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# Wrongful Convictions with Prison Sentences in Spain Exoneree Characteristics, Crime Types, and Contributing Factors

Nuria Sánchez , Guadalupe Blanco-Velasco , Linda M. Geven , Jaume Masip and Antonio L. Manzanero 

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Article abstract

Researchers worldwide have extensively explored the factors contributing to wrongful convictions and the characteristics of individuals affected by these miscarriages of justice for over a century. Despite these global efforts, limited research has been conducted on this issue in Spain. This study seeks to address this gap. We trained coders to assess available review judgments issued by the Spanish Supreme Court from 1996 to 2022. We identified 89 cases of individuals wrongly sentenced to deprivation of liberty. Our findings indicated that 92% of those wrongfully convicted were male, with the majority having a prior criminal record. Most exonerations involved minor crimes, and 85% of individuals were sentenced to less than 4.5 years of deprivation of liberty. Professional misconduct emerged as the primary contributing factor, followed by the misapplication of forensic science, misidentifications, false testimonies, and false confessions. This project sheds light on wrongful convictions in Spain, emphasizing the need for comprehensive measures to address this issue. The current results have practical implications for justice professionals, policymakers, and legal practitioners. It is crucial to educate professionals in the judicial system on the causes of judicial errors, the biases that may influence them, and best practices to improve processes and reduce the occurrence of wrongful convictions.

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## Wrongful Convictions with Prison Sentences in Spain: Exoneree Characteristics, Crime Types, and Contributing Factors

Nuria Sánchez  
Universidad de Salamanca  
Spain

Guadalupe Blanco-Velasco  
Ontario Tech University  
Canada

Linda M. Geven  
Leiden University  
Netherlands

Jaume Masip  
Universidad de Salamanca  
Spain

Antonio L. Manzanero  
Universidad Complutense de Madrid  
Spain

*Researchers worldwide have extensively explored the factors contributing to wrongful convictions and the characteristics of individuals affected by these miscarriages of justice for over a century. Despite these global efforts, limited research has been conducted on this issue in Spain. This study seeks to address this gap. We trained coders to assess available review judgments issued by the Spanish Supreme Court from 1996 to 2022. We identified 88 cases of individuals wrongly sentenced to deprivation of liberty. Our findings indicated that 92% of those wrongfully convicted were male, with the majority having a prior criminal record. Most exonerations involved minor crimes, and 85% of individuals were sentenced to less than 4.5 years of deprivation of liberty. Professional misconduct emerged as the primary contributing factor, followed by the misapplication of forensic science, misidentifications, false testimonies, and false confessions. This project sheds light on wrongful convictions in Spain, emphasizing the need for comprehensive measures to address this issue. The current results have practical implications for justice professionals, policymakers, and legal practitioners. It is crucial to educate professionals in the judicial system on the causes of judicial errors, the biases that may influence them, and best practices to improve processes and reduce the occurrence of wrongful convictions.*

**Keywords:** Wrongful convictions, Miscarriage of justice, Judicial errors, Prison, Exonerations.

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## I Introduction

From 1989 until November 2023, the United States National Registry of Exonerations (2023a) has documented over 3,400 instances of individuals being exonerated due to wrongful convictions for crimes they did not commit. In 2023, the European Registry of Exonerations (EUREX, 2023) was established with the primary objective of compiling data specific to European exonerations and analyzing the causes and consequences of wrongful convictions in European countries. Notably, in Spain, the General Council of the Judiciary initiated the recording of judicial errors in 2010. According to the 2022 annual report (General Council of the Judiciary, 2023), 33 cases have already been officially acknowledged.

Wrongful convictions have important personal, social, and institutional consequences. On a personal level, exonerees may face significant social, economic, health, and safety consequences (Schönteich, 2014). These individuals not only lose their freedom, but also face job loss and deterioration in their social relationships (Rogers-Degeer, 2023). Kukucka *et al.* (2022) concluded that 50% of the exonerees they studied reported clinically significant symptoms of posttraumatic stress disorder and/or depression. Additionally, after their exoneration, wrongfully convicted individuals also have difficulties finding a job (Clow, 2017) or accessing housing (Kukucka *et al.*, 2021).

At the social level, exonerees' relatives often become secondary victims of wrongful convictions (Jenkins, 2013). Furthermore, the conviction of an innocent person often implies that the truly guilty individual remains free and may commit additional crimes. Altogether, public awareness of miscarriages of justice diminishes citizens' trust in the justice system (Norris & Mullinix, 2020). Moreover, once an innocent person is exonerated, that person has the right to receive economic compensation, which involves a significant expense for the state (Ortiz-Pradillo, 2023). Over a 10-year period, the Spanish Justice Administration spent close to three million euros to compensate individuals who had been victims of improper pretrial detention (Sánchez *et al.*, 2017).

For over a century, researchers worldwide have conducted studies on the contributing factors of wrongful convictions and the characteristics of individuals who have been wrongfully convicted (Gould & Leo, 2010). This phenomenon has been examined in various countries, including Australia (Dioso-Villa, 2015), England and Wales (Helm, 2022), Italy (Lupária, 2020), the Netherlands (Brants, 2012), and the United States (Gross *et al.*, 2005; West & Meterko, 2015). Nevertheless, in Spain, research on this topic has been limited (Sánchez *et al.*, 2017; Ortiz-Pradillo, 2023). The objectives of these international studies often include describing the characteristics of wrongfully convicted individuals, identifying the types of crimes in which errors are more prevalent, and determining the factors contributing to judicial mistakes.

### A. Characteristics of Individuals Who Have Been Wrongfully Convicted

The National Registry of Exonerations (2023a) reported that 92% of the individuals who were exonerated were male. Consistent findings by various researchers (Dioso-Villa, 2015; Duce, 2015; Gross *et al.*, 2005) indicate that females typically constitute no more than 15% of exonerees. This gender distribution aligns with the broader demographics of the incarcerated population in the respective countries (Duce, 2015), suggesting an absence of gender bias in wrongful convictions.

In the United States, there is a notable overrepresentation of individuals from ethnic minorities among those wrongfully convicted (Gross *et al.*, 2005). The majority of exonerees are Black, comprising 53%, while White exonerees constitute only 33% (National Registry of Exonerations, 2023a). Similarly, in other countries such as Australia, indigenous individuals make

up 14% of exonerees (Dioso-Villa, 2015). This racial bias is particularly pronounced in sexual assault cases, where the primary evidence often rests on the testimony of a White victim accusing a Black perpetrator. In these instances, misidentifications are likely, as same-race faces are recognized with greater accuracy than cross-race faces (e.g., Katzman & Kovera, 2023; Meissner & Brigham, 2001; Smith & Hattery, 2011).

Prior meta-analytical research has also indicated that the probability of a guilty verdict is heightened when jurors possess information about an individual's criminal history (Devine & Caughlin, 2014). Similar findings were observed by Gould *et al.* (2014) in their analysis of 460 cases of wrongful convictions and accusations. They concluded that individuals with a criminal record face a higher likelihood of being wrongfully convicted compared to those without such a background. Gould *et al.* (2014) proposed two key explanations for this bias: (a) the practice of law enforcement officers of showing pictures of individuals with prior criminal records to victims or eyewitnesses, which increases the likelihood of these individuals being selected in a photo array; and (b) the potential for police and judges to give greater attention to individuals with criminal records, possibly leading to the oversight of exculpatory evidence, especially if the victim has previously identified them as the perpetrator.

### **B. Types of Crimes with a Higher Incidence of Judicial Errors**

There is an ongoing debate on whether wrongful convictions occur more frequently for certain types of offenses than for others (Gould & Leo, 2010). For instance, are serious crimes more prone to errors than minor offenses? Gross *et al.* (2005) conducted an examination of 340 exonerations in the United States spanning from 1989 to 2003. Their findings indicate that 95% of these exonerations were linked to rape and murder cases, which constitute only 2% of the total convictions for serious crimes in the country (Gross, 2008). However, the actual frequency of judicial errors remains unknown, and it is possible that the identified cases represent only a fraction of the total occurrences (Leo & Gould, 2009). Minor offenses could experience a higher incidence of wrongful convictions, but limited resources allocated to their investigation (e.g., Burrows *et al.*, 2005; Hunt *et al.*, 2019), the lower penalty severity, and fewer requests to re-open cases may lead to overlooking them (Gould & Leo, 2010). Additionally, the criteria for reopening a case often hinge on the availability of analyses of biological evidence, such as DNA testing. Such evidence is much more commonly found in cases of rape or murder compared to minor offenses like theft or threats (Garrett, 2017). Consequently, cases of minor offenses not only face resource constraints, but also may lack sufficient evidence to warrant reopening (Gould & Leo, 2010).

Given the significance and prevalence of judicial errors, particularly in serious offenses, numerous studies and reports have focused exclusively on cases involving imprisonment or the death penalty (Harmon & Lofquist, 2005). Some of these reports have specifically examined the duration wrongfully convicted individuals spend incarcerated in the United States. The Innocence Project (2023b) has calculated that exonerees, on average, spend 16 years in prison, while the National Registry of Exonerations (2021) has reported an average of nine years. In Australia, the average prison time for exonerees is lower at 4.5 years (Dioso-Villa, 2015).

### **C. Factors Contributing to Wrongful Convictions**

Wrongful convictions can stem from various factors, with the primary contributing factors encompassing perjury or false accusations, mistaken identifications by victims and witnesses, misapplication of forensic science, false confessions, and professional misconduct (Innocence Project, 2023b; National Registry of Exonerations, 2023b). While a singular factor may account for errors in a particular case, more frequently, it is a combination of factors that leads to a wrongful conviction (Berube, *et al.* 2022; Yaroshefsky & Schaefer, 2014).

#### **a. Perjury or False Accusation**

According to the National Registry of Exonerations (2023b), perjury or false accusation accounts for the highest percentage of wrongful convictions, being present in 64% of the 3,421 cases registered to date in the United States. This factor refers to both jailhouse informants as well as witnesses and victims who provide false testimony (Gross *et al.*, 2005). Jailhouse informants may be incentivized to falsely accuse an innocent person by providing incriminating information in exchange for benefits in their criminal trial (Natapoff, 2006). Victims, too, may have specific interests, such as financial compensation or harming the innocent person they are accusing.

However, discerning whether perjury exists requires a crucial distinction between deliberate lying by victims or witnesses and honest mistakes (e.g., Masip *et al.*, 2004; Sporer, 2008). For instance, if a victim of a sexual assault makes a misidentification but genuinely believes she/he is pointing to the actual offender, this would be considered an error, not perjury.

### **b. Professional Misconduct**

Professional misconduct is the second most prevalent factor for wrongful convictions in the United States. It explains, at least in part, 60% of these convictions (National Registry of Exonerations, 2023b). Legal practitioners acting improperly, whether deliberately or unintentionally (Gould & Leo, 2010), might contribute to the occurrence of judicial errors. While deliberate misconduct is infrequent, unintentional inappropriate behaviors arguably may happen more often. Given the inherent uncertainty in criminal investigations and the need for professionals to make multiple decisions during the investigation process, various biases and subjective influences can impact their decision-making. Ask and Fahsing (2019) examined the reasoning processes involved in criminal investigations. They concluded that these influences may play a role in several phases of the criminal investigation process: during the collection and processing of information, during hypothesis testing, and during the structuring and description of the criminal event. For instance, over a crime investigation, “tunnel vision” might become highly relevant. This happens when different actors in the system develop an initial belief (suspicion), cling to it, and solely seek to confirm that belief (Godsey, 2017). Consequently, professionals such as crime investigators may not gather information to test multiple plausible hypotheses. Instead, they only collect information that confirms their pre-existing beliefs, and reject any information creating cognitive dissonance (Findley & Scott, 2006). Tunnel vision can contribute to wrongful convictions as it hinders the objectivity of criminal investigations.

Inadequate legal representation can also fall under the category of professional malpractice (Huff, 2004). This extends beyond poor preparation or professional incompetence among attorneys. At times, individuals facing charges may be unable to afford a private attorney, and the excessive workload for public defenders, the lack of control systems, or insufficient incentives may lead to some public defenders not effectively performing their tasks (Duce, 2013).

### **c. Eyewitness Misidentification by Victims and Witnesses**

Identifying an offender poses a challenge for human memory. According to the National Registry of Exonerations of the United States (2023b), misidentifications are the third most important factor contributing to wrongful convictions—ranking just below perjury and professional misconduct. These misidentifications, at least partially, account for 27% of exonerations.

The identification of a culprit depends on factors related to the incident, the victim or witness, and system or process variables (Wells, 1978). Regarding incident-related factors, circumstances such as insufficient lighting can result in challenges in perceiving critical information, consequently interfering with identification procedures. Concerning victim or witness variables, factors like the cross-race effect (Meissner & Brigham, 2001), personal prejudices, and stereotypes might influence person identification or bias the perception and interpretation of events. Finally, concerning system or process variables, issues such as the selection of lineup fillers, the prelineup instructions provided to witnesses, whether double-blind procedures are employed, and whether repeated identification attempts are conducted with the same witness and suspect, among others, may have an impact on (mis)identifications (Wells *et al.*, 2020).

### **d. Misapplication of Forensic Science**

False or misleading forensic evidence is the fourth most prevalent factor of wrongful convictions, explaining, at least in part, 25% of cases (National Registry of Exonerations, 2023b). Misapplication of forensic science involves the use of either invalid or unvalidated forensic methods, misleading expert testimony, or forensic experts’ misconduct (see, e.g., Scott *et al.*, 2014).

Forensic techniques, including fingerprint analysis, hair microscopy, and tissue analysis, require analysts to undertake pattern comparison and interpret results. It is essential to recognize that analysts, being human, are fallible. Despite the integration of technology in forensic analyses, both sample collection and the decision-making process are contingent upon human involvement.

The presence of prior expectations and biases has the potential to impede the impartiality of procedures and decisions (e.g., Dror, 2020; Dror *et al.*, 2021; Herrero, 2021).

Several books and scientific papers have documented real cases where this factor played a role (e.g., Dror, *et al.*, 2006; Morgan, 2023). One of these cases is the investigation of the March 11, 2004, train bombings in Madrid. Initially, the Spanish police were unable to find a match for a fingerprint they had collected from the crime scene. Consequently, they sought assistance from law-enforcement agencies from other countries through Interpol (EFE, 2006). FBI experts and an independent examiner in the United States initially matched the print to Brandon Mayfield, a Muslim-American convert living in Oregon. However, when examiners from the Spanish police compared the latent print from the crime scene with Mayfield's fingerprint, they determined the outcome was inconclusive. Later on, the Spanish police reported that the latent print belonged to a different individual. The FBI eventually acknowledged their error, conducting an analysis to identify the shortcomings in the Mayfield examination process (Stacey, 2004). Mayfield was released two weeks after his arrest (EFE, 2006). Dror *et al.* (2006) cited this case to illustrate how irrelevant and misleading contextual information may negatively impact experts' decisions.

#### **e. False Confessions**

False confessions refer to rich and elaborate self-incriminating statements made by an individual admitting to a crime they did not actually commit (Gudjonsson, 2018). According to the National Registry of Exonerations (2023b), this factor, at least partially, accounts for 13% of wrongful convictions in the United States.

Suspects may falsely confess for various reasons (e.g., Kassin, 2022; Kassin *et al.*, 2010). Inappropriate interview techniques employed by the police, involving psychological tactics such as coercion, threats, false promises, and maximization and minimization tactics (see Kassin *et al.*, 2010), can compel innocent suspects to confess as a means of escaping an aversive situation (coerced-compliant false confession) or even lead them to believe they actually committed the crime (coerced-internalized false confession; see Kassin, 2022; Kassin *et al.*, 2010). Additionally, certain dispositional risk factors, such as vulnerability (e.g., being a child or a person with an intellectual disability) or exhibiting high levels of suggestibility or compliance, also contribute to the phenomenon of false confessions (Gudjonsson, 2018; Kassin *et al.*, 2010). False or coerced confessions pose a significant danger to the system, as legal practitioners frequently presume the confession's veracity (e.g., Kassin *et al.*, 2005). Such a belief may lead practitioners to deem independent corroboration unnecessary or to overlook contradictory evidence. Furthermore, research has shown that confessions have a greater impact on jurors than other types of evidence (Kassin & Neumann, 1997).

In a study conducted in Spain, over 80% of the 89 Civil Guard and 126 National Police investigators surveyed reported having obtained at least one false confession from a suspect. Approximately 20% of respondents indicated that at least one of those false confessions occurred under coercion (Schell-Leugers *et al.*, 2023).<sup>1</sup>

A separate, less common type of false confession is voluntary. Voluntary false confessions may occur without external pressure, and they may result from psychopathology, or from a rational process to obtain a benefit (e.g., public notoriety) or to protect someone else (Kassin, 2022). Aebi and Campistol (2013) analyzed 1394 Spanish news articles about voluntary false confessions motivated by intangible benefits. The authors categorized the cases into two separate groups: Social-topic-based confessions, which were aimed at promoting changes in criminal law (i.e., on topics such as euthanasia and abortion); and confessions aimed at protecting an individual or group. In the latter category, the authors reported cases involving individuals within the Roman ethnicity who falsely confessed to protect relatives, young people confessing to protect relatives or friends, and terrorists falsely confessing to acting alone to protect their criminal organization.

#### **D. Current Study**

This research is centered on wrongful conviction cases in Spain, providing a comprehensive description of both the exonerees and the cases involved. Specifically, we

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<sup>1</sup> However, this study also revealed that coercive techniques are employed only rarely by the Spanish police (see Schell-Leugers *et al.*, 2023).

examined exonerees' gender, citizenship, and criminal records, as well as the type of crimes and the duration of the prison sentences. We also examined contributing factors to these judicial errors, including perjury or false accusation, professional misconduct, eyewitness misidentification, misapplication of forensic science, and false confessions.

The criteria employed to determine which cases to include in the study adhere to the legal definition of the term "exonerated" as outlined by Findley (2010). Specifically, we included cases where an individual was wrongfully convicted in a final judgment and, subsequently, a later judgment by the Spanish Supreme Court annulled the initial judgment based on new evidence revealing a factual error committed in the first judgment.

The Spanish judicial system permits the reopening of a closed case only if new facts or circumstances about the case emerge. This refers to information that was unknown at the time of the conviction (Blanco-Velasco *et al.*, 2023). In such situations, the convicted individual can file a "review appeal" to the Supreme Court—a process that is regulated by the Spanish Criminal Procedure Law (articles 954 to 961).

The law specifies certain requirements for a review appeal. Grounds for submission include false testimony, a convicting judgment based on documents subsequently declared to be false, a confession obtained through violence or coercion, judicial misconduct by judges or magistrates, or new facts or evidence that were unknown at the time of the initial conviction. Additionally, since 2015, if the European Court of Human Rights issues a judgment reporting a violation of those human rights outlined in the European Convention for the Protection of Human Rights and Fundamental Freedoms and its Protocols (e.g., the right to a fair trial), the convicted individual can file a review appeal.

## II Method

### A. Sample

The judgments considered for this study were sourced from the Spanish Supreme Court, and pertained to cases in which a review appeal was either considered or admitted. Data were collected from two legal databases, namely Aranzadi and Cendoj. The time frame for the selected judgments ranged from May 24th, 1996 (the inception date of the current Spanish Criminal Code) to December 31st, 2022.

The search term "Recurso de revisión" ("Review appeal") was used both in the Aranzadi and Cendoj databases. In the Aranzadi database, the term was used to explore the criminal jurisprudence thesaurus. For the Cendoj database, the search was filtered by the type of entity, specifically selecting "Tribunal Supremo" ("Supreme Court") and "Sala de lo penal" ("Criminal Division"). Given that review appeals are regulated by the Criminal Procedure Law, this law was chosen as the Legislation domain to specifically search for judgments citing this regulation. After eliminating duplicate judgments, 447 review judgments were initially retained for analysis. However, as detailed below, the focus was narrowed to cases involving a deprivation of liberty, resulting in 88 judgments.

To enhance the depth of information for each case, alongside the review judgments, an analysis of previous judgments for each case was undertaken whenever available (e.g., first instance, appeals).

### B. Coding Procedure and Reliability

A manual was developed encompassing pertinent coding variables, drawing on insights from prior literature (see Table 1). These variables can be categorized into three broad clusters:

- 1) *Characteristics of the wrongfully convicted individual*: Gender, citizenship, and whether the exoneree had a prior criminal or police record.
- 2) *Characteristics of the case*: Type of offense for which the judgment was overturned, the imposed penalty, and the duration of the deprivation of liberty.

- 3) *Factors contributing to judicial errors*: False testimonies by victims or eyewitnesses, misconduct of legal professionals (including lawyers, judges, prosecutors, and the police), misidentifications by victims or eyewitnesses, misapplication of forensic science, false confessions, and other causes not fitting in the aforementioned categories.

Seven coders (two researchers and five research assistants) attended two training sessions conducted before coding different subsets of judgments. Out of the total 447 review judgments, 302 (67.56%) were independently assessed by two of these coders. The remaining 145 judgments (32.44%) were coded by one of the pre-trained researchers only.

The coding process unfolded across six rounds, facilitating the refinement and combination of coding criteria to minimize discrepancies. By avoiding coding a large number of judgments in a single round, the risk of a coder misunderstanding specific categories and introducing systematic errors was mitigated. Furthermore, coding in multiple rounds provided the opportunity to correct misinterpretations before completing the coding of all statements. Following each round, coders engaged in discussions to address discrepancies and reach a consensus.

A central aspect in this research was whether the petitioner claimed innocence or not. Following Gould and Leo (2010), and considering the Spanish legislation, a distinction must be made between factual innocence and procedural errors. Procedural errors do not necessarily imply the person's innocence. For instance, in Spain, an individual convicted twice for the same criminal event may file a criminal review appeal with the Supreme Court to vacate one of the judgments. In such cases, a procedural error occurred, yet the ground for the appeal is not factual innocence. Coders were tasked with determining, for each judgment, whether the petitioner claimed innocence, did not claim innocence, or if this information was not included in the judgment. Intercoder reliability for this variable was high (Krippendorff's Alpha averaged across all rounds, and weighted by the number of cases coded in each round, was .91). Only cases where the petitioner claimed innocence were retained for further consideration in this study.

The second crucial variable was whether the petitioner had received a sentence involving deprivation of liberty (such as a prison sentence, an arrest, being confined to a [closed] forensic facility, or any other penalty involving deprivation of liberty). Consequently, coders determined the presence or absence of each of a number of penalty types included in the Spanish legislation.<sup>2</sup> Thereafter, we grouped the assessments from each coder into three dichotomous variables to determine whether the punishment entailed deprivation of liberty (yes/no variable), whether the punishment did *not* involve a deprivation of liberty (e.g., community service or fines; yes/no variable), or whether the judgment did not provide enough information to assess this aspect (yes/no variable). The mean weighted (across rounds) Krippendorff's Alphas for these three variables were .90, .88, and .81, respectively. In total, after coders resolved their discrepancies and reached a consensus, there were 88 cases of individuals wrongfully convicted to deprivation of liberty. These were the cases subjected to our analysis.

As shown in Table 1, Krippendorff's Alpha was  $\geq .80$  (indicating near-perfect agreement; see Hughes, 2021; Landis & Koch, 1977) for all variables except *crimes against freedom* and *criminal record*. The relatively smaller frequencies for these two latter variables may explain their lower reliability (De Swert, 2012). Nevertheless, agreement for these variables was substantial (Hughes, 2021; Landis & Koch, 1977).

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<sup>2</sup> Categories of coded penalties were prison, major prison, minor prison, major arrest, minor arrest, weekend arrest, deprivation of liberty (to categorize any type of deprivation of liberty not specified in the judgment), confinement to a (closed) forensic facility, community service, fines, court costs, ancillary penalties, other type of penalty, and the judgment does not mention the penalty. Some of these penalties (specifically, major prison, minor prison, major arrest, and minor arrest) are no longer included in the current Spanish Criminal Code, but in the previous one. However, note that we analyzed revision judgments. These judgments could resolve a case of a person convicted under the previous Criminal Code.



**Table 1.** Average Reliability Weighted by the Number of Cases Coded in Each Coding Round

Variable	Krippendorff's Alpha
<b>Characteristics of the individual</b>	
Gender (Male/Female/Other)	.99
Citizenship <sup>a</sup>	.87
Criminal record (Yes/No/Not indicated)	.72
<b>Characteristics of the case <sup>b</sup></b>	
Duration of deprivation of liberty	.94
Minor offenses	.82
Homicide	1.00
Abortion	1.00
Crimes of assault	1.00
Injuries to the fetus	1.00
Genetic manipulation	1.00
Crimes against freedom	.75
Torture	.99
Human trafficking	.93
Sex crimes	.99
Relief omission	1.00
Crimes against privacy	1.00
Crimes against honor	1.00
Crimes against domestic relations	1.00
Crimes against property	.97
Crimes of illegal financing of political parties	1.00
Crimes against the public treasury and social security	1.00
Crimes against worker's rights	.93
Crimes against the rights of foreign citizens	1.00
Offenses related to land use, urban planning, and the environment	.95
Crimes against public safety	.98
Forgery	1.00
Crimes against the Public Administration	.95
Crimes against the Justice Administration	1.00
Crimes against the Spanish Constitution	1.00
Crimes against public order	.91
Crimes of treason, against the peace or independence of the State, and related to National Defense	1.00
Crimes against the international community	1.00
No information available on crime type	1.00
<b>Contributing factors <sup>c</sup></b>	
False testimony of victims and witnesses	.96
Legal professionals' misconduct	.80
Misidentifications	.89
Misapplication of forensic science	.81
False confessions	.86
Other causes	.84
No information available about the cause	.92

<sup>a</sup> The coders identified the specific country of citizenship for each appellant using a drop-down menu. This menu also provided options such as "Not Indicated" (to be selected when the judgment included no information about citizenship) and "Foreign" (to be selected when the sentence mentioned the appellant's foreign status without indicating the specific country). Additionally, the coders identified cases of dual citizenship (i.e., Spanish and other). Due to data protection concerns, we refrain from disclosing individual citizenship details and re-coded this variable into four categories: *Spanish*, *Foreign* (encompassing both the "Foreign" category and individuals with citizenship other than Spanish), *Dual Citizenship*, and *Not Indicated*. <sup>b</sup> All variables under "Characteristics of the case" were continuous. *Duration of deprivation of liberty* was coded in terms of the number of days. The rest of variables related to crime type; since a single case could involve more than one crime attributed to the wrongfully convicted person, these variables were coded indicating the number of crimes leading to wrongful conviction(s) in each case. <sup>c</sup> Each of the contributing factors was coded as present or absent.

### III Results

#### A. Characteristics of Wrongfully Convicted People

Most (92.05%) of the 88 individuals wrongfully convicted to deprivation of liberty in Spain were males. Only 7.95% of exonerees were female. The citizenship of the petitioner was not specified in 59.09% of the cases. Among the cases with available information, 52.78% of petitioners were Spanish, 44.44% were foreigners, and one person had Spanish citizenship but was born abroad. In 36.36% of the cases (32 individuals), no information was provided regarding whether the person had criminal or police records. In the remaining cases, 55.36% of wrongfully convicted individuals had a criminal or police record, while 44.64% did not. The record status could be either sealed or active at the time of the conviction.

#### B. Characteristics of Wrongful Conviction Cases

The various forms of deprivation of liberty encompassed a range from imprisonment to house arrest. In a negligible proportion of judgments (1.14%), no information was provided on the type of offense for which the appellant had been convicted. As indicated in Table 2, the substantial majority of appellants (70.45%) had been wrongfully convicted for a single offense. Conversely, only 25 out of the 88 individuals in our sample (28.41%) had been unjustly convicted for two or more offenses.

**Table 2.** Number of Offenses for Which the Petitioners Were Wrongfully Convicted

Number of crimes	Frequency	Percentage
One	62	70.45
Two	15	17.05
Three	4	4.55
Four	4	4.55
Six	2	2.27
No information available about the crime(s)	1	1.14

Table 3 shows that the predominant offense type was property crime, followed by public safety offenses (e.g., drug trafficking or road safety crimes) and crimes of assault. The percentages for the remaining offenses were all below 10%. There were no cases involving the offenses that are listed in Table 1 but not in Table 3.

**Table 3.** Frequencies and Percentages for the Most Prevalent Types of Crimes

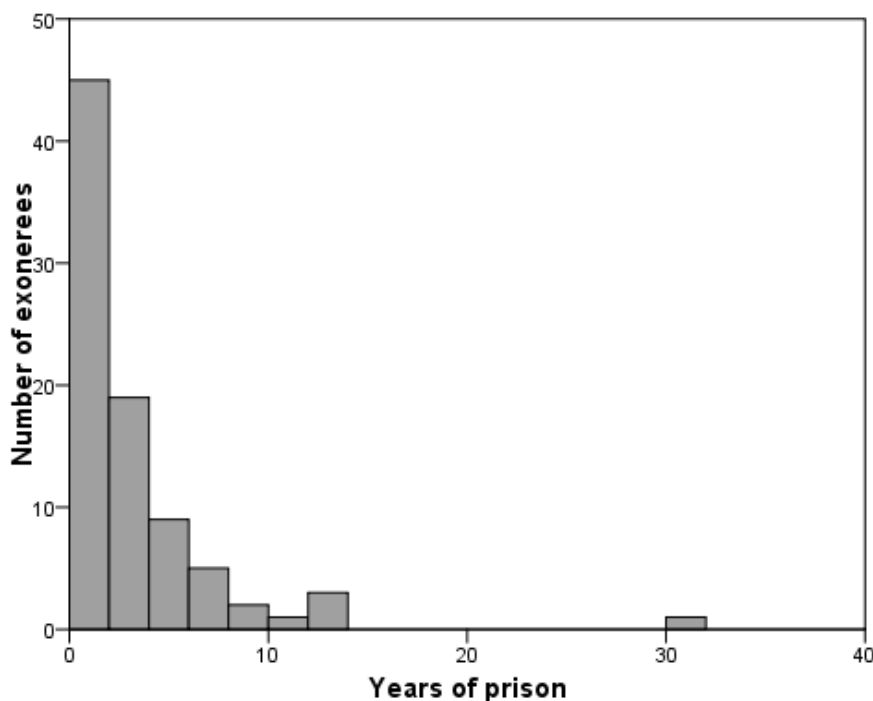
Type of crime	Frequency (one or more crimes of each type)	Percentage
Crimes against property	40	45.45
Crimes against public safety	17	19.32
Crimes of assault	15	17.05
Minor offenses	8	9.09
Sex crimes	7	7.95
Forgery	7	7.95
Crimes against freedom	5	5.68
Crimes against the Justice Administration	5	5.68
Crimes against public order	4	4.55
Homicides	3	3.41
Offenses related to land use, urban planning, and the environment	3	3.41
Torture	1	1.14
Crimes against domestic relations	1	1.14
Crimes against the rights of foreign citizens	1	1.14
Not reported	1	1.14

*Note.* The sum of the total percentage is greater than 100% because one single person could be convicted for more than one crime.

Information on the duration of imprisonment was unavailable for three individuals in the judgments. For the remaining cases, prison terms spanned from 3 days to 30 years. Despite the

substantial range between these extremes, the majority (85%) of individuals received sentences of less than 4.5 years (Mean = 3 years; Median = 1.5 years). Figure 1 provides a visual representation of the dispersion in this variable within the sample.

**Figure 1.** Distribution of the Number of Exonerees Based on Sentence Duration



### C. Factors Contributing to Wrongful Convictions

As shown in Table 4, professional misconduct was the most prevalent factor contributing to wrongful convictions, accounting for, at least in part, 63.64% of the coded cases. The second most prevalent factor was misapplication of forensic science, present in approximately one of every four cases. Misidentifications and false testimonies of victims and witnesses ranked as the third and fourth most frequent causes, respectively.

**Table 4.** Frequencies and Percentages of Factors that Contributed to Wrongful Convictions

Contributing factors	Frequency	Percentage
Misconduct of legal professionals (lawyers, judges, prosecutors, the police...)	56	63.64
Misapplication of forensic science	24	27.27
Misidentifications	15	17.05
False testimony	14	15.91
Other causes	12	13.64
False confessions	8	9.09
Not reported	4	4.55

*Note.* The sum of the total percentage exceeds 100% because wrongful convictions could be caused by more than one factor.

## IV Discussion

Leo and Gould (2009) noted that wrongful convictions have seldom been scrutinized using a systematic and rigorous scientific methodology. Indeed, numerous published scholarly documents have either consolidated instances of miscarriages of justice or discussed the legal aspects contributing to them (Leo, 2005). Conversely, Leo (2017) advocates for the advancement of the innocence movement through systematic and rigorous research.

Additionally, LaPorte (2018) found inconsistencies in how the Innocence Project and the National Registry of Exonerations classified the factors contributing to some specific wrongful conviction cases. This discrepancy can be attributed, at least in part, to each organization employing different coding criteria or different definitions. LaPorte's report led both organizations

to work together towards a consensual definition of “False or Misleading Forensic Evidence”, as well as to recode their cases to eliminate discrepancies (see Cole *et al.*, 2022).

In accordance with Leo's (2017) recommendations, and to mitigate potential coding discrepancies such as those identified by LaPorte (2018), we elaborated a comprehensive coding scheme, and used it to systematically examine wrongful convictions in Spain. We focused on the rate of wrongful convictions, the characteristics of exonerees, the crime types for which most wrongful convictions occurred, and the contributing factors.

### A. Rate of Wrongful Convictions

At least 88 individuals have been wrongfully convicted to custodial sentences in Spain under the current Criminal Code. Over the same research period, there were 3,044 exonerations documented in the United States (National Registry of Exonerations, 2023a). Due to significant differences in population size between the two countries,<sup>3</sup> directly comparing absolute numbers would be misleading. Hence, we computed the ratio of wrongful convictions per 100,000 population in each country. The rate is lower for Spain (0.18) than it is for the United States (0.91).

### B. Gender

In 2022, 92% of individuals incarcerated in Spain were males (Ministry of the Interior<sup>4</sup>, 2023). The proportion of wrongfully convicted males that we identified also stands at 92%. Therefore, in line with previous research conducted in other countries (Dioso-Villa, 2015; Duce, 2015; Gross *et al.*, 2005), there is no gender bias evident in Spain.

### C. Citizenship

In Spain, 30.1% of prison inmates are foreigners (Ministry of the Interior, 2023).<sup>5</sup> Information about the citizenship of the wrongfully convicted individuals was included in only 40% of the analyzed judgments. However, according to these judgments, one half of these individuals were foreign citizens. These data are consistent with the notion that minorities may be at a higher risk for wrongful convictions. For instance, research conducted in the United States has found an overrepresentation of ethnic minorities among wrongfully convicted persons (Gross *et al.*, 2005).<sup>6</sup>

### D. Prior Criminal Records

Gould *et al.* (2014) observed that individuals with a criminal history are more susceptible to be wrongfully convicted than those with no prior records. In our research, information on the criminal records of the petitioners was available for 64% of the cases. Among these cases, the majority of wrongfully convicted individuals (55%) had a prior criminal record. This finding aligns with previous research.

We compared the rate of wrongfully convicted individuals with prior records with the recidivism rates of the Spanish prison population. According to a report from the General Secretariat of Penitentiary Institutions (2017), out of 688 inmates for whom relevant data were available, 62.50% had prior convictions, and the rest did not. Consequently, the rate of wrongfully

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<sup>3</sup> The United States has a population of approximately 336 million (United States Census Bureau, 2023), while Spain has a population of approximately 48.5 million (Statistics National Institute, 2023).

<sup>4</sup> The roles of the Spanish Ministry of the Interior differ from those of the U.S. Department of Interior. Rather, they are very similar to those of the UK Home Office (see online: [https://transparencia.gob.es/transparencia/en/transparencia\\_Home/index/PublicidadActiva/OrganizacionYEmpleo/Funciones/Funciones-MINT.html](https://transparencia.gob.es/transparencia/en/transparencia_Home/index/PublicidadActiva/OrganizacionYEmpleo/Funciones/Funciones-MINT.html); in English, [https://en.wikipedia.org/wiki/Ministry\\_of\\_the\\_Interior\\_\(Spain\)](https://en.wikipedia.org/wiki/Ministry_of_the_Interior_(Spain))).

<sup>5</sup> The Ministry of the Interior (2023) report compiles the population of Spanish and foreign inmates in Spain from 1996 to 2022 (the same years we considered for this study). The average percentage of foreign individuals in Spanish prisons over these 27 years has been 28.15%.

<sup>6</sup> We were unable to examine ethnicity because Spanish judgments do not indicate the defendant's ethnicity (presumably because the Spanish population is more ethnically homogeneous than the US population; e.g., Infoplease Staff, 2023).

incarcerated innocents with prior criminal records is lower than the rate of the Spanish inmate population at large with such records.

### E. Crime Type

While the majority of exonerations in the United States have taken place for serious crimes, particularly homicide, there is an ongoing debate about whether judicial errors are more prevalent for serious or minor crimes (Gould & Leo, 2010). In this study, the relatively short duration of custodial sentences and the observation that 82% of exonerations involved crimes such as theft, offenses against public safety, or assault, suggest that, in Spain, the exoneration cases did not primarily involve extremely serious offenses.

To examine whether certain types of crimes are more prone to judicial errors, we compared the percentages in Table 3 with data from the prison population in Spain (Ministry of the Interior, 2023). The Ministry of the Interior (2023) records the crimes for which inmates are serving their sentences in prison, while our dataset includes individuals wrongfully deprived of liberty for *at least* one offense. It is important to note that a single individual could be convicted for more than one crime, including offenses with a sentence other than deprivation of liberty. To illustrate, if a person had been wrongfully convicted for homicide (resulting in a prison sentence) and theft (resulting in a fine), we counted one homicide and one theft in the types of crime. Consequently, there may be an overrepresentation of minor offenses in our dataset.

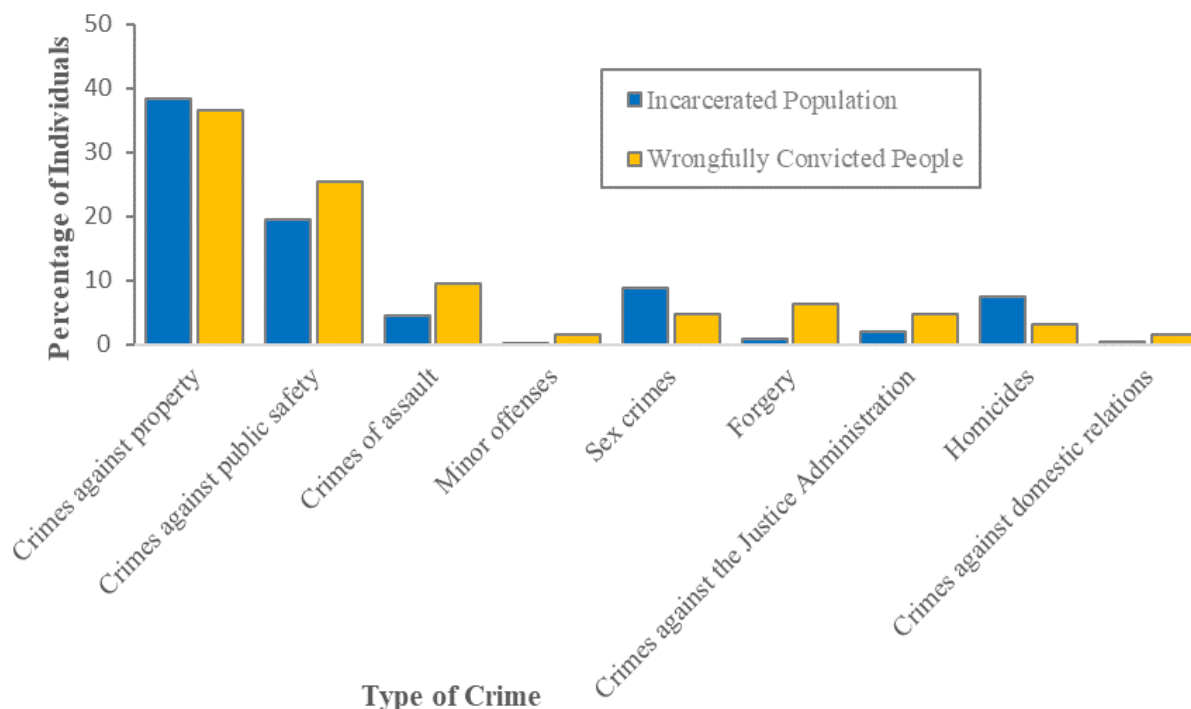
To address this concern, we excluded from our dataset the one person whose judgment did not report the crime and those individuals who had been penalized for more than one offense (28%), focusing solely on the remaining 70%. Figure 2 illustrates that the most overrepresented crimes in the study sample (compared to the prison population) were offenses against public safety (with a difference of 6%), and forgery and assault crimes (both with a difference of 5%). As shown in Table 5, Z tests for comparison of proportions indicated that forgery is the sole crime whose difference in proportions was significant ( $Z = -2.06$ ,  $p = .042$ , Cohen's  $h = 0.32$ ). Once again, these findings suggest that judicial errors in Spain are more likely to occur for minor offenses.

The two most underrepresented crimes among wrongfully convicted individuals were homicides and sex crimes (present 4% less often in our sample than in the prison population at large. However, none of these differences were significant according to Z tests for the comparison of proportions (see Table 5).<sup>7</sup> This is unexpected, considering that homicides and sex crimes are the most common crime types in wrongful conviction cases in the United States (Gross *et al.*, 2005) and Australia (Dioso-Villa, 2015). The reason for the underrepresentation of these offenses in our sample remains unclear.

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<sup>7</sup> These data must be analyzed with caution, since the prison population report (Ministry of Interior, 2023) treats offenses and minor offenses related to gender-based violence as an independent type of crime. The report indicates there were 4,782 cases of gender-based violence, representing 10.52% of the total incarcerated population. Redistributing the offenses categorized as gender-based violence into the Figure 2 categories might reduce the overrepresentation of innocent individuals in some of those categories. Conversely, if the percentage of homicides increases by adding homicides currently included in the gender-based violence category, the difference between the inmate population and wrongfully convicted individuals would increase for homicides.

**Figure 20.** Percentages of Individuals Wrongfully Convicted for a Single Offense, and of the Total Incarcerated Population in Spain, for Each Crime Type



**Table 5.** Z Tests for the Comparison of Proportions of the Wrongfully Convicted Individuals, and of all the Incarcerated Population in Spain, for Each Crime Type

Crime type	Z	p	Cohen's h
Crimes against property	0.41	.797	0.06
Crimes against public safety	-1.08	.312	0.15
Crimes of assault	-1.45	.157	0.21
Minor offenses	-1.23	.223	0.21
Sex crimes	1.12	.251	0.16
Forgery	-2.06	.042	0.32
Crimes against the Justice Administration	-1.09	.289	0.16
Homicides	1.30	.187	0.19
Crimes against domestic relations	-0.90	.371	0.14

## F. Contributing Factors

The National Registry of Exonerations (2023b) identified false testimonies and professional misconduct as contributing, at least in part, to over 60% of wrongful convictions in the United States. In Spain, professional malpractice is the predominant factor, comparable to the United States. However, false testimonies are ranked third, alongside mistaken identifications, explaining only 16% of cases. Misapplication of forensic science is the second-most prevalent factor, present in 27% of cases.

Our results on factors contributing to wrongful convictions in Spain have practical implications for justice professionals, policymakers, and legal practitioners:

First, the number of cases reopened in Spain through review appeals that we were able to retrieve is certainly small (88 cases). This can indicate that, in general, Spanish legal professionals perform their duties well—but note it is also possible that the small number of cases is a consequence of the requirements for bringing a review appeal forward being very narrow. Either way, our data revealed that *professional malpractice* is the main factor behind wrongful convictions in Spain, which suggests there is room for improvement. Indeed, the most effective approach to reducing the number of wrongful convictions in the country may be enhancing the performance of legal practitioners. It is crucial to educate justice professionals on the causes of judicial errors, the biases that may influence them, and best practices to improve processes and reduce the occurrence of wrongful convictions. These topics should be included in all undergraduate and postgraduate law programs, and should be

part of the curriculum for the exams to become a judge, prosecutor, lawyer, or law enforcement officer. Additionally, these topics should also be incorporated into ongoing professional development courses, workshops, or seminars available for justice professionals. In addition, the police and judges should verify the identity of suspects, ensure suspects are aware of the charges against them, and properly verify their alibis; lawyers should ensure that their defendants truly understand the charges they face, and so on. For instance, in some cases, in being caught, the real perpetrator pretended to be someone else (i.e., the innocent person who would later be convicted), either just verbally or by using that person's personal identification document (or a photocopy of it). Had the perpetrator's identity been verified using fingerprints from the national identity document database, some of these judicial errors might have been avoided. Errors can also be prevented by comparing the fingerprints of the person who was detained on the day of the crime with those of (a) the person attending the trial, and (b) the individual entering prison. In some other instances, the appellant was incarcerated, detained, or in hospital at the time of the crime. A thorough investigation would have revealed this circumstance. Investigation judges should have verified these individuals' alibi, and the defense lawyers should have sought this evidence and should have presented it in court.

Second, regarding the *misapplication of forensic science*, Cooley and Oberfield (2007) propose the establishment of external and independent oversight of crime laboratories, along with the implementation of a certification system to verify professionals' qualifications and thus reduce forensic misconduct. Forensic scientists should only employ those methods endorsed by the scientific community and should comprehensively elucidate the limitations of those procedures and the implications of their findings within their reports. Consequently, scientific reports should be drafted with precision and without ambiguity to facilitate comprehension by legal professionals (LaPorte, 2018). In addition, a number of measures that forensic experts can take to minimize the risk of cognitive biases are briefly listed by Dror (2020).

Third, regarding *eyewitness misidentification*, an American Psychology-Law Society (Division 41 of the American Psychological Association) committee has crafted a set of recommendations to improve eyewitness identification procedures (Wells *et al.*, 2020). Those guidelines include some pre-lineup interview recommendations, detail the process for selecting lineup fillers, suggest some pre-lineup instructions to be given to witnesses, recommend using a double-blind procedure, suggest confidence judgments should be collected at the time of the identification, and emphasize the significance of video recording the entire process. Additionally, they highlight the need to have evidence-based suspicions before conducting a lineup, and indicate that repeated identifications with the same suspect, as well as showups, should be avoided.

Fourth, regarding *false testimony*, a comprehensive criminal investigation encompassing the scrutiny of multiple hypotheses and the pursuit of external evidence could potentially contribute to mitigating miscarriages of justice.

Finally, related to *false confessions*, it is essential for the police to employ science-based, legal, and ethical interview methods. Numerous studies indicate that coercive interrogations, whose sole objective is to elicit confessions, yield less reliable and precise information than non-coercive investigative interviews, and increase the likelihood of false confessions (e.g., Meissner *et al.*, 2014; Vrij *et al.*, 2017). Recently, an international committee of experts in the fields of interviewing, law enforcement, criminal investigations, national security, military, intelligence, psychology, criminology, and human rights from around the world have drafted the "Méndez principles" on effective interviewing for investigations and information gathering (Méndez, 2021). The Méndez Principles are to replace coercive, confession-oriented interrogations with rapport-based investigative interviews instructed by science, law, and ethics (see Méndez, 2021).

## G. Limitations

We exclusively examined the information presented in judgments. Conversely, other studies have also drawn on supplementary sources such as media reports and statements from victims and perpetrators (Dioso-Villa, 2015; Gross *et al.*, 2005). Our approach has both positive and negative aspects. On the positive side, the information within judgments is typically well-substantiated. However, on the negative side, this information can sometimes be incomplete. For example, we were unable to ascertain the citizenship of 59% of petitioners. Additionally, factors

not explicitly mentioned in the sentences might have contributed to the judicial errors. While our research captures the minimum number of causes present in Spanish cases, we cannot guarantee that other factors did not also contribute. Despite this limitation, our research is crucial as it sheds light on and serves as a starting point for understanding wrongful convictions in Spain.

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