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**THE MACROCOMPARATIVE APPROACH IN  
CRIMINOLOGICAL AND CRIMINAL JUSTICE  
RESEARCH. ADVANTAGES AND TIME SERIES  
AVAILABLE FOR SPAIN**

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## ABSTRACT

This paper aims to make a contribution to criminal sciences, particularly in the criminological area, establishing the advantages and the need for macro and comparative analysis. In addition, the main secondary data available for criminological and criminal justice analysis in Spain are presented, at the country level, distinguishing the type of information, its period, its availability and its usefulness for the generation of scientific knowledge. The work focuses on information that is internationally comparable and available at different points in time. The intention is to promote research that makes global and regional comparisons on the criminal phenomenon, taking into account that a large part of criminological theories can be better contrasted with aggregate information and that the development of macro and comparative research is one of the main challenges of criminal science today, as it has important implications for crime and violence prevention.

## KEYWORDS

Criminological research, criminal justice, macro research, comparative research, time series.

**Summary:** I. Introduction. II. Usefulness of macro-level data for criminological and criminal justice research. III. Main sources of information available for Spain. 1. Surveys. 2. Data generated, compiled or systematized by international organizations. IV. Conclusions. Bibliography.

## I. INTRODUCTION

To approach the explanation of the criminal phenomenon there are at least two levels of analysis that in the majority scientific literature are called micro and macro. In the first perspective, both theories and evidence that propose individual explanations of crime are located, while, in the second perspective, aggregated data or delimited to certain geographical areas are usually used to explain the criminal phenomenon in relation to causes and implications of greater dimensions. While it is true that this type of data can represent small cells, such as a neighborhood, the truth is that the macro level is mostly identified with large-scale analyses such as the country, society as a whole or the State (Hopkins, 2009).

Although, as already mentioned, a large part of the literature distinguishes between two levels of analysis, there are some authors, such as Hunter (2010) and Wortley and Mazerolle (2008), who consider that when talking specifically about crime prevention models, they can be understood at three levels: micro, meso and macro.

Specifically, for Hunter (2010), prevention at the micro level targets individuals, small groups or small areas of intervention, so programs can be very specific and focus on risk factors of individuals. Prevention at the meso level focuses on communities or neighborhoods or even larger groups of individuals, so interventions involve larger sectors and seek to promote cooperative and community responses to crime. Finally, prevention at the macro level addresses the problem of large communities or collectives or even society as a whole. At the latter level, interventions involve large-scale social changes, such as changes in educational practices, job opportunities, and even legislative changes.

This last level, the macro, has great repercussions for the understanding of a social phenomenon. If it is taken into account that people do not perform their behavior in a vacuum, from this derives the need and convenience of understanding and analyzing the systems and structures in which people operate, since these schemes even help explain why people act as they do (Maxfield and Babbie, 2015) and why there are aggregate behavior patterns that are regular over time, even when individuals within such a pattern may change over time (Babbie, 2008).

In fact, the interest in understanding phenomena from a macro perspective is not exclusive to criminology because while it is true that social science seeks to understand social phenomena from a micro perspective, this is looking for the motivations that affect the behavior of individuals within social life, it is also true that much of social science has focused on understanding social patterns as a combination of individual data reflecting the situation of many individuals (Maxfield and Babbie, 2015). This is especially clear in some branches of social science such as sociology and economics.

In the case of Sociology, as Binder points out (n.d.), since its inception there has been a special concern to analyze the links of what he calls the totality (system or macro vision) and the individual, so, as this same author points out, today it is unthinkable the development of a social theory that does not address both

dimensions and the links between them. Also, as far as Economics is concerned, there is a widely developed branch, Macroeconomics, which is responsible for understanding and analyzing aggregate data, in order to make economic policy recommendations, as well as the elaboration of predictions and the evaluation of the state of an economy (De Gregorio, 2007).

Although, since its inception, much of criminological science has focused on explanations at the individual level, there are great advances in macro explanations, especially, given the interdisciplinary nature of Criminology, in some currents such as economic or sociological. In fact, macro studies, such as those conducted by Guerry and Quételet, can be said to be the first criminological scientific investigations (Wortley and Mazerolle, 2008). Surely for this reason, some authors such as Baumer, Velez and Rosenfeld (2018) point out that the analysis of crime trends is as old as Criminology itself, but that in the current predominant current this type of studies have been left aside, so that today more is known about individual risk factors than about crime behavior from an aggregate perspective.

Despite the above and the fact that the advance of Microcriminology is greater, the importance of the macro vision is recognized by the scientific world, and even, it has been considered that macrocriminological studies, especially those in which crime rates can be analyzed and from a comparative perspective, are the current challenge of Criminology today (Bennet, 2004 and Wilson, 2012). Thus, there is a call to the scientific community to strengthen analytical, multinational, quantitative and longitudinal studies (Bennet, 2004).

Based on the above, the objectives of this work are fundamentally two. First, highlight the multiple benefits of macro analysis in general, with emphasis on those that use data in the form of time series and that allow comparative research. Secondly, to expose the main databases of public access, with these characteristics (macro, longitudinal and compared), in which data from Spain are available, describing the main variables that are relevant for criminological research, as well as their temporality and the place where such information can be accessed. This is expected to promote not only comparative macro criminological research, but also the use of secondary data that have had little roots in Spanish and Latin American scientific criminology (Grijalva, 2019).

## II. USEFULNESS OF MACRO-LEVEL DATA FOR CRIMINAL JUSTICE AND CRIMINOLOGICAL RESEARCH

As has been established, there are multiple benefits of performing aggregate data analysis for the development of criminological research in general. This section will point out the main advantages of its use, highlighting particularly those aspects that have been little developed in criminological research in Spain.

### *(a) Conducting trend analysis*

One of the main advantages of having aggregated data at different points in time is the possibility of performing trend analysis, which is one of the specific ways of performing longitudinal analysis (Maxfield and Babbie, 2015).

The objective of this type of study is to analyze the changes of a variable either in time, geographically or in its relationship with another variable, all from a linear or non-linear perspective. It is worth mentioning that the data that have been collected systematically at different times (even when they are not the same subjects), are also called in statistics as time series, so, for example, a large part of the periodic surveys can be considered time series and are useful for trend analysis (Jupp, 1989).

One of the main and most revolutionary events in criminological knowledge is the phenomenon of crime *drop* or the decline of crime, which consisted of a decrease in crime that occurred since the 90s in the last century, mainly in the United States, Australia, Canada and some countries in Europe, which has led to the development of a large amount of research that has sought to understand this phenomenon and that has provoked the generation of evidence that seeks to verify a diversity of hypotheses ranging from the increase of the security forces, the increase of the prison population, the legalization of abortion and the decrease in the use of crack (Levitt, 2004) and even to the improvement of security from a perspective of the decrease of criminal opportunities (Farrell, Tilley and Tseloni, 2014).

This event, which was not anticipated by criminologists in the world and was consequently studied retrospectively (Baumer, Vélez and Rosenfeld, 2018 and Levitt, 2004), shows, on the one hand, that the criminal phenomenon is influenced by national and supranational variables that determine crime levels beyond

national and individual boundaries (hence the importance of macro data that are internationally comparable); and, on the other hand, that it is important to analyze prospective trends that allows predictions to be made and identify when important changes in the trend of crime occur.

Time series have an additional component to analysis that cross-section ones do not. As Withros (2014) points out, in order to talk about causality in the social sciences there are three fundamental rules: a temporal order between cause and effect, a correlation between the variables and the lack of other alternative explanations. To establish the temporal order one of the most effective ways is to have time series of data. In this sense, aggregate and supranational data are often periodic, which allows more robust causal relationships to be established.

Eisner and Nivette (2012) have rightly pointed out that to make good recommendations to reduce violence in the world, it is necessary to significantly advance comparative longitudinal research on risk factors from a macro perspective that is integrated with the science of prevention. For Binder (n.d.) it is not a question of hiding or underestimating the value of the case but of pointing out that every case has value and meaning (criminal political) within the framework of a broader horizon that is the one that constitutes the concrete political-criminal plan, referring to a specific sector of conflict, which is why this level makes special sense for criminal policy strategies.

### *b) Possibility of testing criminological theories of a macro nature*

As already mentioned, macro-level theories and evidence focus on society as a whole or at least large portions of it and are often used, above all, to explain crime at the country level. Taking into account the above, there are theories that work better at the micro level and, on the other hand, there are others that are specially designed to understand the phenomenon from a macro perspective (Babbie, 2008).

Although, as already mentioned, criminological knowledge has focused on the perspective of individuals, it is ironic that much of contemporary criminological theories are especially useful for understanding the aggregate phenomenon. Tittle (2006) classifies theories that explain variations in crime rates into exclusively macro, mixed (having individual-level implications), and reified theories (addressing

explanation at the individual level, but useful for explaining aggregates). The first category includes theories such as the theory of social disorganization, the theory of routine activities<sup>1</sup> and theories of conflict. In the mixed ones enter the theory of anomie, the theory of frustration and the theory of social learning. Finally, in the last category are symbolic interactionism and opportunity theory.

Thus, having macro data allows testing a large number of theories that are especially relevant to Criminology and that have very limited evidence in the Anglo-Saxon field.

### *c) Take steps towards an Analytical and Multilevel Criminology*

Both the exclusive use of aggregated data and that of individual data can lead to significant biases in knowledge. In the case of macro data one of the most important biases is the ecological fallacy, while in the case of individual data the potential threat is the atomistic fallacy (Cebolla, 2013; Maxfield and Babbie, 2015).

Chamberlain (2015) points out that crime must be explored and understood in terms of social structures and forces that are external to the individual but are internalized in the form of understandings, norms or values. In this sense, it is well known that structural factors influence individual explanations, either directly (as in the case of opinions about the justice system) or as social multipliers of a phenomenon.

Although there are many examples of criminological research that have adopted this perspective, two examples are mentioned that clearly show the importance of having macro data, even for the understanding of social behavior at the individual level. First, Chon (2013) finds that women's income level and the number of seats in parliament are positively associated with the level of sexual violence in Muslim and Latin American countries, which they interpret as evidence that improving women's economic and political status has effects on men's dominance over women. Likewise, Boateng and Adjorlolo (2019) analyze in 33 African countries how macro conditions (corruption, democracy and homicides) cause variation in individual levels of citizen trust in the justice system.

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<sup>1</sup> Some consider that, in essence, the theory of routine activities attempts to explain the criminal phenomenon at both the micro and macro levels (Felson, 2008).

In reality, it is impossible to argue that the macro and micro (and even the meso) levels are disconnected, so some advocate their integration, giving rise to what in the literature is known as Analytical Criminology (Matsueda, 2017).

*(d) Comparative research*

Macro data, by its very nature, motivates comparative analysis when the data has been standardized and can be assumed to be measuring the same thing. Comparative research is especially useful in terms of social science, first of all, because it helps to identify aspects of social life that are general between cultures (Neuman, 2007) and this, of course, helps to generalize theories and hypotheses, through the discovery of patterns of social behavior that are maintained even between societies.

It is worth mentioning that in the 1960s and 1970s much more attention began to be paid to the comparative analysis of crime levels. However, the events of September 11, 2001, among other things, exponentially increased interest in comparative studies on crime, criminal justice and transnational crime (Bennett, 2004, 2009); That is why today comparative criminological studies are one of the main areas of research.

As with aggregate data at the macro level, in comparative studies the most common source of comparison is country (Bennett, 2004 and Neuman, 2007; Bollen, Entwisle and Alderson, 1993), which is no coincidence since most of the data used to make this type of comparison are aggregated at this level. Bennet (2004) points out that comparative transnational studies show that crime is not confined to national boundaries and that systems that exist in nations themselves inhibit or promote criminal activity.

*(e) Analysis of complex offences and international offences*

Criminology has traditionally excluded international crimes from its object of study and has focused on national criminal activity (Mylonaki, 2014). However, there are specific crimes in which macro analysis makes special sense such as large-scale corruption, terrorism, human trafficking, and even certain phenomena such as economic crises in which not only individuals, but institutions, de facto political



and economic powers and even different regulations have to do (Huisman and Vande Walle, 2010).

There are many examples of this type of work, but one that can be mentioned is that of Alibux (2015) who makes a macro exploration of the criminogenic factors that led to the increase in financial crimes and levels of corruption. Likewise, Antonaccio and Title (2007) find, with data from one hundred countries, that capitalism and corruption are predictors of homicide rates internationally.

One of the main difficulties in investigating international crimes and complex crimes is that they often occur with the involvement of governments, so it is difficult to have data that allow us to delve into this type of crime, thus, one of the greatest needs is to have data that allow measuring crimes of an international nature, even approximately, and to know the prevalence of this type of illicit (Mylonaki, 2014).

### **III. MAIN SOURCES OF INFORMATION AVAILABLE FOR SPAIN**

As already stated in this work, the intention is to make a non-exhaustive, but indicative list of the main data available for comparative macro criminological research. The most relevant sources of this type of information are described below. It is worth mentioning that for its election the following criteria were met: 1) that data from Spain were available, 2) that data were available at different points in time and 3) that the data were available to the public in a database.

The information is organized into two sections, those that come from surveys and those that come from international organizations either because they are generated by them or systematized, or because they create indexes from other available information.

#### **1. Surveys**

##### *(a) World Values Survey*

The WVS is an international research program that aims to study values in the world from their very different edges, as well as their relationship and impact

on the development of society. The instrument has been applied every five years since 1981 and has now been applied to more than 120 countries. The data can be downloaded and analyzed on the survey website: <https://www.worldvaluessurvey.org/wvs.jsp>.

Spain has participated in most occasions so data are available for the period between 1989-2017. It is also worth mentioning that it is planned to have the global data of the next round by the end of 2021.

The instrument has 14 sections and within them the most relevant variables for criminological research are corruption (which has 9 items) and security (21 items). In the section on corruption, the questions are essentially about the citizen's perception of how widespread this phenomenon is in their country and the effectiveness of the government in combating it. Within the security section, questions are asked about aspects related to the victimization experienced, direct or of a family member, the perception of security and its effects on the behavior of the respondents and the perception towards different forms of violence.

#### *(b) International Victimization Survey*

The International Victimization Survey (ICVS) was initially led by a working group formed by European criminologists in 1987 and coordinated by Jan van Dijk (Van Dijk, 1990), which aimed to produce victimization data and estimates that could be used for international comparisons. The instrument was applied for the first time in 1989 in 14 countries (including Spain) and was extended to other regions (in 2005 there were already data from more than 78 countries and had been applied to approximately 320 thousand people). So far, six rounds of implementation of the instrument have been conducted: 1989, 1992, 1996, 2000, 2004/2005 and 2010/15. The data is hosted at the Institute of Criminology and Criminal Law at the University of Lausanne in Switzerland.

Spain's participation in this survey has been only twice in 1989 and in 2004/2005. In this last round, in addition to the national sample of approximately 2000 people, the instrument was applied to 900 people to obtain a representative subsample of Madrid. Also, in 2000 the urban area of Barcelona participated.

The ICVS provides a measure of the most common crimes to which the general public is exposed. The questions cover the experience of victimization in the last five years and, if it exists, it can be differentiated if it occurred in the first months of the year in which the survey is applied, in the year before the application, or before that. In addition, for those who experienced victimization, questions about what happened next and their experience with the justice system are included.

*(c) International Self-Reported Crime Study*

The ISRD is a study that seeks to provide information about adolescents' experience with criminal behavior, either as victims or as perpetrators. In addition to the above, the instrument addresses issues about the family context, the school context, free time, self-control, substance use and procedural justice, which is important information for the exploration of different criminological theories. The study has international experts who meet regularly for the revision of the instrument, as well as an international Steering Committee, and the dissemination website is hosted at Northeastern University.

There are currently three rounds (35 countries participated in the last round) and country teams are working on the design and implementation strategy of ISRD-4 which is planned to be completed in 2022 and is expected to have the participation of 50 countries. Spain has participated in all three rounds and has confirmed its participation in the fourth round. The study is led by the Center for Research in Criminology of the University of Castilla La Mancha.

Data from previous rounds are available on the website of the Interuniversity Consortium for Political and Social Research (ICPSR).

*(d) Eurobarometer*

It is an opinion study that began the European Commission in 1974, but that is applied in a standardized way in all member states of the European Union since 2007. Spain has participated from 1985 to the present, which is a fairly long time series. The data are hosted on the portal of the Leibniz Institute for Social Sciences. The Eurobarometer study has four components:

1. Standard: Consists of approximately 1000 surveys per country with two applications per year
2. Special: They are thematic studies that are integrated into the standard versions
3. Flash: Ad *hoc* telephone interviews on specific topics
4. Qualitative studies: They seek to deepen the motivations or perceptions of specific social groups that are selected to generate discussion groups on a specific concept

The standard component inquires about respondents' main personal concerns, as well as their perceptions of their country and its relationship with the European Union. In addition, there are specific questions about trust in institutions (within these specific questions are asked about the police and the justice system).

On the other hand, citizens' opinions are also asked about national and European policies around various topics, but specifically about the prevention of juvenile delinquency, the fight against organised crime and the prevention of urban crime.

It is worth mentioning that, in the last round applied in July-August 2020, there is a section related to the coronavirus pandemic, within which the impact on the economy and the effects on daily life are investigated.

In addition to the above, it is important to highlight some of the studies carried out within the special component, since they have data that are interesting for comparative macro criminological research.

#### *Corruption:*

Data are available from 2005 to 2019 with application every two years. The aim is to explore the level of corruption experienced and perceived by EU citizens. It also asks about the effectiveness of the government and the justice system in tackling this problem.

In addition to corruption, there are three other aspects that, although they do not yet have time series data, are of special relevance for comparative macro criminological research and can be used for cross-section comparisons and possibly in the future

serial data will be generated. These areas of interest are: cybercrime, rule of law and gender-based violence.

*Cybercrime:*

The data was obtained in 2019. The objective was to understand the experiences, perceptions of the citizens of the European Union about cybersecurity. The instrument asks about experiences of direct and vicarious victimization in this environment, and even includes some questions about the concern of being a victim of cybercrime.

Although, as already mentioned, it is not a study that has data at different points in time, the information has some points comparable with previous studies of other special versions of the Eurobarometer (EB480, EB90.2, EB 87.4, EB82.2 and EB 79.4).

*Rule of law:*

The data was obtained in 2019. The objective is to know the aspects that need to be improved to achieve 17 principles of the rule of law; Therefore, it is a good instrument to know and compare the experiences and perceptions of the justice system. In addition, this special study addresses the importance of the media and civil society as guardians of the rule of law, and seeks to know how informed European Union citizens are about their fundamental rights.

*Gender-based violence:*

Data were obtained in 2016. This survey explores a number of issues related to this concept, directly or indirectly, for example: the prevalence of domestic violence, views on the causes of domestic violence and violence against women, views and attitudes about gender-based violence, as well as the prevalence of sexual harassment.

*(e) European Quality of Life Survey*

The EQLS investigates people's living conditions, the quality of public services and the neighbourhood, both objectively and subjectively. In addition to the overview it provides of the contextual aspect that affects the daily lives of European citizens, the data provided by this survey are important for the criminological field because citizens are asked about issues related to fear of crime and trust in institutions, including security and justice.

The study was conducted every four years (2003, 2007-2008, 2011-2012 and 2016). The last round in 2016 was applied in 33 countries. Spain participated in all rounds.

The survey was developed by the European Foundation for the Improvement of Living and Working Conditions (Eurofound), and the data can be found on the *UK Data Service* website, but must be requested in advance to be accessed.

*(f) European Social Survey*

The SSE is a study designed for comparative purposes, involving around 30 European countries. Its primary objective is the analysis of the attitudes and behaviour of the citizens of the European Union in relation to their social and political reality. In relation to criminological research, the core module has some questions related to fear of crime and previous experience of victimization (in the last five years). But, in addition, there is additional information that may be relevant to our field in rotary modules. Thus, data can be found on gender-based violence and domestic violence (module ESS11), procedural justice, legitimacy, trust in the police and in the criminal justice system (modules ESS9 and ESS5).

The survey is applied every two years, the first edition being in 2002. Spain has participated in all rounds. Initially, the survey was carried out by Pompeu Fabra University, but since 2016 the Centre for Sociological Research (CIS) has been responsible for its application.

The data can be consulted and downloaded on the page of the European Social Survey: <https://www.europeansocialsurvey.org/>.

(g) *Latinobarometer*

It is a study that has been conducted since 1995 and the last round was with available data was in 2018. The objective of the study is to know the opinion of the citizens of Latin America on various issues related to their social, economic and political life. For the most part, the study has been conducted annually, although on some occasions it has been every two years.

The study is designed and directed by the Latinobarómetro Corporation, is carried out in most Latin American countries and, since 1996, has also been carried out on many occasions in Spain (1996 -1998, 2001-2004, 2006-2010, 2011-2016). The data can be consulted, downloaded and analyzed on Latinobarómetro's own website: <https://www.latinobarometro.org/lat.jsp>.

Among the topics it addresses, some of the most relevant for criminological research are: opinions and perceptions about corruption, trust in justice institutions, previous victimization, fear of crime and perceptions about what happens with crime and violence and opinion about the dimension of the drug trafficking problem.

## **2. Data generated, compiled or systematized by international organizations**

(a) *Eurostat*

Eurostat is the European Statistical Office of the European Commission that produces and compiles data on the members of the European Union. Since 2008, there have been official statistics related to crime for all member countries that address aspects such as: police reports by type of crime; homicide victims by age, gender, and relationship to offender; perpetrators by age and gender and their status in the judicial process; officials of security and justice institutions by gender; persons in prison by age and gender and capacity of prisons and their level of occupation. In addition, there is a section of previous data with some of the variables mentioned in advance, where there are also some data from Spain, but the information is not as complete and systematized as that which exists from 2008.

Macro data are available on the Eurostat portal and it is possible to obtain data disaggregated by individual, household or business only for scientific purposes and upon express request. It is worth mentioning that the information, in the case of Spain, is provided by the National Institute of Statistics.

*(b) United Nations Office on Drugs and Crime (UNODC)*

This agency has among its functions the compilation and systematization of global information on issues related to drugs and crime. The information is annual and is available on a page specifically created for the dissemination of data systematized by UNODC since 2018, since before that year the information came from the United Nations Survey on Crime Trends and the Functioning of Criminal Justice Systems (UN-CTS). Within all the information that can be found in the aforementioned portal, the following variables of criminological importance stand out, next to each one are the years with data available for Spain:

1. Rate per 100,000 population of victims of intentional homicide by sex (1990-2018)
2. Rate per 100,000 population of victims of violent crime (2005-2018)
3. Rate per 100,000 population of victims of sexual offences (2007-2017)
4. Rate per 100,000 inhabitants of acts involving fraud (2016-2018)
5. Rate per 100,000 inhabitants of acts involving money laundering (2016-2018)
6. Rate per 100,000 inhabitants of theft, vehicle theft and burglary (2005-2018)
7. Victims of human trafficking by sex (2003-2016)
8. People in prison by sex (2003 to 2018)
9. Rate per 100,000 inhabitants of persons in prison adults and young people (2013-2018)
10. Percentage of people in prison who have not been sentenced (2013 to 2018)
11. Ratio of people in prison in relation to the capacity of the centers (2015-2018)
12. Rate per 100,000 inhabitants of detainees (2005-2018)
13. Rate per 100,000 population of convicted persons (2006-2018)
14. Rate per 100,000 inhabitants of justice system operators (police [2004-2018], prosecutors [2016-2018], judges and magistrates [2004-2018] and prison staff [2004-2009 and 2014-2018])
15. Annual prevalence of drug use (2009-2017)



16. Annual prevalence of drug use among youth (2010-2016)
17. Confiscated weapons (2010-2017)
18. Weapons confiscated in connection with other crimes (2016-2017)

Additionally, UNODC has generated a section on the evolution of crimes during the coronavirus pandemic that contains monthly data from October 2019 to August 2020 on: intentional homicide, domestic violence by gender of the victim, sexual violence, different types of robbery, cybercrime, detained and convicted persons, prison population (in addition to the total, there is the number of people with a positive test for Covid-19 and the number of people killed by Covid-19).

*(c) UN Women*

The United Nations agency that is responsible for promoting gender equality also has some data that may be useful for comparative criminological research. The data is on UN Women's data portal: <https://www.unwomen.org/en>, from where it can be viewed and downloaded. The main variables with the years in which data are available for Spain are:

1. Suicide rate per 100,000 inhabitants (2010-2016)
2. Alcohol consumption per capita of persons aged 15 years and older (2000-2018)
3. Total number and rate per 100,000 population of victims of intentional homicide by sex (2010-2017)
4. Detected victims of human trafficking by age and sex (2009-2016)
5. Number of killings of human rights defenders, journalists or trade union leaders (2015-2018)

*(d) Transparency International*

It is a non-governmental and non-profit organization dedicated to combating national and international corruption. Within its functions, this organization has been concerned with generating information to understand and deepen this phenomenon globally and currently has programs in more than 100 countries, among which is Spain.

There are two instruments that provide relevant information from the criminological point of view and that can be consulted from the Transparency International page itself.

#### Corruption Perceptions Index

Through this instrument, both the score and the location range of the participating countries can be obtained around the perception of corruption in the public sector. This composite index brings together evaluations of different institutions, organizations, as well as surveys applied to experts, managers and entrepreneurs in each country.

The index is calculated annually and currently has data for the period between 1995 and 2020. The calculation is made by integrating various sources from an agency with sufficient credibility (in the last year 13 were used) that quantify in some way the perception of corruption through some reliable methodology.

#### Global Corruption Barometer

This instrument investigates perceptions of corruption and how governments combat it, but mainly addresses citizen experiences of corruption in relation to the provision of public services. The data of this Barometer are available from 2003 to 2017 (in total there have been 9 editions, so in some years there are no data).

#### *(e) Organization for Economic Co-operation and Development (OECD)*

It is an international cooperation organization composed of 37 States, including Spain. Its main objective is the coordination of economic and social policies, so it has also been responsible for collecting and systematizing information from its member countries in relation to various important topics for development, thus generating a series of indicators that are available to the public in the specific portal of dissemination of information. Within these data, some of the most relevant for criminological research and with which data are available for Spain are:

1. Alcohol consumption (liters per capita) of persons aged 15 years and older (1960-2018)
2. Suicide rate per 100,000 population by sex (1960-2018)

3. Attitudes towards gender-based and domestic violence (2014-2019)
4. Lifetime prevalence of gender-based violence (2014-2019)
5. Mortality rate per 100,000 population divided by causes (including transport accidents, suicide, physical assault) (2000-2019)

*(f) World Prison Brief*

It is a database that provides information on prison systems in the world. The data are generated and systematized by the Institute for Justice and Crime Policy Research and Birkbeck University in London and can be consulted on the portal generated for this purpose.

Currently there is diverse information from 227 countries, but in the time series format we have total prison population and the prison population rate per 100,000 inhabitants for the period from 2000 to 2018.

*(g) United Nations*

Although some agencies belonging to the United Nations have already been mentioned, this organization has its own data portal where you can also find relevant information from the criminological point of view. The most relevant variables that can be mentioned are:

1. Rate per 100,000 inhabitants of intentional homicide by sex (2005, 2010, 2015, 2016, 2017 and 2020)
2. Rate per 100,000 inhabitants of physical assaults (2005, 2010, 2016 and 2017)
3. Kidnapping rate per 100,000 inhabitants (2005, 2010, 2016 and 2017)
4. Rate per 100,000 inhabitants of theft and robbery with violence (2010, 2016 and 2017)
5. Rate per 100,000 inhabitants of sexual violence (2010, 2016 and 2017)

*(h) World Justice Project (WJP)*

It is an independent and multidisciplinary organization that works to promote the rule of law in the world. Much of its recommendations are based on the results of

the organization's annual Rule of Law Index (RLI) and are based on household and expert surveys (the last pass in 2020 was based on a representative sample of 1,000 respondents per country) on their experiences and perceptions of some dimensions of the rule of law. It currently has data from 128 countries. Although information has been available since 2008, the organization itself recognizes that the data with greater comparability over time are those generated from 2015. However, there are areas in which it is feasible to make individual comparisons of the dimensions that comprise it, such as the perception of the effectiveness of the government in controlling crime.

The RLI has eight useful dimensions to know, evaluate and compare the state of the justice system and institutions in the participating countries. However, there are three dimensions that are particularly relevant to criminological research: absence of corruption, order and security, and criminal justice.

With regard to the dimension of absence of corruption, the following elements are considered: use of public office for personal gain in the executive, judicial, police and military spheres and the legislative sphere. Within the dimension of order and security, the following aspects are evaluated: crime control, control of internal conflicts, use of violence to solve individual problems. In the criminal justice dimension, the elements taken into account are: the investigation of crimes is effective, the criminal adjudication system is timely and effective, the penitentiary system is effective and succeeding, the criminal justice system is impartial, the criminal justice system is free of corruption, the criminal justice system is independent, Adherence to due process and respect for the rights of the accused.

#### *i) Our World in Data*

It is a database promoted and supported by the University of Oxford and the Global Change Data Lab. Its main objective is to contribute to the knowledge of the main problems facing the world through the dissemination of understandable information about them. Within the large amount of information available, the most relevant variables that can be mentioned are:

1. Homicide rate per 100,000 inhabitants, according to information from the Clio Infra project (1950-2010)
2. Homicide rate per 100,000 inhabitants, according to World Bank information (1995-2016)
3. Homicide rate per 100,000 inhabitants, according to data from the Institute of Health Metrics and Evaluation (1990-2017). This data can be categorized according to the age of the victim and also by the use of firearms.
4. Rate per 100,000 inhabitants of deaths caused by traffic accidents, according to data from the Institute of Health Metrics and Evaluation (1990-2017).

#### **IV – CONCLUSIONS**

As stated at the beginning of this work, the objective of this work was to expose the main advantages of the use of aggregated data and present the main databases with data available for Spain that would allow macro comparative and time series research.

In general, the benefits of using this type of data have been pointed out: the possibility of comparative analysis (scarce in Spain), trend analysis (temporal, geographical and intuitive), deepening on international crimes and complex crimes and the possibility of generating evidence for macro criminological theories. This is especially important considering that most of this type of studies have been carried out in the Anglo-Saxon world, so the replication and integration of this type of perspective to Spanish Criminology could be reflected in important contributions to criminological science in the world.

On the other hand, the main databases that have this type of information (macro, with the possibility of comparison and in time series) were presented, being evidenced that there is a large amount of secondary data at this level that can be explored and used to generate criminological knowledge, and even to enhance internal and individual research. For, as has been tried to establish throughout the work, it is undeniable that systems and structures have a great influence on the behavior of individuals. As noted throughout the work, the objective of this article was not to make an exhaustive and complete list of information sources, so only those sources in which the data are available to the public and that have different points in time

were selected. However, some data sources that are relevant to criminal justice and criminological knowledge were excluded, such as the Annual Statistics of the Council of Europe (SPACE, for its acronym in French) which, although it has annual reports, there is no availability of raw data for download by the general public.

Like all sources of information, aggregated data and macro analysis are not foolproof. The ecological fallacy is one of the main dangers if conclusions are to be drawn about individuals based on groups or other aggregations of data (Maxfield and Babbie, 2015). However, the intention with the present work was not to establish the superiority of macro data over micro data, but on the contrary, to stimulate the use of this type of information not only to achieve the increase of macro research, but, ultimately, to enhance multilevel research and the development of Analytical Criminology through the integration of knowledge from both levels and, as Bennett (2009) pointed out, continue to sow the seed for the institutionalization of comparative research as one of the main fields of criminological science and criminal sciences.

It is necessary, as Barberet (2009) has already established, that jurists, criminologists and social scientists encourage governments and international organizations to generate, collect and systematize information that is valid, reliable and comparable between countries. One of the tools to promote improvement in this type of information is to demonstrate that this data can be very useful to understand the criminal phenomenon and improve the quality of criminal justice and, consequently, to make better criminal policy decisions.

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