Denunciation, Crime, and Punishment: the cycle of violence in the city of Rio de Janeiro

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ABSTRACT

Violent crime has been a serious problem for the State of Rio de Janeiro´s administration for some decades - a preoccupation that is also highlighted by the population as one of its main concerns in various opinion pools. But violence in itself is not a phenomenon of easy resolution: it develops in different stages, which frequently have different spatial, causal and temporal tendencies.

Given the context of high criminal rates and the state´s budgetary crisis, this research aims to better understand the spatial distribution of what we call the “complete cycle of violence” (perception of security, crime, crime punishment and reinsertion of convicts into society) in the state of Rio de Janeiro territory, aiming to be an input for the proper and effective planning of a rights-oriented public security policy. This research also aims to comprehensively feed the public debate on security, promoting the transparency of public data on the theme.


1 This paper was based on a study from FGV/DAPP, with the same title, published in the institution’s home page and available through de link: http://dapp.fgv.br/en/denunciation-crime-and-punishment-the-cycle-of-violence-in-rio/
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INTRODUCTION

Brazil faces serious security problems. Using 2015 data, the Mexican NGO Citizen Council for Public Security and Criminal Justice identified 21 Brazilian cities among the 50 cities with over 300,000 inhabitants that have the highest murder rates in the world. According to the Brazilian Forum on Public Security, in 2015 Brazil recorded a rate of 27.2 intentional violent lethal crimes (CVLI) per hundred thousand inhabitants, and the state of Rio de Janeiro was close to the national average, reaching 26.4 CVLI per hundred thousand people - representing the second biggest rate in the southeast and south of the country, just after Espírito Santo.

Violent crime has been a problem for Rio de Janeiro for some decades now, and is even pointed out by the population as one of its main concerns in several opinion polls. However, violence does not have easy solutions: it is a multifactorial, complex phenomenon, which presents different aspects and requires public policies of different orders to be designed and integrated to intervene efficiently and effectively in its many stages of development (JENNESS, 2004; PETERSON et al., 2000). However, in practice, measures addressing violence in Rio de Janeiro have been atomized and fragmented, allowing the perpetuation of years of unsustainable levels of public insecurity with scandalous criminal statistics (JUSTIÇA GLOBAL, 2004; MACHADO DA SILVA, 1997).

Given the context of worsening crime rates and the economic and political crisis of the state, FGV/DAPP conducted a pioneer study to understand how crime materializes itself within the city of Rio de Janeiro. This study delved into the complete cycle of violence considering data of perception of insecurity, crime, punishment of crimes and rehabilitation of former convicts into society. The research reveals thus a geography of urban crime in the city.

The attention given to mapping the different stages of violence places these diagnosis in the group of orientations which aim for greater efficiency and more equal development within cities. The various forms of violence follow specific patterns anchored in territories according to their stage of development. Identifying those stages and their territoriality can significantly help building a comprehensive security policy, efficient and effective, and one that is able to respond to years of accumulation of unsustainable levels of violent urban crime (MORENOFF et al., 2001; SAMPSON, RAUDENBUSH, 1997). Among repressive policies, preventive policies, redistributive
justice and social reintegration, it opens space for investment in citizen security actions, compatible with a democratic and developed society.

This type of analysis that identifies where problems occur in an innovative data-driven way shows encouraging results and allows for spatial visualization, which facilitates the understanding of the analyzed data and points to possible solutions (WEISBURD et al., 2009). In this sense, the work presented here adds to the literature on spatial analysis of crime advocating to the adoption of street level identification of hotspots as the basic unit of analysis.

THE IMPORTANCE OF LOCATION

Public security in Rio is a chronic problem, and the city historically has many of researchers working devoted to the theme. Yet, it still had a very high deficit of georeferenced research on violence. The academic community more commonly focuses on the study of specific spaces: a favela or group of neighborhoods. The few general studies that have been made tend to privilege qualitative or essay-like approaches.

One of the reasons for this deficit in georeferenced research may be the difficulty in obtaining data. The state of Rio de Janeiro has a body with the sole objective of following and publicizing public security statistics - the Institute of Public Security (ISP-RJ) - that regularly updates various indicators of violence. However, these data tend to be made public in the form of monthly spreadsheets organized by the police’s territorial division (Integrated Areas of Public Security - AISP). The AISPs are in a level of aggregation that is superior to that of neighborhoods (frequently gathering more than one neighborhood together), which pose a challenge for the spatial understanding and analysis of statistics for specialists and uninitiated citizens alike.

Recently ISP has devoted to generating different visualizations of public security statistics. By using the Tableau platform the user can now have a more accurate spatial notion of some crimes (crimes against life, crimes against women and apprehension of firearms). Way bolder is the ISPGeo initiative, a platform which builds heat maps and historical series almost in real time. It constitutes a powerful planning tool for police forces, who previously had to do it mechanically or even use intuitive methods to understand the spatial distribution of crimes.
However, this initiative - which makes the ISP Tableau addition look like a shy contribution - has not yet been made available to the public: it can only be accessed by public security institutions. The absence of public information about criminality ends up favouring distortions when it comes to the application of public resources.

This paper therefore argues that greater attention and dedication to spatial studies of criminality is necessary. Consolidated international studies have shown that there is a tendency for crimes to concentrate. Researches developed by Sherman et al. (1989) and Weisburd et al. (2004) suggest that roughly 50% of crimes are concentrated in three or four small regions of cities. Finding out is this tendency also exists in Rio - and if it does, to which regions - would add an important instrument to the elaboration of public security policies in order to make it better prepared to dealing with the recent rise of violence in the city.

Beyond that there is also the importance of establishing public knowledge on violence in the city in order to fight the growing feeling of insecurity - which is frequently related to the lack of accurate information - and to direct the public investment to the areas in greater need. Zones South, Ocean West and Center of Rio de Janeiro are likely to attract a significant share of the patrolling efforts and social policy resources. However, except for the city Center, these regions do not stand out in the criminality maps we have built and analyzed. In fact, the reality is quite the opposite: zones North (mainly) and Continental West stand out negatively when it comes to security, and therefore should be the government's priority.

In this paper we have chosen to work with security statistics in the neighborhood level. We believe that this simple measure will already be helpful to visualize the territorial inequalities when it comes to violence in the city, especially related to its different development facets. Still, in future ramifications of this research we aim to deepen the localized perspective of this phenomenon. As Weisburd, Bruinsma and Bernasco put it:

At what level should we study crime at place? [...] there is an important trend over time toward study of crime at place at smaller units of geography. But does that trend reflect a fact about the level of geography that is important to understanding crime, or is it simply a result of the specific data available or theoretical interests of scholars? Of course, we might question why the unit of geography should matter at all. Perhaps the best approach is one that is eclectic
in its understanding of crime at place (WEISBURD, David; BRUINSMA, Gerben J.N.; BERNASCO, Wim, 2009, p.19)

Seeking to better understand the phenomenon of criminality in Rio de Janeiro, we went from the analysis of the state and the city to analysing AISPs, and finally got to the neighborhoods - the stage described in this paper. We are now preparing to move forward to more regionalized studies seeking to identify the main hotspots in Rio when it comes to crimes, denunciation and origin of those convicted. In future studies we will also give special attention to analysis that include temporal differences in crimes.

**METHODOLOGY**

This new research from FGV/DAPP drew on data from three different sources: Disque-Denúncia RJ, the Institute of Public Security (ISP-RJ), and the State Secretariat for Penitentiary Administration (SEAP-RJ). Through the spatial analysis of data were constructed maps of the concentration of denunciations, crimes, and origins of convicts in Rio de Janeiro city per neighborhood. The temporal scope adopted was 1 January - 31 July 2015.

As different databases were combined, it is important to explain some characteristics of each one. First, the data coming from Disque Denúncia RJ is not about the occurrence of crimes, but suspicions of those who call the hotline that some illicit activity could be occurring. However, this does not mean that they are not important. They constitute interesting indicators of feelings of insecurity that are often diffuse, and which are capable of mobilizing people to denounce suspicions of crimes or problematic situations. In addition, they can be very useful in re-planning public security policies and various types of urban planning, as well as, in the case of denunciations of known criminals, are an important instrument of intelligence, capable of preserving the lives of public security agents and the population in general.

Another important specificity about the Disque Denúncia (DD) database is that it is composed of anonymous call registrations which often contain more than one denunciation. The attendants of Disque-Denúncia who receive the calls hear the anonymous report and record in the agency’s database as many denunciations and themes as are mentioned. In other words, each denunciation can be related to others.
In this sense, a call can contain multiple denunciations. For this research, we use as a reference the lowest unit possible: the denunciations, which allow us produce a richer analysis.

The data obtained from the Institute of Public Security (ISP) is related to criminal occurrences reported to the Civil Police (investigative police). Similar to what occurs with DD, although less commonly, an event reported in a police station can contain more than one crime. Therefore, we once again privilege the lowest analytical unit possible - that of crimes and not events. Even more specifically, the adopted counting of crimes method takes into account the quantity of victims involved. Therefore, a crime with multiple victims is counted multiple times. For this research the following crimes were assessed: murder, robbery resulting in death, assault followed by death, rape, robbery of vehicles, robbery of mobile phones, robbery of passersby, robbery in public transportation, apprehensions of drugs, and apprehensions of arms. The choice of these types of crimes followed as a criterion the analysis of crimes which formed the Integrated Target System of the State Secretary of Public Security, complementing them with some crimes which had a recognizably high impact on the quality of life of the Carioca population.

Finally, in relation to the SEAP database, we used two analytical regards: the declared neighborhood where people resided at the time of their conviction and the neighborhood of residence of those on parole.

Taking into account the differences between each database, it is important to make some comments about their quality. For various reasons, the construction of public security information presents many problems. In analyzing the ‘neighborhood’ field, in all the databases we can find errors which go from the mistyping of the name of the neighborhood to the non-existence of the name itself, including the identification of sub-neighborhoods, administrative regions, or favelas. Furthermore, when we compare the information of the address with that of the neighborhood, cases in which the data conflicts are not rare.

For this research we observed only the ‘neighborhood’ field – assuming there would likely be errors of addresses, identified in wrong neighborhoods in a later stage of research. For each of the databases, we carried out a standardization process of the names of neighborhoods, adopting as a model the neighborhoods recognized by the
Pereira Passos Institute (IPP). Typing errors were corrected in order not to lose neighborhood information. It was not possible to identify the neighborhood in approximately 0.97% of records in the Disque Denúncia database, 7.87% in the case of ISP, and 8.38% in that of SEAP.

At this point of the research we built the maps focusing on neighborhoods by adding up the entries in each database. This is an important step for studying and understanding patterns of crime in the space of Rio de Janeiro. However, it is our will to further develop this project by focusing on the street level of analysis and by weighting crimes by the harm caused to society.

To estimate the rates per hundred thousand inhabitants we used the neighborhood population according to the last IBGE census (2010). An observation should be made here: in 2010, the neighborhood of Lapa was still a sub-neighborhood of Centro, and for this reason we do not have the estimated population of Lapa, preventing the calculation of rates for this neighborhood.

THE CYCLE OF VIOLENCE IN THE CITY OF RIO DE JANEIRO

Before looking directly into the maps it is important to stress some numbers that may help understanding violence in Rio de Janeiro. The universe of denunciations here appear through 58,733 supposed crimes reported by anonymous calls. Approximately 22% of those denunciations fit in the general category of narcotic related crimes, and 16% are reported as crimes against the patrimony. If we look further into the specific subject of denunciation we find out that a little less than 18% of them refers to drug trafficking, and 13% to illegal possession of firearms. Observed together these highlight for us that the concerns which most frequently mobilize the population to file a report are related to the drug trade, armed violence, and crimes against property.

This picture is closely supported by evidence of crimes reported to the police. The data analyzed from ISP – 45217 criminal events – is divided in: crimes against property (79%), apprehensions of drugs and firearms (13%), reported rapes (4%) and crimes against life (4%).

Following the same patterns, the analysis of crimes that led to imprisonment in the period studied showed 57% of individuals convicted for robbery or aggravated
robbery; 35% imprisoned for traffic of narcotics or illegal possession of firearm of restricted use; and 8% for murder.

The maps below present the distribution of those numbers in absolute terms in the space of the city. It gives a picture of what we call the cycle of violence in the municipality of Rio de Janeiro between 1 January and 31 July 2015. Based on this we can build an interpretation of perceptions of insecurity which lead the population to take part in the fight against violence (whose proxy in this study is Disque Denúncia); about the spatial distribution of reported crimes; about the neighborhoods of origin of those imprisoned after having engaged in illegal activities; and about the neighborhoods to which those who leave the prison system on parole return.

It is important to make a reservation here about the data used. The crime category does not incorporate all crimes committed in Rio de Janeiro, but specific types of crime reported in police stations. As we pointed out in the methodological notes of this research, we selected types of crimes that have an acknowledged impact on the perception of security and the quality of life of the population. These are: murder, robbery followed by death, assault followed by death, rape, apprehensions of drugs and weapons, and various types of robbery (of passersby, mobile phones, and in groups).

THE CYCLE OF VIOLENCE IN ABSOLUTE NUMBERS

Denunciation
Initially what calls attention is the concentration in Bangu of all the stages of this cycle of violence in absolute terms, indicating a strong perception of insecurity which is compatible with rates of crime, as well as indicating that this neighborhood is home to - also in their return - a significant quantity of individuals institutionalized in the prison system. Bangu, therefore, in relation to the occurrence of incidents linked to security, is presented as a priority neighborhood for the intervention of public authorities in all stages: preventive policies, street patrolling and social reinsertion policies.

On the other hand, the maps highlight the neighborhoods which stand out from the others in relation to the universe of denunciations and crimes (Anchieta and Guadalupe). Other neighborhoods stand out only in the stage of crime itself. Those are: Irajá, Madureira, Barra da Tijuca, Recreio dos Bandeirantes, Taquara, Cascadura, Botafogo, Bento Ribeiro, Rocha Miranda, Coelho Neto, and Brás de Pina. In those cases, investment in street patrolling and urbanistic crime prevention policies should be a priority, and probably more efficient when it comes to the reduction of violence.

There is also the case of the neighborhood of Jacarepaguá, which has a high incidence of denunciations, of original residence of the imprisoned populations, and of
those leaving the penitentiary system on parole, but which does not stand out in relation to crimes reported in police stations. In addition, there exist cases of neighborhoods which stand out in the concentration of the origin of the imprisoned population and/or people on parole, but in none of the other stages of the cycle of violence - Senador Camarã, Mangueira, Padre Miguel, Costa Barros, Inhaúma, Jacaré, Rocinha, and Cidade de Deus (all known for been the location of favelas of considerable size). In these cases, given the lack of resources, the characteristics of the cycle of criminality of the neighborhoods in question points to the need for the prioritization of social insertion and reinsertion policies – such as education, training, and employability – instead of investment in street patrolling.

Finally, there are also the cases of São Cristóvão and Penha, which have significantly high rates of crime, original residence of prisoners, and those leaving the penitentiary system on parole.

As important as spatial perspectives of the phenomena in the cycle of violence in absolute terms is the analysis weighted by population. While absolute numbers help to identify the most affected neighborhoods, the incidence per thousand inhabitants helps to identify tendencies which lie outside the normality of a given phenomenon. In this sense, absolute numbers are a good measure for understanding a problem which affects the population of that neighborhood as a whole, while the incidence per thousand inhabitants shows the chances that each individual from that neighborhood would have in general of facing some of the phenomena studied, simply by being in that space. The maps below show the same incidence as the previous map, weighted by the population of each neighborhood.
THE CYCLE OF VIOLENCE PER THOUSAND INHABITANTS

Denunciation (per thousand inhabitants)

Crime (per thousand inhabitants)
With this weighting, significant differences can be noted. Phenomenon’s that appeared before as widespread problems become more singularized. Bangu, which previously stood out in all areas, does not stand out in any of the maps. Only Bonsucesso and Cidade Nova stand out in all stages of the cycle of violence, considering rates by
thousand inhabitants. Centro stands out among denunciations and crimes, but not among the residence of convicts nor among the residence of those on parole. Jacaré and Saúde stand out both among denunciations and the residence of prisoners and those on parole, but not among reported crimes. Cidade de Deus and Mangueira appear among the neighborhoods with the highest rates of self-declared residence of prisoners and those on parole.

On the other hand, some neighborhoods have significant rates of crimes: Grumari, Campos dos Afonsos, Campinho, and Cidade Universitária. Finally, there are also neighborhoods which have significant rates of denunciations, but not of the other stages of the cycle of violence: Anchieta, Ricardo de Albuquerque, Guadalupe, Costa Barros, and Cocotá.

The geolocated analysis presented so far helps governmental planners and academic researchers to map where crime is more common and where it presents abnormal tendencies. But this simple methodology has further powerful uses. Until now we used aggregated data of crimes. However, we know that there are specificities in the public security planning. Crimes against life possess different characteristics and tendencies from crimes against property (BEATO; PEIXOTO, 2005). For this we will focus on the universe of crimes analyzed here.

THE DISTRIBUTION OF PARTICULAR CRIMES

![Maps showing distribution of crimes](image-url)
The solution presented above simply builds different maps for different kinds of crimes. And what it points out quite obviously is that the various kinds of crimes do not affect all neighborhoods in the same manner. Therefore, public security policies must take into consideration not only the whole cycle of violence, but how it affects parts of the city in different ways according to the stage of crime and to the type of crime.

There is also another level of information about the occurrence of crimes which has to be highlighted. Using the sources and data available, we can compare the places where crimes were reported and where crimes were committed by the imprisoned population. It is immediately noticeable that the neighborhood which appears as the most frequent territory of the crimes of those imprisoned, Grajaú, does not stand out at all in relation to the quantity of records of criminal occurrences, while Realengo, Anchieta, Coelho Neto, Irajá, Cascadura, and Brás de Pina, which are in the second category of neighborhoods which most report criminal occurrences do not appear among the neighborhoods of the crimes of those imprisoned.
In the weighted analysis per population, once again, Grajaú has a leading place in the category of neighborhoods where crimes which resulted in imprisonment were committed, but which is not of importance in the weighted incidence of crime reported by police stations in the city. On the other hand, Grumari, Campos dos Afonsos, and Cidade Universitária, which have significantly high rates of reported crimes, do not have crime reports leading to imprisonment in the same period.

Source: SEAP 1 January 2015 to 31 July 2015; ISP 1 January 2015 to 31 July 2015; IBGE (Census) 2010.
FINAL CONSIDERATIONS

This study, based on simple and therefore accessible methodology, reveals a geography of urban criminality in the city visually imprinted on the spatial reality of the cycle of violence of Rio de Janeiro. In this case, the cycle of violence is understood as the different moments analyzed, including denunciation, crime, prison and parole, with it therefore being possible to point to clear and strategic public policies for the different moments in this cycle of violence.

For example, some neighborhoods should be prioritized to receive broad, complex, specific plans to mitigate violence. Bangu (in absolute terms) and Bonsucesso (in relative terms) stand out in all stages of the cycle of violence. As a result, it is justified to construct local plans to confront violence, prepared with the aim of preventing the development of criminality, to repress it when necessary, and mitigate its effects. These plans can involve the strengthening of their respective administrative regions and the coordination of efforts in other areas, such as: education, health, transport, urbanism, housing, public order, social work, and employability and income.

In contrast, other areas might be eligible to be patrolled by municipal guards – that don’t carry firearms -, instead of the Military Police, that would be able to focus efforts on more violent areas. Centro and Madureira, for example, stood out in the spatial analysis of the distribution of crimes against property, in absolute terms and weighted by population, and could benefit significantly from preventive action by the Municipal Guard, in the sense of occupying the streets to reduce the opportunities to engagement in small thefts or burglaries. Anchieta and Guadalupe also stand out as neighborhoods where this type of action by the GM could significantly impact on the feeling of security.

There is also a third possible group of neighborhoods where the main focus should be Policies for preventing crime and for social reinsertion of those leaving the penitentiary system. It is the case of Cidade de Deus that stands out, both in absolute terms and in rates per thousand inhabitants, in the concentration of the original self-declared residence of prisoners and their destination when given parole. Although it is not the only neighborhood where these two stages are important, it is the only one where only these two stages stand out. Furthermore, analyses of the 2010 census indicate a low intermediate level of social development in the neighborhood, as well as
an average household income which does not reach a minimum monthly wage. For this reason, it is a neighborhood where qualification and employability policies could have a significant impact on security in the city.

Based on these perspectives of the paths of violence and the trajectories of life it is possible to thereby visualize where government should apply pre-defined public policies. In this study, FGV/DAPP used three databases from the Department of Public Policy Analysis’ partner institutions: Disque-Denúncia-RJ, the Institute of Public Security of Rio, and the Secretariat of Penitentiary Administration to respectively represent the cycle of violence.

As we tried to evidence here, this study could function as a powerful instrument to reveal areas in which governmental institutions could implement customized policies for public security according to the conditions of each neighborhood. It also makes clear the areas where action from government is more urgent. In the case of Rio de Janeiro, the “Zona Norte” appears by far as the most problematic area, but rarely as the focus of joint security tasks.

In addition, it becomes clear that many of those policies are in reality responsibilities of the municipality. The need for strengthened municipal participation, through its strategic knowledge, in decision making in relation to public security policy is obvious (KAHN, 2005; SOARES, 2005). With the monitoring and assessment of local policies, programs, and projects, city government should intervene focused at the local level on social prevention, the modernization of monitoring systems and intelligence, and social reinsertion. The debate and the creation of a municipal public security agenda cuts across the actions of the municipal secretariats in priority areas for the prevention of violence, involving social actions, urban maintenance and planning, and principally the use of technology and intelligence. In order words, the implementation of a municipal citizen security agenda goes beyond the Secretariat of Public Order and the Municipal Guard, which, in turn, should assist the actions of the police, thereby increasing the capillarity of the on-site and preventative scope of security agents. City governments can and should support the construction of public security through localized prevention actions, community oriented activities, and projects aimed at youth.
REFERENCES


