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Prison Conditions in France: A Database and An Index to Characterize All French Prisons

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In this paper, we present an original database characterizing the prison conditions of all 187 active prisons in France. Our database, called PCiF, aggregates data from both public and restricted-access sources and captures key dimensions of prison conditions: age of the facility, geographical isolation, prison size, occupancy rate, prison guard workload, access to family visiting rooms, in-prison work, complaints to the national prison inspectorate, and suicide. We also propose a synthetic index ranging from 0 to 100, based on between-prison rankings, to measure the overall quality of prison conditions within each facility. We validate our Prison Conditions Index by confronting it with emergency reports as well as judicial sanctions issued against French prisons. Such data is not only useful to document disparities in prison conditions through France, but also as a prerequisite to study their influence on different stakeholders, e.g. prisoners and judges.

Mots-clés :
Prison, Disparities, Prison conditions, Database, Criminal justice

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Introduction

There is a longstanding scholarly interest in measuring and understanding disparities in sentencing, i.e. differences in the severity of sanctions imposed by judges for similar criminal cases[1]. However, far less is known about disparities arising after sentences are issued by trial judges, at the stage of execution of sanctions. Particularly important and salient are the conditions under which prison sentences are executed, as incarceration is the most severe and coercive type of sanction. In practice, the prison conditions that convicts experience while incarcerated can noticeably differ from one facility to the next, in terms of available activities, services and overall harshness, even within the same judicial system: some prisons are security-oriented while others offer generous rehabilitation services, some prisons are highly overcrowded while others work under-capacity, some prisons are plagued by violence and hostility while others are more peaceful and humane, etc.

Such disparities in prison conditions between similar offenders can represent a great source of inequality and prejudice that is not only unfair, but that can generate frustration and delegitimation of the justice system in the eyes of offenders and the general public. Poor prison conditions can also lead to degrading and inhumane

treatments that violate national laws and the European Convention on Human Rights. In addition, because they determine the level of rehabilitation and specific deterrence that incarceration exerts on individuals, prison conditions have a direct causal effect on inmates' future outcomes, such as reoffending and employment (overall, harsher treatment generally leads to worse post-release outcomes, as found by Chen and Shapiro, 2007; Drago et al., 2011; Gaes and Camp, 2009; Mastrobuoni and Terlizzese, 2022; Tobon, 2022). It is thus important to be able to measure prison conditions as objectively as possible, both at the macro level of a criminal justice system and at the micro level of each prison facility within a given country.

In this paper, we present a new database, the "Prison Conditions in France" database (PCiF Database), and its related "Prison Conditions in France" Index (PCiF Index), that seek to document the quality and diversity of prison conditions for the universe of all 187 currently active French prisons. This initiative, part of a broader effort to analyze disparities in criminal justice in France[2], is useful for several reasons. First, it aggregates reliable statistical information that is currently spread between several sources, on some of the key characteristics of all French prisons. Such data is informative to researchers but also to a general audience of citizens, journalists, as well as judges and prison administration officials who often lack information on the characteristics of prison facilities and the differences that can exist between neighboring prisons. Second, the database can also prove useful for researchers studying crime and deterrence as a way to open the black box of prison, analyze between-prison disparities and distinguish between "de jure" sentencing (sentence type and length decided by judges) and "de facto" experiences of sentencing (in terms of disutility of prison time, rehabilitation and reentry preparedness, potential criminal capital accumulation, etc.).

To our knowledge, this is the first attempt to characterize the key aspects of prison conditions in all facilities of a given country. Prior work in this area either propose richer information but for a very limited set of prisons (e.g. the very detailed "Prison Conditions Monitoring Index" was only computed for six prisons in Bulgaria[3]) or use a comparative approach to evaluate rules and practices regarding national-level prison conditions across countries (e.g. the European Prison Observatory[4], the Prison Life Index[5]). Other studies like Coretti et al. (2023) have access to a large range of prison-level characteristics from the Prison Administration but do not specifically provide a measurement of prison conditions[6].

The remainder of the paper is organized as follows. Section 1 presents the database and the variables that we select and collect. Section 2 presents the index that we propose as an overall measure of the quality of prison conditions, based on rankings between prisons. Section 3 concludes with potential applications of the data.

1-The Database: Selection and Collection of

Variables

Our Prison Conditions database seeks to provide information on key dimensions of prison conditions for all 187 currently active prisons in France (as of May 2023). In order to select which characteristics to include or not in our Prison Conditions database among all potential variables, we use six cumulative criteria listed in Table 1.

Table 1. Criteria for inclusion of variables

#	Criteria for inclusion	Description
1	**Relevance**	Variable captures dimensions that are evidently relevant and meaningful for the quality of prison conditions for a typical prisoner
2	**Availability**	Variable is collectable using public data or restricted-access data[7] for all prisons at a relatively low cost[8]
3	**Quality of measurement**	Variable is obtained from reliable sources (public administrations or specialized non-profits) and is well measured, with low error, or can at least be seen as a good proxy of the underlying phenomenon
4	**High variation across prisons**	Variable displays high variance between prison facilities and captures meaningful disparities, not general aspects that are common to all French prisons
5	**Low variation over time**	Variable displays low variance over time within prisons and captures lasting characteristics and not short-term circumstances, or if volatile it can be computed over long periods (like suicide rates)
6	**Low redundancy**	Variable measures one specific dimension of prison conditions and is not redundant with other included variables

To summarize, each variable considered for inclusion in the PCiF database has to be relevant for prison conditions, available, well-measured, varying across prisons but rather stable over time, and not redundant with other variables. These criteria exclude possibly important variables that can't be measured properly as of now, such as health services or access to rehabilitation programs for example.

1.1-Included variables

For the current (first) version of the PCiF database, we include 9 prison-level characteristics that meet our criteria, capturing the following aspects of prison conditions: year of construction, geographic isolation, size, crowding rate, guard workload, access to in-prison work, complaints to the Prison Inspectorate, suicide among inmates, and family visiting rooms. The variables, their sources and calculations, are described in Table 2. Details about each source are provided in Appendix (Table A1).

Table 2. List of variables included in our Prison Conditions Database

1. YEAR (Year of construction)	**Sources: OIP**	**Period: N/A**
Details on measurement: *Year of initial construction of the main building of the facility*		
Rationale: construction year is a good measure of the architectural quality and design of infrastructures, as well as the overall state of deterioration of prison facilities. Older facilities are thus typically associated with poorer prison conditions.		
2. DISTANCE (Distance to county capital hall)	**Google Maps**	**As of May 2023**
Kilometric distance based on default itinerary by car on Google Maps		
Geographic distance between prisons and large cities and administrative centers makes contacts more difficult with families, associations and public services. Longer distances are thus typically associated with poorer prison conditions.		
3. SIZE (Prison operating capacity)	**DAP**	**As of May 2023**
Prison operating capacity in terms of maximum number of prisoners, according to current regulation		
Large prisons gather hundreds or sometimes thousands of prisoners. They are typically characterized by a more industrial type of prison management, and more impersonal contacts and relationships between inmates and with prison staff. Larger prisons are thus typically associated with poorer prison conditions.		
4. OCCUPANCY (Crowding rate)	**DAP**	**From 2018 to 2023**
Average of annual crowding rates (population over capacity) on January 1st, from 2018 to 2023		
Overcrowding (more prisoners than capacity) reduces prisoners' access to activities and services (sports, education, family visits, health services, etc.) and can often exacerbate tensions between cellmates. Overcrowded prisons are thus typically associated with poorer prison conditions.		
5. GUARD_WORKLOAD (Prisoners per guard)	**CGLPL**	**At time of last CGLPL visit**
Number of prisoners divided by number of prison guards in the prison personnel, at the date of last visit by the Prison Inspectorate (CGLPL)		
Prison guards (and staff more generally) play an essential part in making prisons secure, safe and rehabilitative. Higher guard workload is thus typically associated with poorer prison conditions.		
6. WORK (Factory area per prisoner)	**ATIGIP**	**As of May 2023**
Total space occupied by in-prison factories and workshops, divided by number of prisoners (in squared meters)		
In-prison work allows prisoners to earn money, accumulate training and experience, leave their cell for several hours per day, and also help to obtain early-release. Lower access to in-prison work is thus typically associated with poorer prison conditions.		
7. COMPLAINTS (Complaints to Inspectorate)	**CGLPL**	**From 2016 to 2021**
Average annual rate of referrals to French Prison Inspectorate (CGLPL) from prisons (number of complaints over number of prisoners), from 2016 to 2021		
Prisoners are legally entitled since 2008 to write to the independent Prison Inspectorate, called Contrôleur Général des Lieux de Privation de Liberté (CGLPL), usually to complain about a problematic personal situation (about victimization, ban from work, prison transfer, family visits, etc.). Prisons with a high rate of complaints to the Prison Inspectorate are thus typically associated with poorer prison conditions.		
8. SUICIDE (Suicide rate)	**OIP & Ban Public**	**From 2014 to 2021 (excl. 2020)**
Average of annual suicide rates (suicides over population), based on counts by two specialized non-profits, from 2014 to 2021 (excluding year 2020 due to very incomplete reports)		
Suicide is the most extreme form of self-inflicted harm. It reveals serious suffering behind bars and can signal severely degraded prison conditions. Higher suicide rates are thus typically associated with poorer prison conditions.		
9. FAMILY_ROOMS (Visiting rooms for families)	**OIP**	**As of May 2023**
Existence (=1) or absence (=0) of at least one family visiting room or apartment		
Family visits help maintain positive and supportive social ties while incarcerated. Dedicated family rooms or apartments allow quality time, for several hours or days. The absence of family visiting rooms is thus typically associated with poorer prison conditions.		

1.2-Quality-check variables

In order to validate our selection of variables and the resulting Index, we also collect data on two additional variables that provide external signals of poor prison conditions. The two variables, listed in Table 3, measure whether a prison facility has ever been convicted for unfit or inhumane prison conditions by the justice system (French administrative courts or the European Court of Human Rights), and whether the Prison Inspectorate (CGLPL) has ever issued emergency recommendations against a prison facility.

Table 3. List of additional variables used to validate our Prison Conditions Index

1. CONVICTION (conviction by French or EU courts)	**Source: OIP**	**Period: As of May 2023**
Details on measurement: *Occurrence (=1) or not (=0) of at least one judicial conviction by French administrative courts or the European Court of Human Rights targeting a prison for inhumane or degrading prison conditions*		
Rationale: Judicial conviction is a signal that prison conditions do not respect prisoners' fundamental rights (to dignity in most cases). Convicted facilities are thus typically associated with poorer prison conditions.		
2. EMERGENCY (Emergency recommendations by CGLPL)	**CGLPL**	**As of May 2023**
Publication (=1) or not (=0) of an emergency recommendation by French Prison Inspectorate targeting the prison facility for serious problems		
Emergency recommendations are very rare publications by the Prison Inspectorate (CGLPL) to signal seriously problematic and urgent situations in a prison facility, requiring immediate action to restore prisoners' fundamental rights. Emergency recommendations are thus typically associated with poorer prison conditions.		

1.3-Revisions, updates and additions

The Prison Conditions Database is designed to be revised and updated on a yearly basis to keep track of changes over time (e.g. in terms of prison crowding) as well as to benefit from future improvements in measurement quality. We also intend to make additions as new variables meet our criteria for inclusion (see Table 1), in particular once they become available with high quality at relatively low cost. Such changes in the future may for example include the revision of our variable proxying access to in-prison work (currently proxied by the per-prisoner area dedicated to workshops) thanks to the future implementation of a new information system by the Prison Administration; or the inclusion of a new variable capturing the overall level of tensions and violence within prisons based on a topic-level analysis of complaints to CGLPL.

2-The Index: From Raw Data to the Prison Conditions Index

In order to synthesize the characteristics collected in the database, we propose a measure of the overall quality of prison conditions within each facility, called the Prison Conditions Index (PCiF index). This index, from 0 to 100, seeks to aggregate in a simple manner information on all the k continuous variables collected in the database (K=8, i.e. all variables listed in Table 2 except for the binary "Family visiting rooms").

The index is designed as a relative measure of the quality of prison conditions, based on between-prisons comparisons[9]. It is computed as the unweighted average of each prisons' ranks, also measured from 0 to 100, for all height variables included in the index:

$$Index_i = \frac{\sum_{k=1}^{K} Rank_{ik}}{K}$$

To obtain ranks for a given variable, all prison facilities are initially sorted from "worst" to "best": the worst facility, e.g. the most overcrowded prison, is ranked 1st, the second-worst is ranked 2nd, etc. Then, the ranks are stretched to range from 0 to 100 for each variable k, using the following formula:

$$Rank_{ik} = \frac{IniRank_{ik} - 1}{N - 1} * 100$$

To handle ties, we assign the same rank to prisons sharing the same value for variable k and the next prison in the ranking is assigned a rank that corresponds to the number of prisons that are worse.[10] For two variables, suicide and complaints, there are ties at the top (several prisons with no suicide and no complaint), hence we rescale ranks to obtain a consistent 0-100 scale[11].

Once the ranks are assigned for each of the eight continuous variables, we compute the unweighted average to obtain an overall index, ranging potentially from 0 to 100. A prison with an index of 0 (100) would correspond to a prison that is the worst (respectively the best) of all 187 prisons in each dimension.

By computing an unweighted average, we make the agnostic assumption that all height dimensions are equally important in measuring prison conditions. However, opinions may differ on which aspects of prison life are most important, so the index can easily be modified to assign different weights to each variable k.

Either weighted or unweighted, the PCiF index allows easy comparisons across all prisons, as well as between prisons from the same region, same type, same period of construction, etc.

As an illustration, Table 4 reports the mean index of prison conditions for the main types of facilities. Unsurprisingly, jails (dedicated to pre-trial detention and short prison sentences) obtain the lowest scores on average but show substantial heterogeneity. Conversely, juvenile prisons (dedicated to prisoners under 18 years old) offer the best prison conditions according to our index.

Table 4. Mean of PCiF Index by type of prison facility

Prison type	N	Average index	Min ; Max
Jails (*Maisons d'Arrêts*)	**86**	**49**	**27 ; 92**
Penitentiary Centers (*Centres Pénitentiaires*)	**51**	**50**	**32 ; 80**
Medium-term prisons (*Centres de détention*)	**27**	**54**	**32 ; 80**
Maximum-security prisons (*Maisons Centrales*)	**6**	**58**	**54 ; 67**
Semi-liberty centers (*Centres de semi-liberté*)	**10**	**63**	**51 ; 78**
Juvenile prisons (*Établissements pour Mineurs*)	**6**	**65**	**51 ; 75**
TOTAL	**187**	**51**	**27 ; 92**

As a validation exercise, we compare the PCiF index for prison facilities which have ever versus never been convicted by courts in cases of unfit or inhumane conditions. The index is significantly lower for convicted prisons than other facilities (-8 points). Similarly, the index is lower in prisons that received emergency recommendations by the Prison Inspectorate (-5 points). These differences tend to survive in multivariate regressions after controlling for prison type and size, thus confirming that our PCiF index captures relevant disparities in prison conditions also detected by external institutions.

3-Conclusion and potential applications

The Prison Conditions in France database corresponds to one of the very first attempts to collect data on the universe of prison facilities in a given country, in order to produce quantitative measures of prison conditions.

We argue that building and granting access to such data, and its associated index of prison conditions, can prove useful for different actors: legal practitioners (judges, prosecutors, lawyers) to make better-informed decisions, journalists and civil-society organizations to document prison conditions and their disparities, and researchers to study how stakeholders integrate prison conditions in their behaviors.

At least two research questions are worth exploring with this data. First, how do prison conditions affect the chances of successful reentry among prisoners? And which dimension of prison life are most critical in preventing or fueling recidivism? Second, how do judges incorporate (or fail to incorporate) information on prison conditions to make their decisions? And do they even have reliable assessments of the prison conditions in local facilities?

Data Access

The current version of the dataset, denoted PCiF-v1, is hosted on the Nakala repository (DOI: 10.34847/nkl.fb9c58uv). It is made freely available under CC BY-NC 4.0 license, starting from April 1, 2024 onward. Future versions shall be distributed under similar conditions.

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Appendix

Table A1. Details on data sources

Source name and acronym	Variables collected	Data access
Agence du Travail d'Intérêt Général et de l'Insertion Professionnelle (ATIGIP)	Work	Freely available at www.ipro360.justice.fr
Ban Public	Suicide	Freely available at https://banpublic.org/spip.php?page=rubrique&id_rubrique=69
Direction de l'Administration Pénitentiaire (DAP)	Size, occupancy	Freely available at www.justice.gouv.fr/statistiques-mensuelles-population-detenue-ecrouee-11
Contrôleur Général des Lieux de Privation de Liberté (CGLPL)	Complaints	Complaints data is under restricted access for research purposes. Contact to obtain the data: www.cglpl.fr/accueil/contact/
Contrôleur Général des Lieux de Privation de Liberté (CGLPL)	Emergency reports	All emergengy reports are freely available at www.cglpl.fr/rapports-et-recommandations/dernieres-recommandations/
Contrôleur Général des Lieux de Privation de Liberté (CGLPL)	Guard workload	All prison visit reports are freely available at www.cglpl.fr/rapports-et-recommandations/
Google Maps	Distance	Freely available at www.google.fr/maps/
Observatoire International des Prisons (OIP)	Year of construction, family visiting rooms, convictions	Freely available at www.oip.org/sinformer/etablissements/ and www.oip.org/infographie/prisons-condamnees-pour-conditions-de-detention-indignes/
Observatoire International des Prisons (OIP)	Suicide	Suicide data is under restricted access for research purposes. Contact to obtain the data : contact@oip.org

Notes

[1] Sentencing disparities can occur across courts, across judges, as well as across defendants within judges based on individual characteristics like gender and race, or even depending on external events like weather or sports results (see Spohn (2009) for an introduction).

[2] The current initiative is part of a project and web platform on disparities in criminal justice in France, www.observatoire-disparites-justice-penale.fr, coordinated by B. Monnery.

[3] The "Prison Conditions Monitoring Index" was developped in 2015 by researchers of the Center for the Study of Democracy https://csd.bg/fileadmin/user_upload/publications_library/files/22285.pdf

[4] The European Prison Observatory provides mostly qualitative, country-level information on several aspects of prison conditions for 10 countries: http://www.prisonobservatory.org/

[5] The Prison Life Index is currently under construction by the specialized media Prison Insider, with a coverage of approximately 50 countries: https://www.prison-insider.com/en/comparer/prison-life-index

[6] Correti et al. (2023) use detailed administrative data on all 188 Italian prisons, from 2016 to 2021, to study the determinants of suicide and self-harm at the prison level.

[7] By restricted-access we mean data that were obtained through agreements with institutions which usually do not publicly release their data. This is the case for data on all referrals by prisoners to the Prison Inspectorate (CGLPL) and for data on prisoner suicides collected by a specialized non-profit (OIP).

[8] This implies that we can collect data either automatically from existing files or by hand after reading easily accessible documents (such as CGLPL's prison visit reports). This criteria excludes variables that could only be obtained by conducting local visits or in-prison surveys for example.

[9] An alternative might be to build an absolute index, but it is practically very difficult to imagine how to set the absolute standard that prisons should meet on each of the selected variables: an occupancy rate of 100% or 50% or even 0%? An infinite space for prison work?

[10] As an example, imagine that the two worst prisons in terms of overcrowding share the same overcrowding rate. They will both get assigned a rank of 1. The next-worst facility will therefore get a rank of 3.

[11] Rescaling uses the following formula: (rank - minimal-rank) / (maximal-rank - minimal-rank) * 100