



Introduction to the special issue: Implementing environmental criminology for crime prevention

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Abstract

This introduction aims to showcase the articles of the special issue and highlights the expansive field of environmental criminology, underscoring its role in understanding and preventing crime through situational and environmental strategies. This collection of articles covers a wide array of research from the USA, Sweden, Australia, New Zealand, and Uruguay, demonstrating the global application of environmental criminology principles. Contributions from various disciplines illustrate the field's multidisciplinary approach to tackling crime, particularly in the face of challenges posed by climate change and the need for social and economic sustainability.

Keywords Crime · Place · Theft · Situational · Surveys · Retail crime · Crime prevention · Climate · Change · SDGs

Introduction

Environmental criminology focuses on understanding how the physical, social, and built environments affect crime occurrence. By understanding the factors that make certain places more attractive for criminal behavior, the police, safety experts, and urban planners can focus their actions on the areas and groups that need the most. Since its beginnings around 1980, environmental criminology researchers have expanded their inquiries from street crimes, to organized and white-collar crimes, to wildlife crimes, and cybercrimes. Principles of environmental criminology are key to evidence-based practices such as situational crime prevention and problem-oriented policing. Situational crime prevention is a key concept within environmental criminology, and it helps to reduce opportunities for crime by manipulating the environment in which criminal acts might occur (Clarke 1989). This can be done

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in different ways such as involving community members, and security personnel, or even implementing technology to actively monitor and respond to crime. Environmental criminology also recognizes the importance of social factors in crime prevention, for instance, by fostering community engagement and developing a collective sense of responsibility for their environments. This includes working with crime prevention and directly supporting sustainability goals, to make places inclusive, safe, and resilient. Finally, globalization highlights how worldwide economic trends, technological developments, and cultural interactions shape crime patterns and influence the design of prevention strategies that transcend local environments and physical space.

In this special issue (SI), we illustrate with examples of state-of-the-art research how environmental criminology can support crime prevention through increasing in-depth knowledge about the situational conditions of crime and experiences about the implementation of measures to reduce crime and improve safety. This compilation of articles encompasses a broad spectrum of international research, featuring case studies in the USA, Sweden, Australia, New Zealand and Uruguay. The collection originates from presentations at the International Symposium on “Environmental Criminology and Crime Analysis—ECCA 2023” (hosted by the KTH Safeplaces Network, at the Royal Institute of Technology) and from the Stockholm Criminology Symposium, organized by the Swedish National Council for Crime Prevention which occurred in Stockholm from 12th to 16th June 2023.

The contributors to this special issue are environmental criminologists who come from a variety of disciplinary backgrounds including sociology, criminology, psychology, geography, architecture, and planning. This is an important feature of this special issue given the fact that the field of environmental criminology, by its very nature, is a multidisciplinary field that demands insights and methodologies from a diverse array of disciplines to address the many factors that influence crime, particularly in the face of challenges posed by climate change and the need for social and economic sustainability.

Framing the articles of the special issue

The SI is composed of 5 articles. The three first articles are devoted to acquisitive crimes and other related offenses. All three articles highlight how societal and economic factors influence crime levels. The first article illustrates how the fluctuating prices of precious metals like platinum and rhodium directly affect the rate of catalytic converter thefts. Similarly, the second article shows how the financial impact of retail crime has escalated, with the cost of crimes such as shoplifting and employee theft rising alongside, and even outpacing, revenue growth in the retail sector, and the third study evolves around the analysis of trends in robberies and thefts and factors influencing these trends.

The first article is entitled “Catalytic converter theft,” and it has emerged as a significant concern globally, due to the precious metals they contain, such as platinum and rhodium. The article by Ben Stickle, Adam Rennhoff, Charles A. Morris, and Samuel Fritts shed light on the growing issue of catalytic converter theft, linking it



to the fluctuating value of metals contained within these essential vehicle components. More specifically, Stickle and colleagues investigated how changes in metal prices influence the rate of catalytic converter thefts using police records and social media complaints in Californian cities and found that a 10% increase in metal prices resulted in approximately a 20% increase in catalytic converter thefts. The authors suggest a few ways in which crime prevention of catalytic converter thefts could be put into practice, from police action to changes in the law, education, and public actions, in particular, they recommend that police should consider investigating metal theft, including catalytic converters, as an organized crime.

Michael Townsley and Benjamin Hutchins explore the challenges of crime affecting the retail sectors in Australia and New Zealand, focusing on the magnitude and diversity of criminal actions in the second article of this special issue. Utilizing an online survey of retailers and analyzing police statistics, this research reveals that the financial impact of retail crime has escalated by 28% over the last 4 years, surpassing the 25% increase in revenue. The research identifies shoplifting as the most significant and costly issue for retailers, with employee theft also ranking high on the list of concerns. Authors suggest that for policymakers and industry associations, it is fundamental for the creation of a robust regulatory framework dedicated to combating cybercrime in the retail sector. This includes implementing policies that enhance data protection, uphold consumer rights, and bolster cybersecurity measures. They also recommend encouraging collaboration between law enforcement, retail businesses, and academic institutions can foster knowledge exchange and the development of comprehensive crime prevention strategies. The retail sector should conduct regular employee screenings, and audits, and foster a workplace culture that deters theft. In response to the increase in online fraud, they suggest strengthening the cybersecurity infrastructure, incorporating advanced fraud detection technologies, and providing staff with relevant training to combat cyber threats effectively.

The third piece delves into the intricate effects that enhancements in law enforcement strategies, including the integration of cutting-edge technologies, can have on crime rates. Focusing on Latin America, where evidence-based policing is increasingly being adopted, Spencer Chainey provides a compelling case study. His research into Montevideo, Uruguay, investigates how the introduction of new criminal justice procedures, the digital recording of crimes via tablets, and sustained hot spots policing efforts have impacted incidents of theft and robbery. The author shows that the hot spots policing initiative launched in 2016 was linked to ongoing decreases in crime a year later. Moreover, the increase in crime rates after 2017 was associated with the implementation of a new criminal justice system. He also suggests that the use of tablets for crime recording showed a positive impact, though it was minimal. Although Chainey's findings are specific to Montevideo, they offer insights that may be applicable across South America and potentially in other regions, underscoring the complex repercussions of criminal justice reforms on crime dynamics.

These three studies highlight the complexity of crime dynamics, pointing out that various external and internal factors can significantly impact crime occurrences. This underscores the importance of continuous analysis and adaptation in crime prevention strategies, considering that changes in one area (e.g., market values, retail sector economics, policing tactics, or legal frameworks) can lead to shifts in



criminal behaviors and crime levels and rates. We would paraphrase Chainey who states that their findings suggest that practitioners should be aware of the potential unintended consequences of such reforms and perhaps wish to adjust their plans to mitigate the risk of increases in crime.

The last two articles explore different aspects of environmental criminology, specifically the influence of the environment, yet they diverge in their approach. The first article adopts a theoretical perspective, whereas the second is methodological. Both, however, carry significant implications for both research and practical applications.

Sharon Chamard's piece highlights the dual benefits of urban design in combating both crime and climate change effects, such as extreme heat, wildfires, and flooding. Chamard makes use of current international literature to show that by integrating nature-based solutions such as tree planting and community gardens, cities have the potential to mitigate heat and reduce crime simultaneously. The article also explores how innovative architectural and landscaping designs can lessen wildfire risks and examines how flood defenses, like sea walls, contribute to crime prevention. The author emphasizes the need for more research at the intersection of climate resilience and crime deterrence, advocating for the role of criminologists and urban planners in developing urban environments that are both safer and more adaptable to climate change challenges.

The final article is by Vania Ceccato, Gabriel Gliori, Per Näsman, and Catherine Sundling reporting on comparing the pattern of responses obtained by a web-based and a paper-based survey. Surveys were applied to transit environments, more specifically they focused on crime victimization and safety perceptions in railway stations and surrounding areas. They found that unlike the paper-based surveys, which displayed steadier response rates, web surveys experienced a significant drop after initial questions. The sequencing of multiple-choice options showed no effect on respondent choices, suggesting the validity of these survey methods for informing safety measures in transit settings. The study findings provide insights for crime prevention practitioners and researchers who utilize surveys as tools for data collection. Understanding the dynamics of how survey format influences response rates and patterns can significantly enhance the quality and reliability of data gathered. To maximize the collection of vital information before potential drop-off points, practitioners should strategically design these surveys to ensure critical questions are placed early in the survey. The steadier response rate observed in paper-based surveys suggests that this format may be more effective for certain demographics or topics where detailed and thorough responses are important elements of the research. The recommendation was that mixed-mode survey administration, combining different approaches, can compensate for the weaknesses of each method and potentially provide a more solid ground for safety interventions.

The five articles featured in the SI have examined diverse aspects of environmental criminology and situational crime prevention, from causes of acquisitive crimes and economic factors influencing crime rates to the impacts of environmental design and survey methodologies on ways we think about crime prevention practices. The first three articles focused on how societal and economic shifts—such as fluctuations in precious metal prices, the financial strain on the retail sector, and changes in law enforcement strategies—affect crime, particularly acquisitive crime. They indicated the complex relationship between external economic factors and crime rates, advocating



for adaptive crime prevention strategies, often far beyond the locality. Linking the findings from these articles to the globalization process emphasizes how global economic trends, technological advancements, and cultural exchanges influence crime patterns and should therefore affect our ways of designing prevention strategies locally and across borders. Finally, the final two articles shift focus toward the physical and social environment, exploring how urban design and survey methods can influence crime prevention and the ways we attempt to capture information about the environment. Whether through nature-based solutions to combat climate change and crime or through analyzing survey responses to improve transit safety, these studies highlight the multifaceted approach required in crime prevention and the importance of continuous research to improve practices.

Finally, the diverse findings and approaches outlined in the special issue articles can be directly linked to several of the United Nations Sustainable Development Goals (SDGs) (UN 2020), demonstrating the role that environmental criminology and situational crime prevention play in achieving broader global goals. For instance, the three first articles contribute directly to SDG 9: Industry, Innovation, and Infrastructure as they explore the impacts of global economic trends and technological advancements on crime patterns. Understanding these dynamics is important for developing innovative crime prevention actions that are responsive to changing economic and technological development. Finally, the two last articles relate to SDG 11: Sustainable Cities and Communities and SDG 13: Climate Action. The focus on urban design and the physical environment for crime prevention directly supports these goals, which aim to make cities inclusive, safe, resilient, and sustainable. The examination of how architecture and urban planning can affect crime contributes to creating safer public spaces, reducing the environmental impact of cities, and contributing to creating sustainable urban environments.

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