BAD OUTCOMES, GOOD INTENTIONS: APPROACHING THE POTENTIAL MISUSE OF CRIME DATA BY POLICYMAKERS

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Abstract
Scientific research ethics are challenged today by the risk of misusing research results that could adversely affect or harm both individuals and their environment. In the ethics literature, such risks have been linked to the possibility of research results falling into the wrong hands, i.e., for criminal or terrorist purposes. However, crime data misuse can also affect policy makers' decisions and lead to discrimination, stigmatization, harassment, and intimidation of citizens. From a twofold perspective, this chapter examines the potential misuse of crime data caused by policy decisions: 1) outlining the ethical scope of potential misuses in European security research; and 2) proposing recommendations to minimize this risk based on a 'Mutual Distrust Model' between researchers and policymakers.

Keywords: misuse, data, policymakers, researchers, ethics

Introduction

It may seem surprising that a *Handbook on Crime Data* includes a chapter like this one. It could strike the reader as somewhat exotic for two reasons: a) because it is not about crime data in the technical sense of the word; b) because in criminology we have tended to neglect issues related to ethics and philosophy in general, even though they are closely related (Millie, 2016). But more particularly, we have avoided discussions about research ethics if it is not to talk about "horror stories" such as the Stanford experiment or about how to overcome the minimum requirements imposed by ethics committees like informed consent or privacy issues (Israel, 2004). As Israel & Hay (2011) point out, in criminological research we have overlooked the positive relationships between the discipline and ethics and too little effort has been invested in sharing models of good practices. And this affects virtually every issue in criminology and research in general (Cowburn, Gelsthorpe & Wahidin, 2017), as well as the use and potential misuse of crime data already produced by criminological research. Therefore, beyond the traditional areas of interest of research ethics in criminology (Johnstone, 2005), in this chapter we address the ethical challenges that arise as a consequence of the potential misuse of crime data. Specifically, we are interested in reflecting on the relationship that *occurs* and *should occur* between those who generate most of the crime data and its treatment (researchers in criminology and criminal justice) and those who are in charge of directing crime policy by establishing measures to fight and prevent crime. Addressing this question is particularly relevant in a context in which the culture of evaluation of public policies, including those related to crime, is becoming more consolidated. Indeed, we increasingly have on the one hand, legislators using data (although not always "good" data in terms of rigourousness) to support certain punitive interventions and, on the other hand, a mainstream movement in positivist criminology that understands that the best way to respond to crime is through evidence-based policies (Sherman et al., 1997; 2002). And

while it might seem an ideal situation –researchers producing the data that informs policy makers on what to do about crime, and policy makers using data to justify some crime policy measures– the reality is far from that picture. Rather, two situations tend to arise: a) policy makers are largely ignoring what the serious evidence has to say about crime for a variety of reasons; or b) they use data in a biased way or do not use the best quality data. At the same time, possibly because public policy makers have not traditionally taken research results seriously, there may also have been a neglect on the part of criminological researchers who also fall into certain biases, relax data quality standards or disregard the mechanisms by which their data could be used to mitigate the phenomenon of crime. While the latter may have contributed to the so-called crisis of science in aspects such as replicability (on this crisis see Farrington et al., 2019), the former has led to risk of misuse of research data by those in charge of criminal policy.

A variety of scenarios can be described, but of particular concern are cases where, for example, the legislator or different legal operators in the criminal justice system rely on data to establish particularly harmful consequences. Such would be the case with the use of the studies of the 1970s and also of the 2000s produced mainly by economists, outside of criminological knowledge, to affirm the deterrent effect of the death penalty in the United States. In this sense, Ehrlich (1975) published in 1975 his article titled *The Deterrent Effect of Capital Punishment: A Matter of Life and Death*, in which, using complex and refined econometric models, he concluded that every time an execution took place, it could deter up to 8 homicides. As van Rooij and Fine (2020) describe, this study caused quite a stir as it provided evidence on what to do at a time when the debate on the death penalty was really polarised and, moreover, the Supreme Court had put the death penalty on hold. This study was even used by the US solicitor general, and the Supreme Court ended up reactivating the death penalty (*Gregg v. Georgia*). A few years later, Ehrlich's article was discredited due to the strong criticism received regarding the variables used, the methodology, the statistical analyses, the inferences made from his data, etc. Criticisms that culminated, in turn, in a report by the National Research Council stating that from the evidence so far it was not possible to derive a deterrent effect as a consequence of executions (NRC, 1978). The unfolding of events would perhaps have made it advisable to reconsider the need for the continued application of the death penalty. If the evidence is taken into account when it points in one direction, why not reconsider the issue when a more rigorous reading of that evidence points in the other direction? Two decades later, more studies by economists again showed a deterrent effect of punishments such as the death penalty, with one of the authors of these articles (Shepherd, 2004) testifying in front of the House Judiciary Committee that "there is scientific evidence that each execution deters between three and eighteen murders" (Fagan, 2006, p. 259). Again, these studies were used politically, by the media and by pro-death penalty groups. And, again, these results were strongly criticised for methodological and statistical deficiencies and for the lack of consideration of essential elements that other disciplines closely related to the study of crime, such as criminology, had been highlighting. So the National Research Council reached in 2012 the same conclusion about the deterrent effect of the death penalty it had reached in the former report (NRC, 2012). Another particularly sensitive area of criminological research concerns crime committed by migrants. In Spain, for example, some studies on the subject pointed in the direction of affirming that migrants commit more crimes than nationals in terms of proportion (Alonso-Borrego et al., 2008; Giménez-Salinas et al., 2018). These studies have been used by some extreme right-wing political parties that have significant representation in the Spanish Congress of Deputies and also form part of some

governments of some Regions (having in practice the power to interfere in public policies). The misuse of crime data has been to target migrants as dangerous people and thus whip up anti-immigration discourses. However, politicians forget that in studies of this type, the authors usually make reference to the causes behind these data, such as, for example, the marginality (sometimes extreme) in which migrants find themselves and the difficulty of accessing elements of pro-social coexistence such as work, decent housing, etc. (see, for instance, García España et al., 2020).

While the above are just two mere examples of how research crime data can be misused by politicians and other public policy decision-makers, we believe that they highlight the relevance of establishing models for a 'right' use of data and protocolising the relationship between those who produce it and those who can potentially use it. Moreover, the issue is no less important in the field of crime data if we accept that, on the one hand, the aspiration of researchers is not to study crime out of mere curiosity but to improve its treatment and, on the other hand, that it is necessary to establish criteria for accountability in the use of data by those who have the power to actually implement strategies based on crime data. In order to contribute to this debate, in the following sections we will first define what is meant by misuse based on the European Commission (EC) definition and, secondly, we will propose an ethical framework to reduce the risk of misuse of crime data that concerns both researchers and policy makers.

Outlining the potential misuses of scientific research: the European R+D approach

It is well established that "research misuse" can arise in many different scientific fields and in many ways. To illustrate, rather than trying to be exhaustive, recent specialized discussions on this topic have been held in the field of biomedicine (Hammack et al., 2019; Salloch, 2018; Smith & Sandbrink, 2021; Murgatroyd et al., 2015), (bio-)security (Boddie et al., 2015; Koopman, 2016; Smith & Sandbrink, 2022); research methods (Kara & Pickering, 2017; Griffin et al., 2022; Wible, 2016) or, closer to this chapter, public policy (Fedina, 2015; Mandal, 2021; Matthew, 2020; Williams, 2021), just to mention a few of them.

However, regarding to research on crime it cannot be said the same. In the criminological research ethics field, this kind of risk is discussed, but in a more indirect manner (Alexander & Ferzan, 2019; Banks, 2018; Cowburn et al. 2017; Arrigo, 2014; Miller & Gordon, 2014; Pollock, 2014; Robertson & Mire, 2010; Braswell, McCarthy & McCarthy, 2008; Kleining 2008). Certainly, the lack of attention to such ethical considerations is striking, compared to other scientific fields, and may be due to two main reasons. The first is that public policies on analysis, prevention and mitigation of crime, are only partially dependent on crime data (Castro-Toledo & Gómez-Bellvís, 2022). Secondly, criminological research is not as permeable to these normative debates as other disciplines (Castro-Toledo, 2021b). Therefore, in order to fill these gaps in the field of crime research, this section will address the question of defining the possible misuse of crime data. To the extent that there has been no attempt at a prior academic definition for the field in question, to this end and as a starting point, we have critically considered it appropriate to focus on some of the ethical standards established by the European Commission, and widely accepted in the European community of researchers, end-users and policy-makers, for the identification of this type of risk, and which have a direct application to security and crime prevention research.

The European Commission (EC) (2018, 2020) states that there are some types of research that involve materials, methods, or technologies, or generate knowledge or applications that may be misused. In this sense, the classic Stanford prison experiment (Zimbardo, 2011) is a good example of a social study that has been more outstanding because of the ethical concerns raised by its design than for its results. The significance of these social studies gradually underpinned the notion that not all scientific evidence is valid if the ethics basis is compromised. The reason for this is, despite its good intentions (if so), such research could harm people, animals, or the environment, and may negatively impact individuals, groups, or states' security. In any case, given the possible vagueness in its definition, the EC complements it from the perspective of what could be the main scenarios of possible misuse of research of interest. In the specific explanatory note, the EC (2020) clearly indicates that misuse of research results is not only about terrorists and criminals' malevolent potential uses (the traditional "wrong hands") or scientists developing chemical, biological, or nuclear weapons components whose leaks of information could compromise the citizens' well-being. This definition also includes all research results that can be used as a basis for discrimination, stigmatization of persons or locations, or that could violate human rights and civil liberties in any other way – subjects, areas and groups of people that have not escaped criminological interest–. More specifically, this document made explicit that some specific types of research are the most susceptible to potential misuse. In particular those research results that a) provide knowledge, materials and technologies that could be channelled into crime or terrorism; b) could lead to chemical, biological, radiological, or nuclear weapons and the means for their delivery; c) it involves the development of surveillance technologies that could restrict human rights and civil liberties; or d) involves minorities or vulnerable groups or develops social, behavioural, or genetic profiling technologies that could be misused to stigmatise, discriminate, harass, or intimidate individuals. In addition, it should be noted that this document serves not only as a self-assessment tool for researchers or others responsible for the use of research results, but also recommends (when not directly ordering) the implementation of measures to mitigate or minimize risky research scenarios. This is achieved by providing several methods of mitigating these risks. Among the most noticeable ones are improvements in physical security, classification and limitation of the dissemination of certain contents, obtaining specific authorizations and training, or utilizing fictitious data in research designs.

Although the EC attempts to restrict the scope of misuse of research, the risk minimization or mitigation strategies they propose are particularly limited and flawed for crime data uses. The main reasons are, in the first place, that regarding on the scope of its definition, it excludes –unlike other standards (WHO, n.d; ORI, n.d; even the EC, 2017) –, research misconduct related to falsification of research results, fabrication of scientific evidence, or plagiarism, among many others. In general terms, each of these forms of misconduct in scientific research constitutes a genuine misuse of public funds and undermines public confidence in science and government. Secondly, this note fails to mention explicitly any research misuses that may arise from these flawed research activities, such as using findings out of context, stretching findings, distorting findings, or rejecting or ignoring findings. In this context, the Social Care Institute for Excellence (2012) pointed out that misrepresenting research results can have several reasons. This misuse could be deliberate, dishonest, accidentally, partisan, political, ignorant, biased, careless, or any combination of these. But, whatever the reason, we can agree that the consequences of them are far from an ethical and desirable use of crime data.

Considering the above, this chapter takes into account the EC's definition of research misuse as an adequate when adding the latter considerations; however, we believe that it is critical to adopt a preventive risk model which is better suited to the use of crime data in public policy decisions than its generalist approach. The following is a discussion of this point.

Measures to minimize the risk of misuse of crime data: introducing the "Mutual Distrust Model"

We indicated in the previous section that EC proposals for minimising or mitigating the risks of research misuse are limited due to their generalist nature and insufficient to account for the special relationship between the generation of crime data and its use by policy makers. To fill this gap and provide a more satisfactory preventive response than is available in the state-of-the-art, in this section we will introduce the main features of what we have termed the "Mutual Distrust Model" (MDM) and how to apply it.

It is well known that in the context of public policy analysis (Moran et al., 2008; Araral et al., 2015), including evidence-based policy analysis (see Campbell Collaboration, https://www.campbellcollaboration.org/), there are many different types of stakeholders that intervene and influence policy making to a greater or lesser extent. However, while we are fully aware of these considerations, our ethical model is based on a twofold simplification of the reality of public policy. Concretely, the MDM 1) is only applicable to evidence-based policy contexts, either deterministically or informationally (Castro-Toledo & Gómez-Bellvís, 2022); and 2) is exclusively focused on two types of actors, namely policy makers (or 'data users') and researchers (or 'data providers'). In turn, the preventive force of potential MDM misuse relies on both types of actors strengthening specific skills that allow them to develop a relationship of 'reasonable distrust' with each other. In essence, while policy makers should strengthen their science education to ensure that only the best available empirical evidence will inform their public policies, researchers should be required to be more aware of the potential positive and negative social impacts of their contributions and to make every effort to ensure that their research results can be properly understood by all stakeholders (especially policy makers). It is therefore the case that the minimisation of risks of misuse of crime data is directly associated with a greater satisfaction of these objectives. For this reason, in order to adequately serve the intended purposes of both actors, specific requirements have been established for each of them. On the one hand, policy makers can assess the quality of the evidence on the basis of an 'empirical support test' (EST). On the other hand, researchers can estimate the scalability of their research through a 'test of transferability of results to policy' (TRT). The remaining part of this section will be devoted to more details on both MDM tests (see Figure 1).
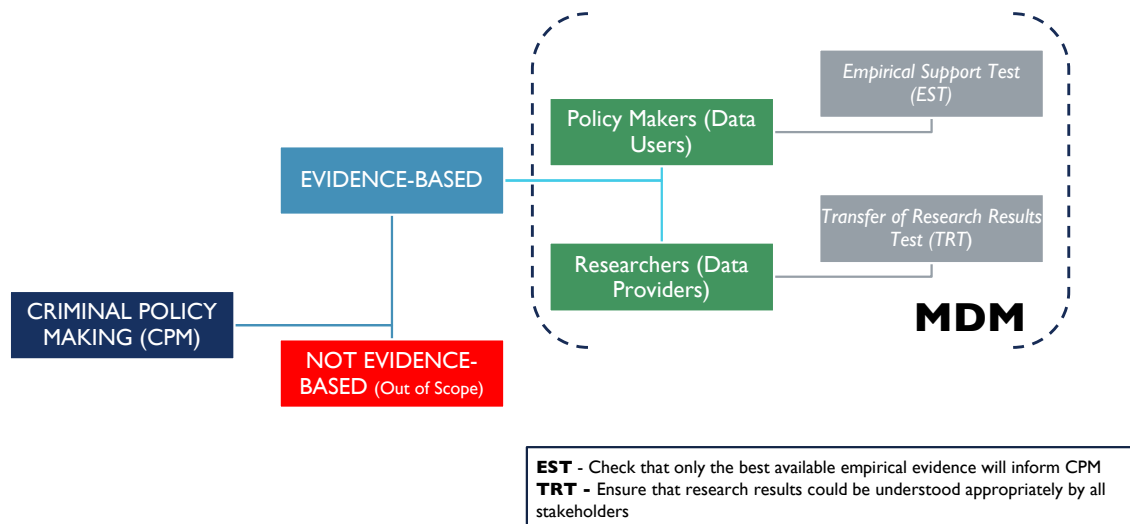
Figure 1. 'Mutual Distrust Model' Scheme

About the Empirical Support Test (EST)

In the area of EST, there has been a very deep and active scientific and philosophical discussion for decades to identify criteria for assessing the epistemic quality of empirical evidence (for a summary, see Castro-Toledo, 2021a). However, for the interests of this chapter, in the criminological field one of the most effusive responses was offered by Sherman et al. (1997) when, in evaluating the use of empirical evidence in the development of public crime prevention and response strategies, they observed that not all research designs are equally valid, since not all generate empirical evidence of the same quality. More specifically, Sherman and his collaborators (1997, 2002) established the so-called 'Maryland Scale of Scientific Methods', which offers a ranking of the strength of empirical findings obtained by various methodological strategies: from the weakest (i.e. expert opinions) to the gold standard, achieved by experimental designs (i.e. RCT or Randomized Control Trial). However, as we have discussed elsewhere (Castro-Toledo & Gómez Bellvís, 2022) even experimental designs, the gold standard of evidence, especially when applied to the social sciences, can be compromised by different sources of threats to their internal and external validity. In this sense, it is important for the policymaker to be aware that all research designs have their own limitations, but that this does not preclude dismissing them or indicating that the evidence is invalid. Another powerful critique is the adopted hierarchy of "evidence-based medicine", in that the importance of research method and research design should not be measured against such a rigid hierarchy but rather against the object and question of research (Becker, Bryman & Ferguson, 2012).

As an alternative to this evidence hierarchy model, the MDM proposes that policy makers use a strategy of assessing the epistemic quality of empirical evidence by identifying certain gaps that compromise the quality of research results and consequently increase the risk of misuse of crime data. In particular, here we follow the work of Robinson, Saldanhea, & McKoy (2011), Jacobs (2011), Müller-Bloch & Kranz (2015) (cited in Miles, 2017), who recommend assessing the following seven gaps:

- *Action-Knowledge Conflict Gap*: the behaviour or practices of practitioners deviate significantly from the research findings or are not adequately covered by the research.
- *Contradictory Evidence Gap*: the results of the studies allow conclusions to be drawn on their own, but are contradictory when examined from a broader point of view.
- *Evaluation Void Gap:* the results are not sufficiently/adequately empirically tested in the research proposal.
- *Knowledge Void Gap*: the inferred/expected/desired outcomes do not exist in the research context.
- *Methodological Gap*: variation in research methods can lead to new results or avoid/generate distorted results.
- *Population Gap:* underrepresented populations are used in the research being evaluated or in previous research (e.g., gender, race, age, ethnicity, etc.).
- *Theoretical Gap:* the theory used can generate new knowledge; however, there is a comparative gap due to the lack of previous theoretical approaches.

About the Transfer of Research Result Test (TRT)

We noted earlier that researchers should be more aware of the potential positive and negative impacts of their research results, and that this is possible if the eventual scalability or transferability of results to public policy is properly assessed. For the purposes of this chapter, we will argue here that the increased transferability of research results decreases the risk that policy makers will misuse crime data. To achieve this purpose, the MDM proposes that researchers meet the following three requirements for an adequate transfer of results: namely, 1) strengthening transparency and traceability; 2) ensuring epistemic accessibility; and 3) valuing the transfer of crime data to public policy as such. In the following, we will discuss each requirement in more detail.

To (1) strengthen the transparency and traceability of research results, the TRT recommends two strategies to researchers: a) make their own database available or use official (or unofficial) open sources, and b) follow high standards of data visualisation or analysis. The first strategy is embedded in the new paradigm of open science, in which any scientific development, obviously also criminological ones, should be characterised by being open, transparent, collaborative, accessible and made with and for society (EC, 2016, 2019); which we believe allows for securing the material basis for greater accountability of researchers. The second strategy, meanwhile, emphasises the importance of rigour in the presentation of research results. On this issue, the criminological literature is clear that not all designs and methodologies are useful for answering any research question (Dantzker et. al., 2016; Hartley et al., 2020), and that not all forms of data visualisation are appropriate (Brown & Carrebine, 2017; Hansen, 2011; Kirk, 2016). In this regard, it is crucial that researchers make efforts to adequately justify their research proposals if they wish to reduce the risk of potential misuse of their research results.

In order to (2) ensure epistemic accessibility to research results, the TRT stresses the great importance of ensuring scientific literacy by introducing plain or lay language in the communication of results. Recently, and in line with the open science objectives described above, the EC has recommended that researchers include a lay summary in

their papers, regardless of continuing to include all technical information. This is certainly not new, and although it was initially developed for biomedical research, Duke (2012) explained that informative abstracts have a number of competitive advantages over research that does not use them. Among the most important, the author highlighted that they help increase relevance and recruitment to research, improve design and tools from consideration of ethical issues, make it easier for people to interpret data, and make it more likely that research results will be used to change the lives of stakeholders. Ultimately, this second requirement aims, on the one hand, to compel researchers to demonstrate to the general public the impact of their research on their lives and how it meets the needs of society (National Co-ordinating Centre for Public Engagement, 2012). At the same time, it empowers citizens and other stakeholders to participate in evidence-based public policy-making and thereby share responsibility for solving societal challenges (RRI Tools, https://rri-tools.eu/es/science-education).

Finally, in order to (3) assess the transferability of crime data to public policy as such, this third requirement is aligned with some of the most common demands of public policy evaluation (Moran et al., 2008; Araral et al., 2015). On this issue, recently, Goméz-Bellvís (2022) explains that any decision making in terms of criminal legislative policy that wishes to address and incorporate empirical evidence must respond to standards of both scientific quality and moral legitimacy. In this regard, the TRT proposes that the assessment of the transferability or scalability of crime data to policy should meet at least three distinct criteria. First, researchers should a) justify the relevance of their crime data for concrete public policy, i.e. to what extent and how the information they provide can be applied to specific decision-making processes. Secondly, it is recommended that researchers b) articulate the potential applications of their data, identifying both the specific domains that are affected and those that are not, and thereby avoid any possible application distortion by an unwarranted stretching of the goodness of results. Finally, it is recommended that researchers also c) assess the positive and negative social impacts of their research results, and especially if these could pose any risk of misuse of those envisaged in the previous section.

Conclusion and a practical proposal

We can summarise what has been said so far by indicating that the MDM is a multi-stakeholder approach to minimising the risks of misuse of crime data. As explained throughout the previous section, both the creation and prevention of such ethical risks presuppose the interaction of at least two main actors: policy makers (or 'data users') and criminological researchers (or 'data providers'). In turn, as part of the MDM, practical criteria have been developed to enable both policy makers (ESTs) and researchers (TRTs) to identify malpractice and implement specific preventive strategies. In order to operationalise the above, we present below a matrix that combines the assessment of the EST with that of the TRT based on the establishment of three shared thresholds (i.e., generally unacceptable, tolerable and acceptable). The crossing of both dimensions will allow us to estimate the risk of misuse of crime data (see Figure 2).

		Data users SCALE OF QUALITY OF EMPIRICAL SUPPORT (EST)		
		ACCEPTABLE (0 gaps met)	TOLERABLE (1 - 2 gaps met)	GENERALLY UNACCEPTABLE (+2 gaps met)
Data providers SCALE OF TRANSFER OF CRIME DATA TO CRIMINAL POLICY MAKING (TRT)	ACCEPTABLE (+2 reqs met)	Low	Medium	Medium
	TOLERABLE (1 - 2 reqs met)	Low	Medium	High
	GENERALLY UNACCEPTABLE (0 req met)	Medium	High	High

Figure 2. Crime Data Misuse Risk Assessment Matrix

In conclusion, it should be noted that in this paper we have only been able to briefly introduce the ethical debate on the risk of misuse of research results and the main features of the MDM. As a consequence, we are aware that, on the one hand, we have not been able to address in depth how policy makers and researchers can verify that the proposed requirements are satisfactorily met. On the other hand, the risk assessment of misuse of this matrix is only an estimation that will have to be checked in the future and eventually revised. However, it can be asserted that, to date, the MDM is the most systematic effort to assess an ethical dimension that in the use of crime data seems to occupy the academic and political back burner despite its important negative impacts on the relationship between science and society.

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