three offenders with the same offence types as those in Scheme 1, bringing the remaining proportion to 81.68%. Further screening by recidivism risk

eliminated 11 individuals with identical profiles to those excluded in Scheme 1. The final proportion of the valid cases stood at 78.26%.

Measurement Scheme 3: This scheme restricted applicable penalties to public surveillance, criminal detention, and fixed-term imprisonment of one year or less. In the first round, 115 individuals were excluded per penalty conditions, leaving 207 (64.29%) samples. Two additional offenders were eliminated through conviction-based screening, both convicted of child indecency (one exempted from punishment and one sentenced to six months of fixed-term imprisonment), with the remaining proportion declining to 63.66%. In the final round of recidivism risk screening, 5 individuals were excluded, including 1 with previous convictions, 1 with both previous convictions and bad behavioural records, 1 with bad behavioural records, 1 with prior criminal records, and 1 with recidivist status. The final valid sample proportion was 62.11%.

Measurement Scheme 4: This scheme specified applicable penalties as public surveillance, criminal detention, and fixed-term imprisonment of less than one year. 128 individuals were screened out according to penalty criteria in the first stage. The remaining 194 individuals accounted for 60.25% of the total population. Two offenders were further excluded by conviction criteria with the same offence types as those in Scheme 3, resulting in a remaining proportion of 59.63%. Screening based on recidivism risk subsequently eliminated five individuals with the same characteristics as those in Scheme 3. The final proportion of the valid sample was 58.07%.

Measurement Scheme 5: The applicable penalties were defined as public surveillance, criminal detention, fixed-term imprisonment of one year or less for intentional crimes, and fixed-term imprisonment of three years or less for negligent crimes. The screening results were consistent with those of Measurement Scheme 3.

Measurement Scheme 6: The applicable penalties were set as public surveillance, criminal detention, fixed-term imprisonment of less than one year for intentional crimes, and fixed-term imprisonment of less than three years for negligent crimes. The screening results were consistent with those of Measurement Scheme 4.

Cross-Validation Across Different Regions

To verify the robustness of the research results, this study further collected multi-regional and multi-level criminal record data for cross-validation, aiming to examine whether there were significant differences in the scope of sealed minor offences across different regions. The data analysis results across regions were broadly consistent, suggesting a degree of robustness in the research findings, although cross-validation was limited to two county-level jurisdictions in North China. To conserve space, this section presents the analytical results of Region A12 as a representative case.

Region A12 used full criminal offender data from all criminal cases handled by a county-level people's court throughout 2024. It followed the measurement scheme consistent with Table 3, which targets offenders sentenced to public surveillance, criminal detention, or fixed-term imprisonment of one year or

less. The initial dataset comprised 253 individuals. After screening by penalty categories, retaining only those sentenced to public surveillance, criminal detention, or fixed-term imprisonment of one year or less and excluding unqualified cases, 142 valid samples (56.13%) remained.

Further screening was conducted based on the aforementioned crime classification criteria, eliminating 5 cases: 1 case of rape and 4 cases of smuggling, trafficking, transportation, and manufacturing of drugs. The remaining sample accounted for 54.15% of the total. Finally, screening was performed by excluding individuals with recidivism risk, removing four habitual offenders. The remaining valid sample constituted 52.57% of the total initial population.

A comparison between Region A11 and Region A12 revealed that the measurement results of Region A12 were generally consistent with those of Region A11, with slight discrepancies. Such differences were mainly reflected in spatial and temporal dimensions. Spatially, the overall distribution of crimes varied with regional characteristics. As A11 and A12 are located in two geographically distinct jurisdictions, their proportional shares of minor offences naturally differed, which aligns with the realistic pattern of heterogeneous crime distribution across regions.

Temporally, there were also disparities in the sample periods between the two regions. To further identify essential differences in the scope of sealed minor offences across regions, adjustments were made to the temporal distribution of samples. The sample period of Region A11 covered the entire year of 2024 and the first eight months of 2025, totalling 20 months, while Region A12 only used full-year data of 2024.

From the national trend of misdemeanour criminalisation, the proportion of misdemeanour cases has maintained continuous upward growth. Nationwide, the proportion of criminal cases with sentences of less than three years reached 82.3% in 2023 and rose to 87.3% in 2024, indicating a steady year-on-year increase in the share of misdemeanours. Given that the average sample time of Region A11 was later than that of Region A12, the proportion of sealed minor offences in Region A11 was theoretically expected to be higher. The empirical results are broadly consistent with this expectation: the final proportion of sealed minor offences stood at 62.11% in Region A11 and 52.57% in Region A12.

Discussion

This study aimed to provide an innovative mixed empirical method for measuring the appropriate scope of misdemeanour record sealing, which is highly relevant in an era where digital records and AI are widely embedded in public security governance systems. The exploratory sequential mixed empirical design comprised three stages: qualitative interviews (Stage 1), quantitative measurement using procuratorate data from Region A11 (Stage 2), and cross-validation using court data from Region A12 (Stage 3). The interviews conducted across 10 regions in Stage 1 confirmed that the scope of misdemeanour record sealing should prioritise sentence, charge, and recidivism risk, expanding and supplementing the existing literature. Stage 2 quantitatively analysed data from 322 individuals in Region A11 across six schemes with three rounds of screening. Stage 2 quantitatively analysed data from 322

individuals in Region A11 across six schemes with three rounds of screening, presenting the proportion of groups covered by each scheme. Stage 3 re-measured 253 samples from Region A12, with results broadly consistent with Stage 2 within a reasonable margin of variation. Collectively, this study provides preliminary empirical evidence that contributes to addressing definitional challenges and academic disputes regarding the scope of misdemeanour record sealing.

Setting of Sentencing Criteria

The results demonstrate that sentencing criteria significantly affect the scope of misdemeanour record sealing (Fig. 1). In the AI era, where criminal records circulate rapidly, selecting sentencing criteria requires balancing public security impacts and effective rights protection to optimise the effects of criminal record policies (Mungan, 2019). Employment discrimination based on criminal records is a prominent social problem (Li, 2023). Prior literature highlights that in the digital age, misinformation and abuse of criminal records are widespread, generating multiple harms such as eroding community collective capacity, depleting community wealth, and suppressing public expression; thus, restrictions on criminal record application are needed to curb its expansion (Archer & Harawa, 2025). Responding to these concerns, this study found that sentencing thresholds were the most influential factor for the misdemeanour record sealing system, with different thresholds affecting drastically different population sizes. Sentencing criteria should therefore be defined based on the appropriate scale of reform impact, dynamically balancing public security maintenance and rights protection. Based on empirical data, this study recommends setting sentencing criteria at public surveillance, criminal detention, and up to one year of fixed-term imprisonment. To extend rehabilitative opportunities while maintaining public safety, negligent crimes may be considered for a relaxed threshold of up to three years of fixed-term imprisonment, although this recommendation rests on a small number of negligent-crime observations in the sample.

Exclusion of Specific Charges

Misdemeanour record sealing should be limited to relatively minor rather than serious offences (Selbin et al., 2018). Once sentencing criteria are established, charge exclusion becomes an important consideration. Prior literature has noted variations in charge eligibility across U.S. states (e.g., California, Utah, New Jersey, Pennsylvania), with some excluding cannabis-related offences and others limiting eligibility to minor violations and first-time offenders (Adams et al., 2026). This study responds to and expands these findings. Considering institutional differences between countries and China's national conditions, charges frequently cited in interviews should be excluded. Key excluded charges include crimes endangering national security, serious violent crimes, terrorist crimes, gang-related crimes, and sexual crimes against minors (e.g., child molestation). Most of these offences carry heavy sentences, with a skewed distribution favouring terms over three years; however, their extreme social harm and danger necessitate exclusion. Sexual crimes against minors deserve special attention. Victimology research shows that childhood sexual abuse has lifelong and profound impacts, justifying the exclusion

of offences such as child molestation, sexual assault by a person with a duty of care, and enticing minors into group licentiousness.

Exclusion Based on Recidivism Risk

Recidivism risk is a vital criterion for misdemeanour record sealing eligibility. Excluding high-risk offenders from sealing upholds the crime prevention function of the system. Existing literature has extensively addressed recidivism among recidivists, finding no evidence that imprisonment reduces recidivism risk (Spohn & Holleran, 2002). Other studies have attributed high recidivism rates to negative prison environments (Hassan et al., 2023), while extensive research documents the adverse effects of criminal records on recidivists (Bland et al., 2024). This study confirms that high-recidivism–risk individuals should be excluded. Recidivism risk assessment relies on objective legal indicators such as recidivism and habitual offending, as well as high-risk evaluations based on prior convictions and misconduct records, ensuring practical operability.

Exclusion of Specific Offender Types

Specific offender groups have received substantial scholarly attention. For example, Australian research has shown high rates of resuming injection drug use among male offenders post-release, and imprisonment had a limited impact on reducing such behaviour (Curtis et al., 2022). While some studies have advocated erasing cannabis-related criminal records (Wakefield et al., 2023), the existing literature, this study's findings, and criminological theory converge in supporting the exclusion of career offenders, namely, individuals with severe violent tendencies, inherent criminal depravity, special criminal proclivities, or who are professional or habitual offenders. Though their individual offences may not constitute serious harm, their persistent criminality undermines social recovery, justifying retained criminal records for enhanced prevention. Such characteristics can be identified through social background investigations and psychological profiling during the investigation and confirmed by procuratorates and courts; offenders displaying these characteristics can then be excluded from eligibility.

Form of Guilt

Distinguishing between intentional and negligent crimes in the sealing scope is typically operationalised by setting a lower imprisonment threshold for intentional crimes and a higher one for negligent crimes (e.g., ≤ 1 year for intentional; ≤ 3 years for negligent). This study found that such a distinction had minimal numerical impact, as it only applied to negligent crimes sentenced to 1–3 years' imprisonment, which constitutes a small group. Negligent crimes are rare in the Criminal Law, and few meet the extended sentence criterion. In the 322-sample dataset, only one negligent crime (negligent homicide, 10 months' imprisonment) was identified. Nevertheless, distinguishing guilt forms retains normative and practical value: (1) digital record-keeping systems can facilitate the administrative differentiation of offence categories; (2) extending the threshold for negligent crimes to three years may modestly broaden the rehabilitative reach of the sealing system, though the empirical data show this would affect only a small proportion of cases.

Offence Circumstances

Interviewees noted that offences of an egregious nature or involving cruel means, major social impact, or high personal danger should be excluded. Such offences rarely receive sentences of under three years or under one year, but exceptional cases may arise where minor offences trigger widespread online attention. These circumstances should be considered on a case-by-case basis whether to seal the records.

Temporal, Regional, and Hierarchical Differences

The data from the two study sites suggest minor variations in measurement results across time and regions, which is consistent with prior literature (Lageson & Stewart, 2024), though the limited number of sites precludes systematic assessment of hierarchical or departmental differences. Temporal differences stem from the substantial growth in misdemeanour proportions over the past decade. Regional differences arise from distinct crime types and structures (e.g., varying charge distributions affecting charge exclusion). Hierarchical differences reflect varying misdemeanour proportions in first-instance judgments at county versus municipal levels.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, convenience sampling was employed at all three stages, and the quantitative data came from only two county-level jurisdictions in North China. Neither the qualitative nor the quantitative samples can be assumed to be statistically representative of China as a whole, and the cross-validation between two sites in the same macro-region provides only a limited test of generalisability. The quantitative samples were also relatively small (322 and 253 individuals), which limits the statistical power of subgroup analyses and the precision of proportion estimates; notably, only one negligent-crime case fell within the 1–3 year range in the A11 dataset, so the proposed differential threshold for negligent crimes rests on very limited empirical observations and should be treated as tentative. Future research should employ probability sampling across larger and more geographically diverse jurisdictions.

Second, the recidivism-risk screening relied on proxy indicators available in case files, such as prior criminal convictions, administrative penalties, bad behavioural records, and recidivist or habitual-offender status, rather than on validated risk-assessment instruments or actual post-sealing recidivism outcomes. These administrative indicators may be incomplete or inconsistently recorded, and the study does not establish that the individuals excluded would in fact reoffend at higher rates. Longitudinal follow-up studies are needed to evaluate the predictive validity of the proposed exclusion criteria.

Third, the qualitative component captured the perspectives of frontline practitioners (investigators, procurators, judges, prison police, and community correction officers) but did not include the voices of offenders, victims, employers, or the general public; the exclusion of specific charges and offender groups reflects practitioner consensus, which may not fully align with broader societal attitudes or the

lived experiences of those affected by record-sealing decisions. In addition, inter-coder reliability statistics for the grounded-theory coding were not formally reported, meaning that the robustness of the qualitative coding cannot be independently verified despite following the standard open–axial–selective sequence.

Fourth, the data cover the period from January 2024 to August 2025, a time of ongoing legislative and policy development regarding misdemeanour record sealing in China; the legal and institutional landscape may evolve, and the proportions reported may shift as the system is implemented and refined. More broadly, this study provides only an initial measurement at the general normative level and does not fully account for regional variation, individualised circumstances, or the operational challenges of implementing a record-sealing system across diverse local contexts.

Conclusion

Existing research suggests that criminal record sealing may help reduce recidivism risk (Adams et al., 2017; Chien, 2020), and some studies have found recidivism rates among individuals with sealed records to be comparable to those of the general population (Prescott & Starr, 2020). These findings underscore the potential importance of establishing a well-calibrated scope for misdemeanour record sealing in mainland China. Against this background, this study addresses theoretical disputes and practical challenges in the existing literature using an exploratory sequential mixed-methods design, offering preliminary empirical evidence for both academia and policy discussion. The findings, which cover sentencing criteria, charge eligibility, and recidivism risk, collectively suggest a set of indicators that may inform the definition of misdemeanours eligible for record sealing. However, further research with larger, nationally representative samples, validated risk-assessment measures, and longitudinal follow-up is needed before definitive policy conclusions can be drawn.

Declarations

Ethics approval and consent to participate

This study received ethics-committee approval, though the committee's specific name cannot be disclosed for ethical reasons. All research was performed in strict accordance with the Declaration of Helsinki and other relevant guidelines and regulations. Informed consent was obtained from all research participants or their legal guardians prior to their participation in the study.

Data availability

The datasets generated during and analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The author declares no competing interests.

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Figures



Figure 1

Line Graphs of Different Measurement Schemes



Figure 1

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Supplementary Files

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