The Criminal Act
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The Criminal Act

The Role and Influence of Routine Activity Theory

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This collection of essays is in honour of Marcus Felson
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Preface

Marcus Felson has almost single-handedly pioneered a criminology of everyday life. His work, most notably the routine activities perspective, shows how seemingly mundane activities and legal transactions can have a tremendous effect on crime. As many of the contributing chapters to this volume make clear, he has fundamentally changed our understanding of crime and how to avoid it.

A perusal of the letters at the end of this volume will, even for those who do not know him, clarify that Marcus is passionate about ideas. He relishes debate over the validity and applicability of those ideas and, in the process, is most generous with his insights. Indeed, Marcus’ enthusiasm always presses to the fore. During the preparation of this volume, we informed Marcus of its existence. At once his curiosity became apparent as he asked: who is involved? What are they writing about? Can I ask them to make changes? Can we change the book’s title?
Contributors

Editors

Martin A. Andresen is an associate professor in the School of Criminology and Institute for Canadian Urban Research Studies (ICURS), Simon Fraser University, Canada. He is also an affiliated scholar in the Center for Evidence-Based Crime Policy at George Mason University, a Member of the Crime and Place Working Group in the Center for Evidence-Based Crime Policy at George Mason University, and an editorial board member for Criminology, Criminal Justice, Law & Society and the Canadian Journal of Criminology and Criminal Justice. His research areas are in spatial crime analysis, crime and place, geography of crime, environmental criminology, applied spatial statistics, and geographical information analysis. Within these research areas, he has published 3 edited volumes, 2 books, and more than 75 refereed journal articles and contributions to edited volumes. He has been awarded the Canadian Geographer New Scholar Award, the Dean’s Medal for Academic Excellence (Faculty of Arts and Social Sciences, Simon Fraser University), and the Julian M. Szeicz Award for Early Career Achievement (Canadian Association of Geographers).

Graham Farrell is a professor at the School of Criminology and Senior Research Fellow at ICURS, Simon Fraser University, British Columbia. He is an associate of the Jill Dando Institute of Crime Science at University College London (UCL). Among previous posts, he was deputy research director at the Police Foundation in Washington DC, professor at Loughborough University, associate professor at the University of Cincinnati, visiting assistant professor at Rutgers University (where he worked with Felson), and research associate at the University of Oxford. He completed his PhD in 1993/1994 at the University of Manchester on the subject of repeated criminal victimization and then worked at what is now the United Nations Office on Drugs and Crime in Vienna, where among other things he wrote papers presented to the Commission on Narcotic Drugs. In 2007/2008, he conducted research in Afghanistan to evaluate progress in UNODC projects to improve the criminal justice system. He has published 14 previous books and monographs and over 100 other journal papers and book chapters and has
directed research projects funded by, inter alia, the Economic and Social Research Council, the Engineering and Physical Sciences Research Council, the European Community, the US Department of Justice, and, most recently, the Canadian Department of Public Safety and Emergency Management. He has worked with the UK Home Office several times and with police forces in Canada, the United Kingdom, and the United States, as well as with Interpol and the World Customs Organization. This research covers many areas of security and crime science, policing, and situational crime prevention. In recent years, his research into the “crime drop” has been published in outlets including the Journal of Research in Crime and Delinquency, Crime Science, and Crime and Justice: An Annual Review of Research.

Contributors


Kate Bowers is Professor of Crime Science at the UCL Department of Security and Crime Science. Kate has worked in the field of crime science for almost 20 years, with research interests focusing on the use of quantitative methods in crime analysis and crime prevention. She has published 70 papers and book chapters in criminology and in journals such as Criminology, Journal of Quantitative Criminology, and Journal of Research in Crime and Delinquency. Her work has been funded by grants from the Home Office, the US Department of Justice, the Police, the Department for Education and Skills, and UK research councils such as the ESRC and AHRC. She is co-investigator on a recently awarded EPSRC grant for £1.4m on Crime Policing and Citizenship.

Patricia L. Brantingham is RCMP University Professor of Computational Criminology, Director of ICURS, and Associate Member of the
School of Computing Science at Simon Fraser University. She is a member of Simon Fraser University's Interdisciplinary Research in Mathematics and Computing Science Centre and a director of its Modelling of Complex Social Systems programme. She has worked as a systems analyst for major corporations such as Johnson & Johnson and Norton Simon, Inc. and served as director of Programme Evaluation for the Department of Justice Canada. She holds degrees in Theoretical Mathematics from Columbia University and Fordham University and degrees in Urban and Regional Planning from Florida State University. She is the author or editor of two dozen books and scientific monographs and more than 100 articles and scientific papers. She is one of the founders of environmental criminology and is currently the leader of an international collaboration in computational criminology linking 14 university research laboratories around the world. She is known widely for development of crime pattern theory. She has twice been keynote speaker at NIJ Maps Conferences. She is a recipient of the R.V.G. Clarke Award from the Environmental Criminology and Crime Analysis Symposium and of the President's Award from the Western Society of Criminology. Her current research includes the analysis of the role of activity attractors in the journey to crime and the use of computational topology in understanding the structure of crime patterns.

Paul J. Brantingham is RCMP University Professor of Crime Analysis at Simon Fraser University and Associate Director of ICURS. He received degrees in Government and Law from Columbia University and in Criminology from Cambridge University. He is a member of the California Bar. He has background and interest in linking the policy research needs within government with the criminological and legal skills within universities. He served as director of Programme Evaluation and Special Reviews at the Public Service Commission of Canada and has served as a Faculty Dean and as a Department head at Simon Fraser University. He currently is an academic advisor for Canadian Centre for Justice Statistics, is on the editorial board of numerous criminology journals and is author of over 100 scientific papers, policy documents, articles, monographs, and books. His most recent book is Classics in Environmental Criminology (co-edited with Martin A. Andresen and J. Bryan Kinney). He is a past president of the Western Society of Criminology and a past programme chair for the American Society of Criminology. He is co-developer of crime pattern theory, originator of crime gravity indexing as an alternative measure of crime problems faced by police in different communities, and a primary developer of several crime analysis
tools prototyped at ICURS, including the Crime Analysis System-Pacific Region (CAS-PR) for tracking crime trends in detail and a criminal case analysis system, Cour-BC. His current research focuses on development of measures of the complexity of police work and understanding the economics of policing.

Sharon Chamard is an associate professor and director of the Survey Research Center with the Justice Center at the University of Alaska Anchorage. She is interested in the spatial distribution of crime, and along these lines she has conducted research on geographic patterns of sexual assault and youth violence. Currently, she is focusing on the displacement movements of chronic public inebriates in response to police interventions and environmental changes. Additional ongoing projects concern developing strategies to curtail violence associated with bar closing times and evaluating the effectiveness of a communitywide intervention to reduce violence in a small Alaskan town. She has written two problem-oriented guides for police for the Office of Community Oriented Policing Services, one on partnering with businesses to address public safety problems and the other on homeless encampments. Her research has been published in the *Canadian Journal of Criminology, Security Journal*, and *Alaska Justice Forum*. She also frequently works with community groups in Anchorage to develop, implement, and evaluate solutions to crime and disorder problems.

Ronald V. Clarke is a professor at the Rutgers School of Criminal Justice. During a long career, he has been fortunate to have collaborated with many outstanding scholars. One of them is Marcus Felson, whom Clarke considers to be the pre-eminent American criminologist.

John E. Eck is Professor of Criminal Justice at the University of Cincinnati. He received his doctorate in Criminology from the University of Maryland, in 1994, based on his work applying Routine Activity Theory to retail drug dealing. Prior to going into academia, Eck worked for the Police Executive Research Forum where he made his mark helping to demonstrate the utility of problem-oriented policing. This is when he discovered the singular utility of Routine Activity Theory for aiding problem solving. Currently, Eck studies crime places from a routine activity perspective.

Richard B. Felson is Professor of Crime, Law, and Justice and Sociology at The Pennsylvania State University. Most of his research is concerned
with the social psychology of violence. In their book *Violence, Aggression, and Coercive Actions*, he and James Tedeschi developed a theory of aggression that emphasizes rational choice and social interaction. In his book *Violence and Gender Re-examined*, he challenged the idea that violence involving women and intimate partners is much different from other violence. More recently, he has examined the role of armed adversaries in explaining race, regional, and national differences in violence. He has also proposed a method that attempts to isolate the causal effects of alcohol intoxication and other situational factors. Finally, he has examined age and gender patterns in sexual assault in order to discern motive.

**Elizabeth R. Groff** is an associate professor in the Department of Criminal Justice at Temple University, Philadelphia, PA. She is an applied researcher who was the GIS Coordinator at the Charlotte-Mecklenburg Police Department and a former Director of the National Institute of Justice’s Crime Mapping Research Center. Her research interests include place-based criminology; modelling geographical influences on human activity; role of technology in police organizations; and the development of innovative methodologies using geographic information systems (GIS), agent-based simulation models, and randomized experiments. She was elected a fellow of the Academy of Experimental Criminology in 2010.

**Dainis Ignatans** is a PhD candidate in Criminology at the University of Kent, UK. His research interests revolve around the explanations behind global crime patterns, especially the international crime decrease of the last two decades. He has given numerous presentations on his quantitative analyses of immigration, security measure use, and patterns of repeat victimization and their relationships with the crime rates. Repeat victimization is a particular focus in Dainis’ work, exploring how changing rates have contributed to crime.

**Shane D. Johnson** is a professor at the Department of Security and Crime Science, UCL. He has particular interests in exploring how methods from other disciplines (for example, complexity science) can inform understanding of crime and security issues and the extent to which theories developed to explain everyday crimes can explain more extreme events such as riots, maritime piracy, and insurgency. His research has been funded by a variety of sponsors including the AHRC, ESRC, Home Office, UK police forces, and British Academy. He is currently
a co-investigator on the £2.8M EPSRC-funded project ENFOLD concerned with global dynamics. He has published over 80 papers within the fields of criminology and forensic psychology in journals including Criminology, Journal of Quantitative Criminology, and Journal of Research in Crime and Delinquency. He is associate editor of Legal and Criminological Psychology and is an editorial board member of the Journal of Research in Crime and Delinquency.

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**AM Lemieux** is a researcher at the Netherlands Institute for the Study of Crime and Law Enforcement. His main areas of interest are the spatial and temporal distribution of crime, the use of technology to improve law enforcement operations, and anti-poaching operations in Africa. He currently directs the WILD LEO Project in Queen Elizabeth and Murchison Falls National Parks in Uganda. The goals of the project are to give commanders better information for deployment decision making, increase poacher apprehension, and increase poacher conviction rates.

**Brian Lockwood** is an assistant professor in the Department of Criminal Justice at Monmouth University in West Long Branch, New Jersey. He earned both his MA and PhD in Criminal Justice from Temple University. His research interests include the correlates of juvenile delinquency, community-level factors of crime, and the use of GIS to investigate criminal behaviour. Some of his recent publications have appeared in the Journal of Research in Crime and Delinquency, Security Journal, and The Professional Geographer.

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Criminal Justice and Graduate Director at the University of Nevada, Las Vegas (UNLV). Her research interests include crime opportunity structures, place management, and crowd violence. Her publications propose, extend, or test crime science theoretical models. They also help to translate research findings into practice and policy. She currently serves as director of UNLV’s Crowd Management Research Council and conducts crime prevention research and training for public agencies and private industries.

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**Ken Pease** is a forensic psychologist, now semi-retired, and a visiting professor at UCL and the University of Loughborough. His career included periods as Professor of Criminology at Manchester University, heading the Police Research Group in the Home Office, and working as a forensic psychologist in a maximum security facility in Canada. He was awarded the OBE for services to crime prevention and, more recently, the Ronald V. Clarke Award for Environmental Criminology and Crime Analysis. He sat on the Parole Board for England and Wales and is especially proud of his role in the establishment of the Jill Dando Institute at UCL. His published work has been diverse, with a common theme being prevention of the chronic victimization of the same places and people. A long-time member of (and candidate in elections for) the Green Party, his brilliant slogan “Pease: Green but not mushy” has consistently failed to impress voters. His recent work on the carbon cost of crime marries his research experience and political passions.

**George Rengert** is Professor Emeritus of Criminal Justice at Temple University in Philadelphia, PA. He received his PhD from the University of North Carolina. His area of specialty is the spatial and temporal behaviour of property criminals. His books include *Suburban Burglary: A Time and a Place for Everything*, *Metropolitan Crime Patterns*, *Crime, Suburban Burglary: A Tale of Two Suburbs*, *Campus Security: Situational
Crime Prevention in High-Density Environments, and The Geography of Illegal Drugs. Currently, he is working on the application of GIS to urban crime control.

D. Kim Rossmo is the university endowed chair in Criminology and the director of the Center for Geospatial Intelligence and Investigation in the School of Criminal Justice at Texas State University. A former detective inspector with the Vancouver Police Department in Canada, he has researched and published in the areas of environmental criminology, the geography of crime, and criminal investigations. He is a member of the International Association of Chiefs of Police Advisory Committee for Police Investigative Operations and is a full fellow of the International Criminal Investigative Analysis Fellowship. He has written books on criminal investigative failures and geographic profiling.

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Nick Tilley is a member of the Jill Dando Institute of Crime Science at UCL. He has published widely on policing, crime prevention, and programme evaluation methodology. Current projects concern methods of reviewing reviews of what works in crime prevention, the international crime drop, and the prevention of youth sexual violence and abuse in Australian indigenous communities. He was awarded an OBE for services
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Richard Wortley is director of the Jill Dando Institute and the head of the Department of Security and Crime Science at UCL. His research interests centre on the role that immediate environments play in criminal behaviour and especially the role of crime precipitators in creating or intensifying offender motivation. He has been involved in numerous funded projects in areas including official misconduct in prison, whistle-blowing in the public sector, child sexual abuse, the investigation of Internet child exploitation, and intimate partner homicide. He has published widely in the areas of situational crime prevention and his authored/co-authored books include Situational Prison Control, Preventing Child Sexual Abuse (with Smallbone & Marshall), Psychological Criminology, and Internet Child Pornography (with Smallbone).
1

Introduction

Martin A. Andresen and Graham Farrell

This book is a Festschrift honouring the work of Marcus Felson. The 14 studies it contains were specially commissioned. That we were able to attract such a fine set of scholars as contributors is a compelling tribute to Marcus Felson’s work and influence, and we apologize to the many scholars who we know would have been willing to contribute had there been further capacity on our part. The prompt and expert manner in which the authors completed their work made our task as editors an easy one. The book pays tribute via its substantive original contribution to knowledge. This means that the audience for this book should extend far beyond those wishing to learn a little about the man himself.

The chapter authors are either close colleagues, often co-authors, or students of Marcus Felson, and in so being represent some of the leading proponents of the routine activities approach. Fittingly, the title of Chapter 2 by John Eck and Tamara Madensen offers the acronym MARCUS to encapsulate the Felsonian approach to theory building. John Eck has, alongside his many other contributions, been responsible for key developments within the routine activities perspective, including place managers, super controllers, and the ubiquitous crime triangle. He has a long-standing collaboration with Madensen, whose work on crowd control leads that field. Combining the wit and insight that characterizes the work of Marcus Felson, they use the analogy of tinker toys to explain the development of Routine Activity Theory and how “playing” with a theory can provide useful insights.

D. Kim Rossmo and Lucia Summers apply Routine Activity Theory in the context of a criminal investigation in Chapter 3. Rossmo is a world leader in the field of geographic profiling, which draws heavily
Introduction

on concepts and theory relating to routine activities, and which marries well with Summers’ work on repeat victimization and other areas. Combining this expertise they show how routine activities can help understand the spatial-temporal patterns of a particular crime in ways that should inform police investigation.

Chapter 4 by Gisela Bichler and Aili Malm is a particularly innovative analysis of transnational crime from a routine activities perspective. They show how legal, marginal, and illicit markets are connected on a global scale. These authors are at the cutting edge of work on network analysis and the identification of its practical, useful, implications by integrating it with the routine activities approach.

Chapters 5 and 6 both relate to the major drops in crime that have been experienced in many advanced countries over the last two decades. There is symmetry here with the fact that the routine activities perspective was originally developed by Marcus Felson to explain why crime had previously been increasing for several decades. In Chapter 5, Nick Tilley, Graham Farrell, and Ronald V. Clarke argue that target suitability, a cornerstone of Routine Activity Theory, has been critical. They suggest that improved security which reduced target suitability has underpinned much of the crime decline and provides evidence relating to household burglary. Tilley is an internationally renowned expert in policing and evaluation among other areas. Clarke is probably Felson’s most frequent co-author, and they have published many influential studies combining elements of routine activities, situational crime prevention, and rational choice.

The routine activities perspective has always been influential in work on repeat victimization, which has been pioneered by Ken Pease. In Chapter 6, Dainis Ignatans and Ken Pease further establish the important role of repeat victimization in the crime drop. They show how a relatively small percentage of victims account for the greatest declines in crime since the 1990s, but that, perhaps more importantly for crime policy, crime remains heavily skewed against those people and places that are most victimized.

The author of Chapter 7 is “Marcus’ little brother,” Richard Felson. Richie does not need reflected familiar glory as he is a renowned scholar and recently appointed Fellow of the American Society of Criminology. So we are immensely grateful that he provides a compelling chapter examining the overlap between his own work on social psychology and the routine activities perspective as they relate to violence. He has some particularly dry comments on sibling violence, and for those who do not
know the Felson brothers, Richie’s humour is less indirect in his letter in the final chapter.

Rachel Santos, a leading light in crime analysis and co-author with Felson of the fourth edition of *Crime and Everyday Life*, is the author of Chapter 8. She makes a compelling case that Felson could claim to be one of the most important influences upon the field of crime analysis.

Offender mobility is an enduring theme of the routine activities perspective. In an analysis of offender mobility over the course of the day, Kate Bowers and Shane Johnson, in Chapter 9, show how this can impact the spatial distribution of offending. Their evidence suggests that night-time burglaries are more likely undertaken by “insiders” who live close by, whereas daytime burglaries are more likely undertaken by “outsiders” from outside the immediate neighbourhood. Bowers and Johnson are leaders in the field of Crime Science, which is strongly linked to the routine activities perspective. In Chapter 10, Patricia and Paul Brantingham discuss how changes in our environment, a key component of Routine Activity Theory, may be used to understand crime patterns. They discuss how the concepts of Routine Activity Theory may be used to understand Internet-related crime.

Sharon Chamard, former doctoral student of Felson, shows how Routine Activity Theory can be used to understand the location of homeless encampment in Chapter 11. Johannes Knutsson, professor of police research at the Police University College in Norway, analyses bicycle theft data from Sweden in Chapter 12. He shows how climate affects routine activities that in turn alter criminal opportunities. AM Lemieux, also a former doctoral student of Felson, employs time-use data to calculate time-adjusted rates of violence in Chapter 13. He shows that, relative to time spent in different places, the home is the safest place, whereas the street is the most dangerous, and particularly public transportation areas. Capable guardians are an important aspect of Routine Activity Theory and are investigated by Richard Wortley in Chapter 14. He finds that guardians become capable when they consider safety from retaliation, and less capable as the number of offenders increases. Among Wortley’s many contributions is his pioneering work on situational precipitators and the way that many everyday designs can trigger or generate crimes of different types. The last of the original studies is Chapter 15 by George Rengert, Brian Lockwood, and Elizabeth Groff who originate from Temple University, a key source of much original thinking relating to the routine activities approach. They consider suitable targets and capable guardians in the context of burglary and the
race of the offender, finding that the race of the offender has implications for the understanding of notions of suitable targets and capable guardianship, depending on the type of neighbourhood.

The last chapter in this volume, Chapter 16, is a collection of letters addressed to Marcus Felson. Rather than writing about the importance and influence of Marcus here, we thought it would be best for those who know him in the roles of colleague, supervisor, and teacher to say this in their own words. We again draw your attention to the letter from Marcus’ brother Richard, whose account of some of Marcus’ childhood is particularly insightful.

The undertaking of this volume of essays in honour of Marcus Felson was truly a pleasure. And so, lastly, we thank Marcus for his inspirational work and generous nature that made it so easy to bring this collection together.
Meaningfully and Artfully Reinterpreting Crime for Useful Science: An Essay on the Value of Building with Simple Theory

John E. Eck and Tamara D. Madensen

Theories and toys

Theories are toys. Both toys and theories are abstractions of a far more complex reality. Just as toy manipulation helps infants, children, and adults learn about the world, theory manipulation serves the same purpose for researchers and practitioners. So, it is no coincidence that we use similar criteria for judging the adequacy of toys and theories.

One criterion is how well a toy, or theory, mimics the real world. Of course, the adequacy of this mimicry depends on the senses being used and the purposes to which the toy or theory is being put to use. There are stuffed animals that look like the actual creatures, but are not pleasurable to cuddle, and barely recognizable stuffed animals that children love to hold. The realistic toy may be useful for educating a child about the characteristics of the real beast, while the pleasurable toy may be better for providing comfort. Similarly, some theories provide practical frameworks that explain a variety of real-world processes, while others offer more abstract depictions that inspire reflective thinking about common observations.

Another attribute is the degree to which the toy or theory provides insight into the world. Construction toys can be useful for teaching how things can be assembled, and puzzle-based toys can teach translatable problem-solving skills. Likewise, theories can suggest new avenues of inquiry and subsequently generate new knowledge. For example,
computer simulations based on theories can reveal otherwise hidden processes (for example, emergence of macro phenomena from uncoordinated micro-entity interactions) (Eck & Liu, 2008). Insights, including predictions, gained from playing with toys or theories can be extended to the real world. Failure of these insights suggests that the toy or theory is inadequate. Thus, both toys and theories can be judged by their ability to teach us about the world through falsification: a third criterion for judging toys and theories.

Many types of theories are used to help us understand crime and criminality. They can be arrayed on a continuum from being Furbie-like to Tinkertoy-like. Furbies are highly complex toys. They are electronic robots that resemble animal-like creatures. Furbies initially speak “Furbish” – a fake language – but the toys are designed to use more English words and phrases over time. This gives the impression that the Furbie is learning English as it interacts with its user (and with other Furbies through an infrared port located between their eyes). The toy's design evolved to display even greater complexity, eventually demonstrating intricate facial movements and voice recognition. This was a highly popular toy, particularly at the time of its initial release. “Over 40 million Furbies were sold during the three years of its original production, with 1.8 million sold in 1998, and 14 million in 1999. Its speaking capabilities were translated into 24 languages” (http://en.wikipedia.org/wiki/Furby, 2 December 2013).

In contrast, Tinkertoys are distinctly simple-looking toys. Initially made of wood, Tinkertoy sets include just a few types of pieces, including small wooden spools with holes drilled into the centre and perimeter, and short pointed sticks that fit into these holes. The spool hole placements are based on the Pythagorean theorem and allow users to create 45–45–90 right triangles. As such, Tinkertoys can be used to build simple shapes, such as a triangle or square. However, these basic construction pieces can also be used to build highly complex construction projects. “Tinkertoys have been used to create surprisingly complex machines, including Danny Hillis’s tic-tac-toe-playing computer (now in the collection of the Computer History Museum in Mountain View, California) and a robot at Cornell University in 1998” (http://en.wikipedia.org/wiki/Tinkertoy, 2 December 2013).

Furbie theories, like their toy’s namesake, tend to have outward characteristics that make them highly appealing. Furbies are furry, have large eyes, and look cute. They are also internally complex, comprising many interconnected components. And they promise a great deal, just as the advertisements for Furbies suggested that children would find them
engrossing. However, as one of us found, when his daughter was given a Furbie at Christmas, the toy became uninteresting quickly. In short, it failed at its main task.

Tinkertoy theories are outwardly simple. At first blush, one might dismiss them as being trivial and obvious, or, in the case of a theory, tautological. They have few parts and simple connections. Tinkertoy theories, however, can be manipulated in numerous ways to gain understanding of a very diverse and complex set of human behaviours. Tinkertoys and other toys with similar characteristics encourage years of exploration. Further, as the above-mentioned Wikipedia quote points out, the few simple components can be used to create incredibly complex phenomena. The same is true with Tinkertoy theories.

In this chapter, we will take a particular Tinkertoy theory, Routine Activity Theory, and illustrate why it is so useful. Using the Tinkertoy analogy, we will illustrate its evolution. We will then speculate on future elaborations that may further expand its utility. We conclude by advocating for a specific use of theory we refer to as “marcusing.”

Evolving Routine Activity Theory

Routine Activity Theory is a Tinkertoy theory. The original version of Routine Activity Theory (RAT 1) contained four elements: the offender, who is motivated to commit the crime; the target (a human victim, animal, or thing), which is the focus of the offender’s predation; a guardian, who tries to protect the target from the offender; and a spatio-temporal routine that brings the first three elements together or causes them to diverge. When common routines bring offenders into contact with targets, while taking guardians elsewhere, crime is likely (Cohen & Felson, 1979). The top left panel in Figure 2.1 illustrates the first three components, that is, the offender, target, and guardian. It shows these elements at the point in their routines where all converge. Despite the presence of an offender, crime is unlikely due to the presence of a controller: the guardian.

In 1986, Felson elaborated on this basic theory (RAT 2 in Figure 2.1). Drawing on earlier work by Travis Hirschi (1969), Felson added another controller: the handler. Handlers are not particularly concerned about targets. They are concerned about keeping potential offenders from getting into trouble. They use social and emotional bonds for this purpose. Consequently, when an effective handler is present, the potential offender will not commit a crime for fear of losing respect, emotional support, or other related personal connections.
Routine Activity Theory has always incorporated the concept of place. Clearly, convergence of offenders and targets (with or without handlers and guardians) requires a location for them to come together. Further, this location must be small. An offender several blocks from a target is not much of a threat. Similarly, a guardian or handler far from the place where the offender pummels the target is of little use in preventing the assault. So both RATs 1 and 2 suggested that spatial proximity is important, though neither made much of this. Felson (1987) comes close to drawing explicit attention to small places, but it was not until Lawrence Sherman and his colleagues (1989) showed that crime is concentrated at a relatively few addresses that place became an important concept in Routine Activity Theory.
If offenders are controlled by handlers and targets are controlled by guardians, who controls places? Sherman, Gartin, and Burger (1989) made the first explicit connection between high-crime places and Routine Activity Theory. Eck (1994) suggested that people who own property, or those delegated by the owner, are place controllers. Their interest overlaps with guardians and handlers, but it is not identical. Rather, their prime interest is in the functioning of the place rather than keeping a potential offender out of trouble, or in protecting a particular target (other than the place itself, or its contents). Over a decade later, Madensen (2007) laid out a theory of place management showing the factors that influence it and how management operates to prevent crime. This is RAT 3, as illustrated in Figure 2.1.

With three controllers – guardians, handlers, and managers – why do we have crime? Clearly, someone is not doing their job. Further, with strong evidence for repeat offending, repeat victimization, and repeat crime places, controllers can routinely fail. This needed some explanation. Rana Sampson and colleagues (2010) provide such an explanation. They propose that all three controller types are embedded in networks of relationships that contain what they call “super controllers.” Super controllers, when operating and when effective, provide incentives for controllers to block crime (RAT 4, in Figure 2.1). When super controllers are not operating or are ineffective, controllers have less incentive to prevent crime. The theory of super controllers incorporates regulatory agencies, family relationships, courts, markets, and a variety of other political, social, and economic institutions.

This brief history of Routine Activity Theory shows that a seemingly simplistic theory of crime can have great utility. With just a few concepts, Routine Activity Theory can explain highly complex phenomena, including both the occurrence and the absence of crime. Throughout this chapter, we note researchers who have used Routine Activity Theory to explain a great diversity of crime, from theft to child sexual abuse to wildlife poaching. Equally important, it shows how a Tinkertoy theory allows researchers to build upon the basic ideas and expand the theory in directions not originally anticipated.

The seemingly simplistic nature of Routine Activity Theory led many in academia to initially disregard or reject this theory outright. The reaction of some academics to Routine Activity Theory mirrors what one might expect if observing a child forced to choose between a cuddly Furbie and a set of Tinkertoy spools and sticks. Although now one of the most widely cited and influential theories in our discipline, Felson (2008) has described the initial rejection of his Routine Activity Theory
Marcusing article by numerous reviewers for six leading journals. Reviewers commented that the article was “impressive empirical dribble” and “highly questionable” and that Felson and his colleague had produced “a bizarre paper” (p.72). One reviewer suggested that the authors abandon these ideas in order to turn to “more meaningful” work (p.72). Our discipline is quite fortunate that Marcus Felson is highly persistent, if not blatantly and unabashedly stubborn. The practical and academic impacts of his contributions are far-reaching. Felson’s theory has informed countless crime reduction strategies and inspired substantial theoretical progress.

Future directions

We do not believe researchers have fully exhausted the capabilities of Routine Activity Theory. It might not be infinitely expandable, in the way Tinkertoys are, but we doubt it has reached its limits. In this section, we point to two new directions towards which Routine Activity Theory can expand. Rather than give them numbers, we call this a description of RAT+.

Explaining capabilities

RAT 4 contains eight elements, of which six can be human: offenders, handlers, targets, guardians, managers, and super controllers. Places are not human and neither are routines, so we can set them aside for the moment. We will also ignore, for the moment, non-human targets (for example, walls suitable for graffiti and electronic devices suitable for theft) and those super controllers who do not make conscious decisions (for example, markets). In short, we are ignoring elements of RAT 4 that do not have agency.

Human elements of RAT 4 have varying levels of capabilities. Among offenders, some are more capable than others. The same is true of the other human elements. For potential offenders, their capabilities will influence what they see as suitable crime opportunities. For others, their capabilities will influence how well they can control their potential offenders, targets, and places. Some of the variations in capabilities are due to idiosyncratic personal characteristics. We will ignore this and concentrate on widely shared capabilities. We do this because some capabilities make some crimes more or less frequent.

Capabilities come in at least three types. The first is access and ability to use tools. The second involves the ability to apply legal authority. And the third involves the ability to apply relevant social norms. Figure 2.2 illustrates these capabilities.
Tools are physical objects. An obvious tool is a firearm. It is a tool used by both offenders and guardians, and targets acting as self-guardians (see next section). For offenders, firearms are useful for many types of robbery, assault, maritime piracy, and killing. For guardians and targets, firearms might be useful for preventing the same crimes. Firearms are far less useful for committing or protecting against other crimes – electronically stealing personal information from a server is not aided by the use of firearms, and protection against this sort of crime is not enhanced by guns. However, clearly computers are useful tools for this crime and its prevention. Locks and racks are tools bike owners find useful to prevent bike theft. Bike thieves find bolt cutters handy for circumventing these tools, but not computers!

Legal authority is not physical. Instead, it provides a right, or even an obligation, to act in particular circumstances. Offenders use their civil liberties for both legitimate and illegitimate ends. Their right to privacy means they can use their property to hide evidence of involvement in crime. Police must use special legal procedures to circumvent this authority. Place managers exploit their property rights to organize their space, regulate conduct, control access, and acquire resources (Madensen & Eck, 2012). Super controllers have various forms of legal authority to manipulate controllers, such as the city attorney who can seize property from negligent landowners following a court order, but this authority varies greatly among the types of super controllers.
Finally, social norms and traditions provide capabilities. In places or situations where people are expected to act in a particular way, those who do not will stand out. So any offender who wants to blend into the background will exploit norms. Consider a bank robber driving away from his crime scene. Driving faster than others or slower than others is likely to draw police attention. So the prudent bank robber will drive within the norm of other drivers, even if this is slightly above the legal speed limit. Norms are useful to potential victims, guardians, handlers, managers, and super controllers. For example, the norm that says we do not have to answer every email we receive allows us to screen out as spam all sorts of messages from offenders. Obviously, the distinction between norms and legal authority is sometimes blurry and can change. We see this evolving on the Internet, where norms of privacy and legal authority to block access continue to evolve. But the reason they evolve is because we sometimes find circumstances where offenders are exploiting a norm and we want to not only block the opportunities the norm provides but also give a target, guardian, manager, handler, or super controller explicit powers to protect themselves or others. When crime scientists from Western cultures apply Routine Activity Theory in Third World cultures, they sometimes identify norms that can be exploited for prevention or are being exploited for offending (see, for example, Lemieux, 2013, on wildlife poaching).

Research into these three types of capabilities is likely to be fertile for developing better and more sustainable prevention. Further, it is possible that there are other types of capabilities we have overlooked.

**Human elements are roles**

We have described RATs 1–4 as if offenders, handlers, targets, guardians, managers, and super controllers were distinct types of people. As Hollis-Peel and colleagues (2012) have noted, there is considerable overlap among these concepts. It is time we make it clear that these concepts are not people. Rather, they are roles. Though it is sometimes useful to ignore this for purposes of writing, it is important we make roles explicit within RAT+.

Consider Ann. At breakfast, Ann tells her 15-year-old son that he cannot spend the weekend with his friend, because this friend consistently gets into trouble with the police (handling). Before taking her son to school, which she does to avoid him being picked on by bullies (guardianship), Ann picks up some trash that has blown into her yard and checks to make sure the alarm system is operating (managing). After dropping her son off at school, Ann goes to work, where as
an accountant she takes advantage of a security lapse and embezzles some money from her employer (offending). While walking to her car, at the end of the day, two young people knock her down and take her cell phone and cash (victimization). Over the course of her day, Ann has taken on almost every possible role in Routine Activity Theory. Her roles are closely attached to her routines – she engages in handling and guardianship when she is with her son, she can best manage her home when she is there, she offends when opportunities arise at work, and her risk of robbery victimization is higher outside of work and home. So, although she adopts all these roles, she does not undertake them all at once.

Consider Zeke. Zeke owns an apartment building (manager). Since it is difficult to rent apartments in the neighbourhood, he intentionally overlooks prescription drug dealing by tenants who regularly pay their rent. Zeke is not above receiving drugs for personal use in lieu of rent. He also bribes the building inspector (a super controller) to ignore the building’s faulty wiring. He is abrogating his management responsibilities when he overlooks the drug dealing and by not repairing the wiring. Additionally, in this example, Zeke’s behaviour conflates roles. When taking drugs for rent, he is combining an offending role with his management role. When using the drugs, he conflates offending and victimization. When bribing the building inspector, he conflates offending and managing. The inspector, of course, is conflating super controlling with offending. Though the later conflation is a clear form of corruption, it is noteworthy how similar it is to other circumstances where the offender role is conflated with other roles. If Zeke allowed a burglar into the building to steal from tenants (for a return on the proceeds), he would be fusing offending and guardianship, just as he would be if he beat his child (see Table 2.1 for additional examples).

Corruption can be direct or indirect. The father who sexually abuses his daughter is involved in direct corruption of his guardianship role (Leclerc et al., 2011). The businesswoman who influences a regulator to overlook violations of workplace safety is engaged in indirect corruption by getting the super controller to also adopt an offending role (the regulator is involved in direct corruption).

Conflation of the offender and other roles may not always be criminogenic. In some special cases, it might be useful for prevention. Consider focused deterrence (Kennedy, 2006). To prevent members of offender groups from shooting and killing members of other groups, a focused deterrence strategy holds the group accountable for the actions of its members. In short, it forces gang members to consider their roles as
Table 2.1  Varieties of corruption: Conflating the offending role and other roles

<table>
<thead>
<tr>
<th>Offender conflated with…</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handler</td>
<td>Parents involving their children in crime – recruiting them into criminal gangs, involving them in thefts or frauds, “pimping” them out as sex workers, and so on</td>
</tr>
<tr>
<td>Target</td>
<td>Engaging in behaviours that are harmful – suicide, drug abuse, and so on</td>
</tr>
<tr>
<td>Guardian</td>
<td>Bribed security guards, some types of police corruption, IT security selling private data on company clients, and so on</td>
</tr>
<tr>
<td>Manager</td>
<td>Employees using a place for criminal purposes, owners intentionally facilitating crime</td>
</tr>
<tr>
<td>Super controller</td>
<td>Bribed regulatory agents who have powers over handlers, guardians, or managers (a nursing home inspector who takes money to not report physical abuse of patients). Mandatory reporters who intentionally overlook reportable behaviours by handlers, guardians, or managers (a police internal affairs investigator who covers up the beating of a handcuffed arrestee). A newspaper editor who suppresses a credible story about political corruption</td>
</tr>
</tbody>
</table>

Role conflation can become complex. Consider a terrorist who coerces his niece to become a suicide bomber by threatening violence on her immediate family. As a relative, the terrorist is a handler, so he is corrupting his role. His niece, by going along with the threat, is offending against herself, as well as others. However, she is also acting as a guardian of her immediate family.

Our brief discussion of role conflation serves two purposes. First, it shows why explicit recognition of roles is useful: it helps us understand particular crime types and why the presence of controllers may not always prevent crime. It also reveals similarities among seemingly different crimes (for example, the bribing of a security guard and child abuse). Second, it shows how Routine Activity Theory can help us better
understand corruption. Corruption is one method offenders use to create opportunities. A routine activity perspective on corruption suggests that many forms of “white collar” crime may be considered corruption. Space does not permit greater discussion of conflation here, but we hope this stimulates further discussion and research, which will lead to effective prevention.

Theories within theories

Another implication of Tinkertoy theories that we should make explicit is that they can produce an ecology of theories. In 1987, Marcus Felson suggested that metropolitan areas create a reef-like structure with numerous micro ecologies where crime can flourish. We pay homage to this insight by suggesting that Routine Activity Theory also has a reef-like structure.

Consider Figure 2.2. Each of the sticks depicted in this Tinkertoy-like diagram suggests an element of Routine Activity Theory; only routines themselves are not depicted. Each of the depicted elements and routines is an attachment point for a theory. Theories of offending, including rational choice and scripts, can be attached to the offender stick. Handling is an underdeveloped theory, but is deserving of greater attention (Tillyer & Eck, 2011). Research into places has blossomed over the last decade (Weisburd et al., 2012). Madensen (2007) has created the foundations of a theory of place management. Numerous researchers are working on theories of victims (Mustaine & Tewksbury, 1998; Farrell & Pease, 2008; Fisher et al., 2009) and target suitability (Clarke, 1999). Guardianship theory lay dormant for years, until Reynald (2010, 2011) woke it up. The theory of super controllers (Sampson et al., 2010) is a potentially useful attachment point for theories of regulation (Sparrow, 2008) and policing (Mazerolle & Ransley, 2005). There has been little attention to theories of routines, though there is reason to believe that if someone took this on, it would very productive. We have suggested that theory and research into capabilities and roles would be useful, as well.

Marcusing

We have demonstrated that Tinkertoy theories are valuable. Felson’s theoretical contributions are valuable because they facilitate meaningful and artful reinterpretation of crime for useful science. We call this “marcusing.” Marcusing is playing with theory. The purpose of such playing is to improve our ability to understand crime so that we can
design more intelligent interventions; the interventions are more effective, less costly, and produce less harm than alternatives. That is what we mean by meaningful and useful. The process opens up opportunities for testing the theory and exploring aspects of crime that have been difficult to examine, or have not been considered scientifically. The choice of what elements to manipulate is done for a purpose (that is, it is meaningful), but it entails a creative process that requires some judgement (that is, it is artful).

Some theories allow more and better marcusing than others. Theories at the Furbie end of the spectrum have extremely limited marcusing potential, and some may be marcus proof. It is relatively easy to identify Furbish theories. The promises made by these theories – to explain criminality and to provide keys to its control – make them highly attractive. Each is internally complex. Furbie theories are characterized by highly intricate causal models or contain long lists of propositions that outline numerous critical variables. And, on the grounds that it takes a complex theory to explain a complex phenomenon, their internal complexity suggests that these theories can deliver on their promises.

Standard criminology seems to be a breeding ground for Furbish theories, yet the discipline has made little progress. Weisburd and Piquero (2008) showed that efforts to explain criminological phenomena have not progressed. There is increasing disenchantment with standard criminology (Cullen, 2011). There is no example of a major public policy that has successfully applied a theory of criminality. And, in the history of modern criminology (roughly beginning with the Chicago School), there is not a single example of the criminological community abandoning one of their theories. So, despite its lack of success, criminologists have not falsified any of their theories. This calls into question whether criminology is a science. These facts also suggest that we explore other ways to understand and prevent crime. We suggest that Tinkertoy theories have more promise, largely because of their marcusing potential.

References


3
Routine Activity Theory in Crime Investigation

D. Kim Rossmo and Lucia Summers

Introduction

Routine activity theory emphasizes the relevance of regular and routine behaviours for an understanding of crime patterns (Clarke & Felson, 1993). While the approach is most commonly used to explain aggregate trends and behaviours in society, it can also be employed to analyse individual-level behaviour in a crime investigation. By treating the time and place of a crime as clues and using what is known about the offence and victim, the routine activity crime equation may sometimes be manipulated to provide information about the offender.

In this chapter, we outline the basics of Routine Activity Theory, the importance of temporal rhythms and cycles, and the theory’s relevance to repeat victimization and crime linkage. We then discuss how some criminal predators hunt for potential targets using knowledge of their victims’ routines. By placing the routine activities crime equation in a dynamic context, detectives can better understand the spatial-temporal patterns of a particular crime. We propose an analytic framework based on offender, victim, and environment factors and suggest a number of investigative questions that emerge from this framework. Throughout the chapter, we provide illustrations of the use of Routine Activity Theory in crime investigation.

Routine Activity Theory

For a direct-contact predatory crime to occur, an offender and victim must intersect in time and space within an environment conducive to
Routine Activity Theory in Crime Investigation

offending (Felson, 1987, 2002). Routine Activity Theory studies the patterns associated with these requirements and how crime depends upon regular, noncriminal activities. “Structural changes in routine activity patterns can influence crime rates by affecting the convergence in space and time of the three minimal elements of direct-contact predatory violation: 1) motivated offenders, 2) suitable targets, and 3) the absence of capable guardians against a violation” (Cohen & Felson, 1979, p.589). The opportunity structure for crime – the crime equation – can therefore be summarized as follows:

\[
\text{crime} = (\text{offender} + \text{target} - \text{guardian}) \times (\text{place} + \text{time})
\]

A potential criminal must be motivated at the time of the encounter. The target needs to be seen as suitable or desirable from the offender’s perspective. Capable guardians may include police, security, and ordinary citizens going about their daily activities. Later inclusion of offender handlers (parents, colleagues, and others who control potential criminals) and place managers (shopkeepers, building superintendents, and others who supervise locations) expanded Routine Activity Theory into the crime triangle (Felson, 1986; Eck & Weisburd, 1995).

To study a crime’s “chemistry,” one must first find who and what must be present and who or what must be absent for the crime to occur (Felson & Clarke, 1998). This chemistry is crime specific; for instance, the requirements for pickpocketing are quite different than those for auto theft. The setting – time and place – in which these conditions are likely to occur and offenders’ access to and escape from these locations help explain the spatial and temporal patterns of crime.

Crime Pattern Theory, which outlines the geographic relationship between an offender’s residence and his crime locations, is integrally connected to Routine Activity Theory (Brantingham & Brantingham, 1984, 1993, 2008). Most crime is not random; rather, it is spatially structured, occurring where the awareness space of the offender intersects with perceived suitable targets (desirable targets with an acceptable risk level attached to them). The awareness spaces of offenders, in turn, are shaped by their routine activities. “Very few criminals appear to blaze trails into new, unknown territories or situations in search of criminal opportunities” (Brantingham & Brantingham, 1998, p.4). Crime Pattern Theory combines routine activities, rational choice, and environmental principles to explain the geometry of crime. It is the basis of the investigative technique known as “geographic profiling” (see below).
Rhythms and cycles

Routine activities are not independent of time; the ebb and flow of people through places requires an appreciation of community rhythms and cycles. A given location may be crowded or deserted, depending upon the time of day, day of week, month, weather, and special events. There are rhythms associated with work, entertainment, shopping, bars, transit, traffic, parking, temperature, weather, lighting, police, victims, guardianship, and sleep (Felson, 2002; Tompson & Bowers, 2013). Rhythms and cycles make it necessary to think about geography within the context of time.

Because police respond to a crime when it is reported, which may be some time after it occurred, they may not learn of activities in the area relevant to the investigation. Consequently, it is important for detectives to re-attend a crime site at a later point that matches the temporal routines of the time of the offence. The surroundings of a place – pedestrian activity, vehicle traffic, lighting, and guardianship levels – can change significantly between day and night, weekday and weekend, and good and bad weather.

For example, following an abduction of a young woman in Ontario, a witness reported to police seeing a car matching the description of the suspect vehicle. The lead become much less promising, however, when the area’s routines at the time of the crime were taken into consideration. The direction of travel of the vehicle reported by the witness took it into a crowded arterial road during rush hour on a weekday – not a likely escape route.

In another case, the murder of a female jogger in a low-crime rate area appeared to be a totally random crime with few suspects. However, a new investigative theory arose with the realization that there was a bus stop near the location where the victim’s body was found and that the bus had a scheduled stop around the time of the crime. Certain facilities near the locations of some of the prior stops along the transit route opened up interesting suspect possibilities.

Surveillance of crime sites and access routes based on the temporal rhythms of routine activities can often be a successful investigative strategy. After a robbery in a strip mall parking lot, police retrieved videos showing the offender coming out of a nearby convenience store where he had bought cigarettes. The circumstances of the crime suggested it was opportunistic, and the offender’s original reason for stopping at the mall was to buy cigarettes. The day of week and time of the crime led to the inference that the offender was commuting home from work,
supporting the viability of follow-up surveillance and canvassing in the area at that same time of day and day of week.

**Repeat victimization and linkage analysis**

Routine Activity Theory can be particularly useful in the investigation of serial crime. Police investigating a crime series first have to determine which offences are connected (that is, committed by the same offender), a process known as linkage analysis. However, if physical evidence and suspect descriptions are absent, detectives can only work with the characteristics of the crime scene and the offender’s *modus operandi* (MO). The methods used by criminals to hunt for victims are part of their MO. Linked crimes are therefore more likely to exhibit spatial-temporal proximity and similarities in victimology; “the target selection processes of sex offenders depend heavily on the social, physical, and geographic environment as well as the victim’s behaviors and location prior to the crime” (Deslauriers-Varin & Beauregard, 2010, p.320).

The variability of target suitability means that some targets are more desirable than others; this results in certain types of targets being victimized more often than others and particular individual targets suffering multiple victimizations (Pease, 1998). A target may be re-victimized because the original crime increases the chance the offender will return to reoffend (event dependency). For instance, some burglars return to previously targeted residences because they are now familiar with the layout or because they want to steal items replaced by the victims. A target may also be repeatedly victimized if it possesses characteristics that make it attractive to offenders (risk heterogeneity). For example, research on residential burglary has shown corner houses are more likely to be broken into because of increased visibility and the availability of more than one escape route (Cromwell et al., 1990).

Repeat victimization risk peaks in the first month following a burglary and then decreases gradually over time (Polvi et al., 1990). A burglary also enhances the crime risk for nearby houses (“near repeats”), but at a lower level (Bowers & Johnson, 2004). Most repeat and near-repeat victimization appears to be caused by the same offender returning (Bernasco, 2008; Johnson et al., 2009). This is consistent with Routine Activity Theory; the initial victimization escalates risk by increasing the offender’s familiarity with the area, its level of guardianship, and potential targets. Moreover, research has demonstrated that geographic and temporal proximity are stronger linkage factors than other offender behavioural variables (Goodwill, & Alison, 2006; Markson et al., 2010;
Rossmo et al., 2013; Tonkin et al., 2012). Consequently, identifying similarities in victim routines can be helpful in crime linkage analysis.

Once police have linked the offences in a crimes series, a more complete picture emerges. This provides investigators with a crime pattern they can subject to certain types of analysis. One such tool is geographic profiling, a criminal investigative methodology that uses the locations of a linked series of crimes to determine the most probable area of offender residence (Rossmo, 2000). Its primary purpose is to help police manage information through suspect prioritization by address, a common element in police and public records. How an offender found his potential victims and whether he used their routine activities during his hunting process are important considerations in geographic profiling. Routine Activity Theory therefore plays a key role in the process, both directly and through its relationship with Crime Pattern Theory, the theoretical foundation of geographic profiling.

Routine activities and predatory criminals

Routine Activity Theory is employed by criminologists to understand patterns of predatory crime. In turn, some criminal predators use their knowledge of victims’ routines to focus where, when, and how they search for crime targets. For example, residential burglars commonly find homes to break into by paying attention to the opportunities they encounter during the course of their daily routine activities (Wright, & Decker, 1994). They gain familiarity with the habits of the occupants, noting such things as the number, presence, and absence of vehicles. “The typical burglar is much more aware of our use of time than we are” (Cromwell et al., 1990, p.59).

During a neighbourhood canvass following a crime, police typically ask neighbours if they saw anything unusual. However, the research on criminal hunting and routine activities suggests they should also ask what was normal and routine for the area at the time of the crime. A sexual predator will “pass by the same bus stop every morning of his way to work for a month, seeing the same person or same type of person, nursing his fantasy, building up his confidence, until finally he assaults him or her” (Pearson, 1997, p.160). Many child abduction murderers belong to the area in which they encounter their victim, often (29 per cent) living in the same neighbourhood (Hanfland et al., 1997). Paedophiles have a greater risk of reoffending if their routine activities intersect places frequented by children such as schools, playgrounds, parks, or day-care centres (Ouimet & Proulx, 1994). Some child sex
offenders actively choose to live in locations that provide access to high numbers of potential victims (Walker et al., 2001).

Stranger rapists often search for targets in nearby places of victim accessibility, including both nodes (entrances to train stations or apartment buildings) and travel routes (to work, school, shopping, or entertainment) used by women (Davies, & Dale, 1995; Rossmo et al., 2004). The criminal appeal of these hunting grounds depends upon changes in activity level and therefore on the time of day and day of week.

Investigators can use the fact that some offenders exploit victim routines by thinking about the crime from the perspective of the criminal and what he or she has to accomplish. In the investigation of a burglary rape series in Pennsylvania, for example, police surveillance of the offender’s hunting area during the early hours of the morning (the time of the crimes) was unsuccessful. The multi-unit nature of the victims’ homes raised the question as to how the offender knew which unit to break into during the middle of the night. Consideration of the routine activities of the victims suggested the rapist was actually finding them much earlier, during the evening as they returned home from work or social activities, and then later returning to break into their apartments.

**Using Routine Activity Theory in a criminal investigation**

Routine Activity Theory is commonly used to explain and predict crime patterns from offender and victim routines. In contrast, here we show how the crime equation can be manipulated to deduct traits of the offender from details of a crime that has already happened. Detectives can benefit from knowledge of “routine victim activities and expected behaviors related to contact with and risk of victimization by a serial predator” (Ford, 1990, p.116).

The criminal investigative process can be divided into two tasks: finding the offender and proving his or her guilt (Rossmo, 2006). These tasks do not have a chronological order. Police can sometimes establish guilt through physical evidence (for example, DNA) or an eyewitness before they have identified the criminal. In certain cases, the routine activities crime equation may help investigators find the offender.

Marcus Felson has described Routine Activity Theory as a “thinking tool,” an apt description of its role in crime investigation. The time and place of a crime are clues. By asking how the offence happened and why it happened at that particular place and time, a detective can obtain a
Consideration of how a crime event unfolded leads to its natural division into three sequential stages: (1) the prelude; (2) the incident; and (3) the aftermath (Felson, 1986; Sacco & Kennedy, 1996). It also suggests a number of investigative questions:

- What was the offender doing in that location?
- Where was the offender coming from before the crime?
- Where did the offender go after the crime?
- How and where did the offender’s and victim’s activity spaces converge?

Placing the routine activities crime equation within a dynamic context of space and time outlines the investigative relevance of both offender and victim movements (see Figure 3.1). “Each element in the criminal event has some historical trajectory shaped by past experience and future intention, by the routine activities and rhythms of life, and by the constraints of the environment” (Brantingham & Brantingham, 1993, p.259). (In a crime committed against a stationary item, such as the burglary of a building, there is obviously no need to consider target movement.)

![Figure 3.1](image-url)  
*Figure 3.1  Routine activities and the dynamic context of crime*
Some crimes, however, involve more than one location, each of which serves a different functional purpose for the offender. For example, a murder requires the actions of victim encounter, attack, the murder itself, and body disposal. These actions can occur in the same or different locations. Similarly, a bank robbery might include locations where a getaway car was stolen and then dumped, as well as the location of the robbed bank. All of the sites involved in a crime should be considered and the implications of Routine Activity Theory for each analysed, both separately and collectively.

The crime should be assessed as opportunistic or planned. An opportunistic crime may provide information on the offender’s spatial and temporal routines; a planned crime, however, usually provides information only on the offender’s spatial routines as he or she may have identified a target or target area at an earlier time and then later returned to offend. If the crime was planned, the offender’s hunting method should be determined. The hunting process in a predatory crime is defined as the search for, and the attack on, the target or victim (Rossmo, 2000). The type of hunting method used by the offender influences the role of Routine Activity Theory. For example, the location of a crime committed by an offender who stalks his victim from the initial encounter site says much more about the victim’s routine activities than the offender’s; in such a case, typically only the encounter site is important for investigation purposes.

Some criminals use “fishing holes” or “trap lines” to find potential victims (Rossmo, 2000). Fishing holes are locations that function as crime attractors because of their potential for containing desirable targets (for example, parking lots, subway or bus stops, school playgrounds, shopping malls); trap lines are linear fishing holes (for example, entertainment strips, edges of college campuses). These locations are often poor places in which to offend because the high concentration of people provides guardianship as well as victim availability. Instead, some criminals use them to find victims who they can follow to more isolated locations before attacking. (This is a stalking form of criminal hunt.) Consequently, pre-offence victim movements may be important in certain criminal investigations, and their aggregate pattern in a serial rape or other crime series can sometimes provide insight into the offender’s hunting methods. In such cases, victim interviews or a victim trail analysis – the mapping and examination of the victims’ pre-offence movements to outline intersections and overlaps – can identify common ground that points to the initial encounter site with the offender. In stalking situations, the encounter site, unlike the crime site, is likely
Victim trail analysis to be part of the offender’s awareness space and therefore of investigative significance. Figure 3.2 shows an example of a victim trail analysis, a schematic diagram of a serial rape case in New York City. The circles mark the locations of five connected rapes, linked by DNA; the arrows indicate the movements of the victims just prior to the attacks (the victim trails); and the oval outlines the intersection of the victim trails, an entertainment area that may have been the victim encounter location (fishing hole).

Both offender and victim movements are shaped by the landscape. Main roads, which are usually easier to get to and more likely to be used, tend to have more crime than minor streets (Beavon et al., 1994; Bevis & Nutter, 1977; Johnson & Bowers, 2010). This finding is consistent with Routine Activity Theory as greater ambient population levels on or near major roads increase the likelihood of potential offenders and victims coinciding in space and time. The attendant increase in natural surveillance may not be enough to compensate for this, depending on the type of crime and its specific setting (Reynald, 2010, 2011). In some cases, an offender may notice a crime opportunity against a non-mobile target, such as a residence or a store, and return at a later time when no capable guardians are around. In any case, main roads are known and
Routine Activity Theory in Crime Investigation

frequented by more people, including offenders, and this makes them more vulnerable to crime.

The location of a crime suggests something about the offender’s level of familiarity with the area. While a crime near a main road might not tell police much, a crime in a remote location suggests a local offender or one with a connection to the neighbourhood (work, family, friends). For instance, if cattle grazing close to a main road in a rural area are stolen, it is difficult to know if the offenders are locals or outsiders. However, cattle stolen from a field that is not visible from a main road points to local offenders whose knowledge of the target results from their routine activities.

Routine activity analytic framework

The elements of Routine Activity Theory provide the basis for constructing an analytic framework for a criminal investigation. A given crime can be dissected into the components of offender, target/victim, and environment (place, time, and guardianship); in turn, each of these components overlaps the others, producing possible areas of inquiry. This framework is outlined in Figure 3.3.

This breakdown produces seven areas for consideration by police investigators:

1. Offender – type of criminal, description (demographics)
2. Target – victimology (type, demographics)
3. Environment – neighbourhood, landscape, transportation networks, access, place characteristics, time, date

![Figure 3.3 Offender, victim, and environment analytic framework](image-url)
4. Offender/target (O/T) – offender hunting style, victim preference, target specificity, risk level
5. Offender/environment (O/E) – offender’s mental map and activity space, transportation, hunting ground
6. Target/environment (T/E) – target backcloth, neighbourhood rhythms, encounter site
7. Offender/target/environment (O/T/E) – situation, crime, crime scene.

This analytic framework leads to a number of specific questions, the consideration of which may be helpful in certain criminal investigations (Rossmo, 2006):

1. Locations – What are the locations connected to this crime or crime series? Where are they? What are the distances and travel times between them?
2. Time – When did the crimes occur (time, day of week, date)? What was the weather on those dates? What are the time lags between crimes?
3. Site selection – How were the crime locations accessed? What else is in their general area? How might the offender have known of these locations? What criminal purpose or function did they serve?
4. Target backcloth – What is the geographic arrangement and availability of the target group? What degree of control did the offender have over the choice of crime locations? Has displacement (spatial or temporal) occurred?
5. Hunting – What hunting method did the offender use? Why were these sites chosen, and not other possible locations? What was the offender’s likely mode of transportation?

A hit-and-run case in southern California resolved through the application of Routine Activity Theory demonstrates the utility of this framework. The police department’s crime analyst concluded from the incident location and suspect vehicle description (provided by an eyewitness) that the offending driver was probably a younger male student from the local community college. Based on his direction of travel and the time of day and day of week, she felt he most likely had left school just before the accident. Then, using her knowledge of local commuting routes and residential areas, the analyst identified the relevant car dealerships closest to his probable home neighbourhood for follow-up canvassing by investigators. His vehicle was damaged on the right side, so police focused their inquiries on customers requiring the
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relevant repair parts. This use of Routine Activity Theory to prioritize dealerships led to the offender’s subsequent identification. The same analyst approached the investigation of another hit-and-run incident that happened in the early morning hours differently, reflecting the importance of time in routine activities. In this case, she concentrated on the locations of nearby bars, arterial routes, and freeway exits.

Conclusion

Routine Activity Theory moved away from the approach taken by existing theories of criminality that focused solely on the offender to include the role played by victim routines and the spatial and temporal context of the crime. This chapter highlighted how the crime equation put forward by Routine Activity Theory to explain aggregate crime patterns can be manipulated to inform a criminal investigation once a crime has taken place. While our focus has been on spatial-temporal patterns, a similar approach could also be adopted to analyse intersections of offender and victim social networks.

In a stranger crime investigation, detectives have to both find the offender and establish his or her guilt. For the former task, it is often helpful to consider what led up to the crime. Routine Activity Theory provides a useful thinking tool in such cases. Offence patterns of criminal predators are shaped by the intersection of their activity space with victim routines. Determining how the spatial and temporal patterns of the two came into contact can provide important insights into the crime and information about the criminal. This information can then be used to develop investigative strategies such as surveillance, link crimes more effectively, evaluate and prioritize leads, and generate new lines of inquiry.

References


Introduction

If Cohen and Felson (1979) is the only version of Routine Activity Theory (RAT) that you are familiar with, you are sadly out of date.1 Marcus Felson and colleagues – perhaps, more suitably referred to as co-conspirators – have been very busy for the last 35 years. Although Cohen and Felson (1979) is important in its own right, theoretical evolution continues to significantly extend the conceptual foundation of this theory, which in turn broadens its scope, changing it from a suggested model of crime analysis and explanation of predatory crime to a general theory of crime events. Though many people continue to apply RAT to street crime, by revisiting some of the theoretical developments of recent years, it becomes clear that many of the tenets are easily applied to transnational crime. Why is this important?

Well, societal shifts brought on by market globalization and recent technological innovations continue to alter the landscape of crime opportunities. With increasing international travel, Internet communication, and cross-border business comes an attending proliferation in transnational crime. Termed as the “glocal crime phenomena,” individuals whose routine behaviour keeps them within 30 km of their home regularly access portals that instantly link them to any place in the world. The most common example of this global–local intersect is online shopping – an activity that exposes all Internet shoppers directly to transnational crime.

In this chapter, transnational crime is explained through the lens of the modern incarnation of RAT. Before we begin, it is important to clarify what we mean by transnational crime. Transnational crime is not synonymous with organized crime. Simply stated, crimes are classed as
transnational when the incident involves an activity that crosses at least one international border, either in the physical or cyber domain, perhaps both. This term also refers to events that involve co-conspirators or victim/offender pairings, wherein the actors are located in different countries. Thus, it is easy to see why many people confuse the concepts of organized crime and transnational crime; many organized crime groups do engage in activity that crosses international borders.

We use online shopping examples throughout the chapter to encourage this broader understanding of transnational crime. Online shopping, though not necessarily a transnational activity, can expose people to this type of victimization. In this way, online shopping is used to demonstrate the glocal RAT context of crime – meaning the global–local intersection of routine activity that enables transnational crime to occur. We conclude with a discussion of how this framework, a neo-RAT, can be used to uncover how routine activities serve to interlock legal, marginal, and illicit markets on a global scale. At this point, we introduce examples from the international trade in small arms (guns), drug markets, and money laundering.

This chapter begins with a concise statement that integrates key facets of RAT’s metamorphoses that are of particular relevance to transnational crime. In keeping with conventional explanations of RAT, this conversation defines crime events and discusses the interdependence of the essential ingredients that Felson is famous for describing, before introducing new contributions to the theory. In honour of Felson’s love of imagery, we provide a set of graphics to illustrate related concepts and clarify examples. This section concludes with a statement of the five critical challenges to studying the routine nature of transnational crime: (1) identifying a research focus, (2) obtaining multi-jurisdictional data, (3) capturing change in a dynamic crime ecosystem, (4) modelling interdependence, and (5) uncoupling legal and illicit markets. In an effort to address these challenges, the final section of this chapter provides a few suggestions as to how future research can advance this line of inquiry.

**Neo-RAT: The current incarnation of Routine Activity Theory**

**Crime events**

Felson (2006) argues that shifting crime patterns, whether we concern ourselves with the spatial, temporal, tactical, or social aspects of crime events, are best understood by uncovering how general routines, related to daily life, shape the convergence of six essential ingredients. Simply
stated, for a crime to occur, (1) a motivated offender or co-offenders (2) and a suitable target must be present at a specific location, which could be (3) physical or virtual, while, at the same time, those able to control or exert their influence over these critical elements are conspicuously absent. Namely, (4) capable guardians, (5) intimate handlers, (6) and/or effective place managers are perceived to be absent or unable to supervise their respective charges (Cohen & Felson, 1979; Eck, 1995, 2002; Felson, 1995, 2006; Felson & Cohen, 1980). Convergence occurs within a setting. And, settings are situated within habitats that are part of a larger ecosystem. Crime events are enabled by the existence of materials and tools; and event success is in part contingent upon precursor and post-event situations. After all, for a crime to be successfully completed, offenders must ready themselves and then reap the benefit of their ill-gotten gains. When Cohen and Felson wrote their seminal piece, online shopping only happened on the Jetsons. So the first step in applying RAT to contemporary crime problems is to re-conceptualize convergence in space and time.

To start, imagine that you need to purchase a wedding gift for a friend or family member and that you are unable to attend the nuptials. Not wishing to face the hassle of posting the parcel, ordering something online and having it shipped directly is an appealing option. Unbeknownst to you, a hacker is surfing the Internet in search of credit card information. Even though the hacker may be searching long after you placed the order, theft of your financial details may still occur. Figure 4.1 illustrates that shopping online leaves a digital trail of personal information that remains long after the individual logs off. Electronic commerce leaves a trail that can cross international boundaries or be accessed from abroad. Hackers searching for this information will vary on how much time they invest and how deep into the web they surf. This is represented in Figure 4.1 by the size of the hacker's digital search space. For instance, hacker 1 routinely searches many sites, whereas hacker 2 is restricted for some reason. This constrained search behaviour might be the by-product of someone limiting a hacker's Internet usage (intimate handler) or is simply the result of a low data plan. Some shoppers are better targets (more suitable) in that they neglect to take advantage of securities offered by shopping services, such as PayPal® (capable guardians). Not all websites are created equally; some companies do a better job of monitoring ecommerce by implementing effective safeguards and firewalls to protect this digital data (place managers). To add an international spin, consider that our hypothetical shopper might be located in the outback of Australia
Figure 4.1 Digital trail of financial data left by a shopper

and the motivated hacker may be sitting poolside, sipping a cocktail in a tax-efficient jurisdiction, such as the Cayman Islands. Thus, convergence is not exclusively a physical occurrence. Nor should we consider time narrowly. Time and space have fuzzy boundaries.

The interdependence of crime ingredients

*Suitability of Targets and Guardian Capabilities.* Felson and Clarke (1998) developed a risk quotient to rate the suitability of targets. Termed VIVA – value, inertia, visibility, and access – these characteristics are thought to explain something about offender choices. Clarke (1999) extends our thinking about target attractiveness with an analysis of product theft rates. The resulting CRAVED model of product risk (CRAVED – concealable, removable, available, valuable, enjoyable, and disposable) accounts for why some materials are hotter among thieves than others. In the neo-RAT configuration, we need to pay more attention to changes in suitability caused by temporal and geographic constraints associated with *systemic asymmetries*.

Systemic asymmetries are jurisdictional differences that enhance or detract from each element of target suitability. Whether you use the VIVA or CRAVED heuristic, it is critical to consider the context surrounding the act. Returning to our online shopper, some systems (and people) use fewer protections and less stringent monitoring, and thus credit and identity information will have a higher risk. Alternatively, when
transactions are closely monitored and subject to immediate defensive action, the opportunity window between theft and potential detection is reduced. Another example of this asymmetry is the use of PINs: credit card accounts set up with a required PIN to process any purchase may be harder to use illicitly, and thus less CRAVED, than credit cards issued without PIN processing requirements. Here, differences in corporate policies (whether enacted due to national standards or corporate interests) generate asymmetries that modify the suitability of targets.

This example brings to the fore the need to say a few words about the interaction between the suitability of targets and the capabilities of guardians. As with all agents of crime prevention, guardians differ in their effectiveness. One critical factor pertains to the degree of ownership or social proximity to the target. Individuals are most likely to take action to protect themselves and their property; whereas general citizens or bystanders are least likely to intervene (Clarke, 1992, 2008). Clarifying what makes one guardian more capable compared to another, Reynald (2010) argues there are three critical elements: willingness to supervise the target, the ability to detect potential offenders by differentiating those motivated to commit crime from others in the area, and the willingness to intervene directly or indirectly (calling for help).

Figure 4.2 illustrates how the situational landscape underlying the interaction of targets and guardians is shaped by three scales of proximity: spatial, social, and temporal.

1. **Social proximity** involves varying levels of responsibility for the target. As argued by Clarke (1992), and extended to all controlling agents by Felson (1995), personal responsibility for your own targets is stronger due to a close connection. Employees are also positioned to be capable guardians and those with assigned responsibility to watch over targets are socially closer (with a vested interest in protecting the target) compared to employees with a more diffuse or general responsibility. At the most distal level, general responsibility accrues from protective morals adopted by those with no direct connection to the target.

2. **Spatial proximity** relates to the degree of physical intersection occurring between parties. Immediate situations place the target and offender within direct contact with each other, perhaps an arm’s-length away. Close proximity may involve being in earshot or along clear sightlines. Distant interaction stretches the ability of our senses to identify features of the offender. Virtual proximity involves intersection through electronic means, perhaps online or through CCTV cameras.
3. **Temporal proximity** refers to the duration or length of interaction between parties. Surveillance by a capable guardian may be fleeting (momentary) or of greater duration (extended). Surveillance can be repeated intermittently or regularly within frequent or infrequent intervals. Repeated surveillance, even if momentary, will have a cumulative effect enhancing the interconnectivity between target and guardian, thereby strengthening the web of protection.

As suggested in Figure 4.2, these scales can be plotted by anchoring the origin of each axis at the closest level of proximity and ending at the most distant. The potential target and guardian are seen dancing on the three-dimensional plane, with their coordinates suggesting the level of suitability/guardianship.

Proximity is important in that the interaction between guardians and targets is less effective as proximity decreases. Shifting proximity may be associated with changes in agents. For example, while you are shopping online, you may vigilantly monitor your computer and purchasing activity. Once transactions are complete and you move on to other sites
or log off, the locus of responsibility shifts from the personal to an employee or private corporate system to ensure that the digital footprint (transaction details) remains secure while the order is processing and shipping.

It follows that the same target becomes more suitable when the system of governance surrounding them is less capable than an equivalent target located elsewhere. Similarly, variations in service plans, corporate ethics, and technological infrastructure make some credit cards less attractive compared to others. When some systems of control are weaker than others, asymmetries exist that change the relative suitability of a target. Thus, it is not possible to consider target suitability as a freestanding concept – these two concepts are interdependent. This interdependency becomes more apparent when we consider place managers and the places they govern.

**Place managers**

Managers who govern places ensure activities hosted by the site function smoothly (Eck, 1994). Their authority over the place may be designated formally, as in the case of an owner, by delegation, that is, floor supervisors, conductors, and referees, or by self-appointment, as is the case with a neighbourhood activist. Expanding on the role of place manager (Eck, 1995; Felson, 2006), Madensen and Eck argue that invoking strategies to change the management approach of individuals positioned to govern specific places could significantly mitigate site-level characteristics that are conducive to crime (Madensen, 2007; Madensen & Eck, 2008; Madensen & Sousa, 2008). According to Madensen and colleagues, place managers fulfil many functions, such as establishing behavioural norms and directing the use of resources to maintain the property. Thus, the ability of places to host crimes is dependent upon the management style of those directly controlling the area.

Active and engaged place managers can create crime-resilient or crime-susceptible properties (see Figure 4.3a). Risk is shaded in Figure 4.3 so that minimal risk is white and high risk is black. Managers with a tendency to proactively eliminate crime opportunities are classified as suppressors, whereas promoters recognize the profitability of crime opportunities and exploit or ignore the situation for personal or business gains. Two passive management styles can also generate or control crime. Managers who modify behaviour or the environment following a crime event are classed as reactors. Alternatively, enablers are place managers who fail to detect or respond to crime problems (Madensen & Sousa, 2008). Applying this typology to a set of facilities offers plausible
A. Original place management matrix

B. Multiplier effect of interacting place management

Figure 4.3  Place manager multiplier effect

Sources: Modification of Madensen (2007); Madensen and Eck (2008).
hypotheses to account for the existence of risky facilities. When examining a type of place (for example, bars), risky facilities are a subset of places that exhibit extraordinarily high levels of crime and disorder compared to other facilities of the same class or type (Eck et al., 2007). Returning to our online shopper, we must consider the problem posed by intersecting places.

Generally speaking, the crime and disorder problems we often consider are street crimes that involve a single site. However, in the digital age, more complex issues emerge that are likely to involve the intersection of different places. For ecommerce to occur, a nearly instantaneous (depending on your bandwidth) interaction happens between your computer (place 1) and the website (place 2). This virtual convergence of two mechanisms, which may be located worlds apart, temporarily fuses two “places.” Management decisions on your end (for example, credit card and associated service options and choice of and set-up of the browser and firewall) interact with the management approach and location characteristics of the web system you are accessing (for example, webpage interface, financial data encryption program, electronic funds transfer or accounting system, firewall, and Internet connection). Thus, the riskiness of a particular online purchase is a function of the management style of two “facilities” — a multiplier effect occurs. The final panel in Figure 4.3 suggests that promoters have a greater effect. The multiplier effect changes many cells in the risk matrix to black, indicating high risk. However, in some instances, suppressors may prevail: this would reduce risk levels overall and make a greater portion of the risk matrix white and grey instead of black. For some weary shoppers, using a risky website is less of a problem than for others, who due to poor management of their computer and credit services exponentially increase their danger.

The multiplicative effect illustrated above with the shopping example is not unique to the cyber world. Place management characteristics can interact within complex facilities. In the physical arena, complex facilities are properties with overlapping management systems. When multiple entities (where entities are companies, organizations, and institutions) share a place, they have joint spheres of jurisdiction. Airports are a prime example of complex facilities. The airline hires and manages its staff and subcontracts with supply and service companies. However, the airport authority manages the premise, controlling access, allocating space, maintaining structures, and they may even supply the baggage handlers. This means that if you were interested in assessing risk, say for baggage theft, you must extend the analysis beyond the airline. Once your bag has been checked, the risk of theft is contingent on the managerial style
of both companies. Changing planes along your journey will add additional elements to the equation: each new element would constitute another complex facility with interacting management systems.

As crimes become more complicated, requiring multiple sites in a sequence of micro-steps, seamless integration of managers is unlikely. Nor is it likely that all managers will be equal. The weakest place managers become entrepôts into an otherwise resilient system. A further complication is the existence of overlapping scales of influence where the boundaries of settings, habitats, and the larger ecosystem blur. Transnational commerce widens the social and spatial distance between managers, and this generates additional challenges. As described above, the three-pronged axis of proximity between a guardian and target can be extended to places and their managers.

A note about intimate others

Intimate handlers have a personal connection to potential offenders, which is strong enough to evoke an emotional bond (Felson, 1986). For a handler to exert influence there must be some level of interaction or concern on the part of a motivated offender that raises the certainty that a specific behaviour would meet with disproval or worse. In some respects, routine behaviours and technological advances provide intimate handlers with new ways of monitoring their would-be offenders. For example, with a little know-how, parents can keep a watchful eye on Facebook activity, directly or indirectly, by friending the friends; Internet usage can be controlled by limiting search and download options; and monitoring web behaviour is easier because deleted browser histories can be retrieved. One of the greatest shifts in routine behaviour that enhances the potential supervision of a guardian is the widespread proliferation of, and dependence on, GPS-capable smart phones. A growing number of people seem to be inseparable from their phones, keeping them within arm’s reach 24 hours a day. Smart technology has enhanced tracking capabilities that can be used by parents to keep tabs on their teenager. And real-time video conferencing (for example, Skype) can increase the handlers’ range of sensory cues. (Of course, all of these tactics may be disabled or compromised.) Also, as noted above, supervisors will vary in their effectiveness, given their position on the proximity landscape (recall Figure 4.2) and technical proficiency. Extrapolating from Reynald (2010), technical proficiency may impact on a handler’s willingness and ability to supervise and intervene. The point is that handlers have more options, immediate and remote, to interject supervision when needed, irrespective of their physical location.
Scale of influence and global market systems

As the idea of controllers – intimate handlers, place managers, and capable guardians – developed, it became clear that there were at least two levels of protection. Direct supervision is offered by the aforementioned agents. These first-level controllers are often the most proximate to the crime and can exert immediate influence to block it from occurring. A second level of governance is created by super controllers. Sampson, Eck, and Dunham (2010) suggest that there are at least 10 different types of super controllers capable of regulating the framework within which first-level controllers operate. Included in this list are formal, diffuse, and personal agents exerting various types of influence, including but not limited to organizational, financial, political, media, and market. By shaping the incentives influencing the extent to which first-level controllers are motivated to prevent crime, the indirect impact of super controllers is paramount to crime prevention. Illustrated in Figure 4.4,

Figure 4.4  Nested crime triangles
Note: The image is a modified version of Figure 1 from Sampson et al. (2010). Varying shades of grey indicate the degree of influence on the crime event. Super controllers are included in the outermost triangle.
this layering of control agents creates a crime triangle, embedded or nested within a second triangle (Sampson et al., 2010).

Sampson et al. (2010) suggest that super controllers exercise social, legal, or financial authority to stimulate and encourage first-level controllers to dissuade crime by enhancing their supervision over the elements of a crime that are within their sphere of influence. While all of their examples appear to remain within a local, regional, or, at most, national level, the concept of super controllers easily extrapolates to the transnational arena. At this point, it is time to leave our online shopper to enjoy their recent acquisitions. Shifting the framework of our example to the international trade of commodities, our readers may find that thinking about the trans-shipment of goods lends itself well to the global context of controllers.

The global infrastructure connecting super controllers from one nation with their counterparts abroad generates a network of supervision. Though considered more remote and incorporeal to industry outsiders, the impact of coordinated oversight is critical to controlling crime. Figure 4.5 assigns specific groups of super controllers to each side

![Figure 4.5 Crime in context of global market systems and intersecting super controllers](image-url)
of the crime triangle, though it must be acknowledged that our thinking about these classifications is in its early stages. With this said, it can be argued that bilateral and multilateral agreements among state departments that set the parameters for extraditions, data sharing, joint investigatory activity, and the like create a formal legal framework that could motivate a place manager to control their charges. For instance, failure to effectively supervise employees working within the dockyard will generate international criminal sanctions and severe political fallout when port security is compromised. The harbour master is accountable to both public and private interests and is under pressure to ensure place managers do their jobs. Economic and social influences can motivate potential intimate handlers. A publicly traded corporation that is unable to effectively govern its employees will face serious financial loss in traded value when instances of fraud hit the mass media. Finally, pressure is also brought to bear on commercial transport companies to ensure shipping containers are sealed and monitored appropriately. This integrated web of governance produced by super controllers highlights the crime control function of various regulators outside of the criminal justice system (Farrell, 1998; Farrell & Roman, 2006; Eck & Eck, 2012).

Discussing the interconnectedness of super controllers reintroduces the issue of jurisdictional asymmetry. The degree of surveillance and pressure to enforce compliance varies across the network with some portions of the web exerting a tighter omnipresent force and other regions offering little to no true oversight. A lack of oversight breeds crime (Felson, 2006). Though not a classic example of abandoned areas or unsupervised paths, these gaps in oversight generate opportunity-rich environments. Adapting Felson’s argument (2006, p.104) about abandoned settings to jurisdictional asymmetry, weakness in the web of surveillance aids our would-be offenders. They are able to engage in more criminal activity with impunity by making it easier to do the following:

- Identify potential co-offenders or supporters
- Forage more broadly
- Conceal the evidence of criminal behaviour
- Hide, distribute, or spend the proceeds of crime

Obviously, national wealth, ability to control corruption, and the degree of political stability play into the equation, as do a host of other factors. From a RAT perspective, this leads to the importance of behavioural settings and their arrangement within crime habitats.
Settings and global market habitats

Felson (2006) draws our attention to the importance of behavioural settings (Barker, 1968). Behavioural settings are temporally constrained and spatially defined places wherein routine activity patterns generate a set of behavioural expectations. Simply put, these settings compartmentalize daily behaviour (for example, your favourite coffee shop, gym class, and watering hole during happy hour). Socializing occurs along prescribed lines. Many different types of behavioural settings exist (for example, convergence settings and intoxication settings); a number of different settings can occupy the same space over the course of a day; and settings can be clustered near each other (Felson; 2006). Of relevance to the current discussion is the nature of illicit trade settings.

Habitats are collections of settings (Felson, 2006). For street-level crime, habitats can be defined as the neighbourhood within which different settings are rooted. However, the scale and composition of the habitat often shift for transnational crime from a local area to a global system, which includes a mix of geographically constrained settings. Geographic boundaries are contingent on the system within which players are embedded. Linked in a crime network, each assemblage of settings may be crime or crime group specific. However, given some universal aspects of offending, settings and habitats with the least amount of oversight are likely to be common to many transnational crimes. This extends the notion of risky facilities to a larger configuration, the hazardous habitat.

Extending the analogy of a metropolitan quilt (Felson, 1987) to glocal market communities, we see a shift in the driver of the socio-circulatory system. Hazardous habitats become critical transnational crime conduits. Moreover, free ports, tax-efficient jurisdictions, international markets, producers, suppliers, and consumers are linked at two levels: electronically through a digital superhighway and physically through a transcontinental, multimodal shipping system. This compilation of private and public overseers is stitched together into a set of facilities, both virtual and physical. No longer does the central business district or automobile dictate circulation; instead, the connectivity of
the global quilt is structured by the transnational ecosystem joining many habitats.

**Niches and transnational crime ecosystems**

Ecosystems are dynamic intersections of interdependent activities. These activities generally involve different entities, that is, individuals, groups, corporations, and states, responding to each other within an environment and using various resources to accomplish objectives. To fully understand how the system works, one must be able to examine activities from various scales of resolution.

Whenever you are down in the specifics of crime, you should look up; whenever you are up in the crime’s larger environment, you should look down. The ecological perspective helps you to link each crime to a larger world, then come back again.

Felson (2006, p.61)

It follows that at its theoretical heart, RAT is an ecological theory that transcends geographic scale and encourages multi-level explanations of crime.

Crime niches include all system features and resources necessary for a crime to occur. For instance, returning to the online shopping example, from a victim’s perspective, a transcontinental purchase transaction requires the following:

- An electronic device to access the Internet, via smartphone, tablet, IPAD, or computer
- A service provider and a reasonably stable connection (to complete the transaction)
- A credit card with sufficient funds and a billing address capable of being used in the jurisdiction of the website
- A shipping address or IP address capable of receiving materials or services
- A website selling desired goods or services with “available product” with a sufficient service rating to entice the buyer
- A working ecommerce system (able to process purchases)

At a minimum, the offender would need the following:

- An electronic device to access the Internet, via smartphone, tablet, IPAD, or computer
• A service provider and a reasonably stable connection (to complete the transaction) that could mask activity
• Sufficient skills to find a hackable ecommerce site
• A program capable of breaking into or snatching encrypted communications
• A key to decipher electronic communications
• Knowledge of a carding web exchange to sell stolen account information or knowledge of how to extract funds from the account directly
• A financial account with sufficient safeguards to deposit ill-gotten funds

In this example, web communications provide the conduit through which crime occurs; however, there are many examples of crime involving interrelated electronic and physical components. Tracking transnational gun trade is a case in point. A weapons dealer located in Egypt may broker a sale between a supplier located in Eastern Europe and a buyer based in South Africa. Using off-shore accounts and multinational companies, the electronic “paper trail” may require capturing financial transactions, emails, and weapons trade permits from several private companies and public authorities. The actual weapons may move differently, shipped along sea, land, or air routes through various trans-shipment points that do not correspond with any of the parties to the trade. This raises five very important issues for studying transnational crime from a RAT perspective.

**Challenge 1: Identifying which part of the system to focus on – virtual or physical.** If you want to understand the social and financial mechanisms involved in generating the opportunity for this trade you would investigate communications and transactions. Alternatively, if the objective is to understand the flow of weapons and the situational characteristics of the trans-shipment system that permits illicit goods to travel, then it is necessary to obtain transfer data, for example, commercial trade data captured by customs authorities.

**Challenge 2: Obtaining data – accessibility, quality, and breadth.** Given the difficulty in obtaining and cobbling together the range of information needed, many studies adopt a case study approach, using notable, successful prosecutions. Though insightful in many ways, these cases may be the exception to the rule, which limits the external validity of conclusions. Studies using
aggregated data, usually at the national level, suffer from incomplete information and significant variation in the quality of the data available.

**Challenge 3: Capturing change in a dynamic ecosystem containing multiple levels of influence.** The features of the trade system and operational or policy changes at the individual, corporate, and national level can extend, or restrict, crime opportunity within the niche. These changes may also exhibit different types of effects. Some changes are single shocks with localized and short-term impacts, whereas other changes present widespread and longer-term market drift.6

**Challenge 4: Modelling the interdependence of processes, activities, and relations.** RAT theorems highlight the connectivity between elements that generate crime opportunity, and ultimately crime events. Interdependence violates conventional research principles and analytic protocol; thus, methodological innovation or adoption from other fields is necessary to test RAT.

**Challenge 5: Uncoupling legal and illicit trade.** At the core of RAT is the notion that crime and noncriminal behaviour are intimately intertwined. Felson’s books, articles, and ruminations are replete with examples of the symbiotic nature of legal and illicit activities. While several forms of interdependencies exist, it is often suggested that illicit trade feeds off legal market systems.7 Tests of these interdependencies are challenging because studies must be carefully crafted to avoid falling into the proverbial chicken-and-egg problem of causality.

Given these challenges, untangling how legal, marginal, and illicit market activities intersect on a transnational level may, at first glance, appear to be an impossible task. Fortunately, recent developments in the area of co-offending offer some direction.

**The symbiotic nature of crime and co-offending**

Felson describes crime symbiosis as a “close and prolonged relationship between two parties, providing illicit benefit to at least one of them” (2006, p.164). These parties can be individuals, organizations, and/or nations, and the criminal activity can be symbiotic with criminal, marginal, or fully legitimate activities. Consequently, when we examine a cross section of transnational commerce, it is likely that we will find all shades of grey.
Shades of grey

The coexistence of legal and illicit market activity is well established in the literature, calling some to argue that transnational commerce exists on a continuum of legality rather than a dichotomy delineating separate legal and underground market systems. Using the analogy of a shipping lock, Tijhuis (2006, 2011) suggests that transnational legal and illicit markets are fused through well-connected individuals operating at the individual, organizational, and national levels. While some of these agents occupy extreme positions in the market (legal or illicit), most engage in a range of behaviour. Using their unique resources (that is, holding two international passports, operating multinational companies, connections to corrupt customs officials), some individuals are better positioned to exploit the asymmetries in the framework of international trade.

Focusing research efforts on finding these key players is critical to understanding the routine nature of transnational crime. Key players facilitate the *illicitisation* of legal markets in several ways. For example, certain countries may lack adequate legislation or regulatory controls to monitor the trans-shipment of small arms, or they may be known to routinely fail to control government corruption. Since the export/import trade sequence is a critical mechanism that fuses legal/illicit market activity, legal weapons can be brought into the illicit market if shipped through a transit nation to illegal consumers. In this scenario, the trade between producer and transit nation is reported but the subsequent transfer between transit country and destination might not be reported. Building upon the argument presented by Tijhuis (2006, 2011), the individual or organization facilitating the trans-shipment of weapons through a nation with poor super controllers is the market lock mechanism that illicitises weapons that were once legal products. If these key players fuse legal and illicit trade together, their removal or control can prevent crime.

The degree to which legal and illicit market activities is fused depends, in part, on the current business climate. As illustrated in Figure 4.6, the business climate in any given industry will shift. Technological developments, fluctuating geopolitical relations, changing consumer demands, variation in supplies or production capacity, and the like will alter market conditions and shape the existing business climate. At times, the climate will swing in favour of illicit activity, whereas during other periods market participants are more apt to trade within legal parameters. Since some market participants may be more insulated from the direct
effects of the business climate, at any one time the trade portfolios of specific traders within a single industry will exhibit varying shades of greyness. It is also important to keep in mind that changes in business climate may be temporary. For instance, the international trading frenzy generated by large, annual, and semi-annual trade shows or fairs can dramatically weaken regulatory controls. Capitalizing on this momentary shift in oversight, illicit trade may flourish as normally law-abiding individuals take advantage of perceived opportunities (Bichler et al., 2013).

While market fusion is a relatively well-developed concept, the direction of influence is still open for debate. Both Felson and Tijhuis point to several examples of crime feeding off legal or marginal activities. The term “feeding” suggests a parasitic model of legal and illegal market intersection. But the reverse could also be true – legitimate markets may follow at the heels of criminal and marginal markets. For instance, clever criminal entrepreneurs generate a new product, such as an online file sharing website. While the illegality of sharing copyrighted material continues to dog the originator of the concept, legal versions of the idea begin to proliferate. (Yes, this is a thinly veiled reference to Megaupload.) In a study designed to disentangle how legal, marginal, and illicit market activities intersect on a transnational level, we have begun to find support for this illicit driver model, wherein existing illicit trade activity significantly increases the likelihood of the development or maintenance of legal trade ties (Bichler & Malm, 2014). At the heart of this emerging debate is how to capture the direction of trade influence, particularly when it is based on the evolution of co-offending activity.
Transnational co-offending

Felson’s (2009) notion of extended co-offending fits the transnational context very well. He contends that organized crime activity is simply an extended form of traditional co-offending and that this co-operation varies over time, space, crime type, and number of co-offenders (Felson, 2003, 2009). Felson (2009) suggests that criminal networks start as clusters of offenders. Some then progress to small groups with limited leadership, and an even smaller number develop into patrimonial organizations extending over greater space and time. Figure 4.7 illustrates the hypothetical correlation between length of co-offending relations and the apparent complexity of group structures. Group complexity is rarely present at the start of the partnership. Instead, layers of connectively and potential hierarchies are more likely to evolve in time (Felson, 2009). As complexity increases, we tend to see larger groups, though it becomes increasingly difficult to determine group boundaries.

Any cross section of criminal enterprise, whether transnational, regional, or local, is apt to exhibit a skewed distribution wherein

Figure 4.7  Correlation between length of co-offending relationships and group complexity
loosely structured, relatively recent partnerships dominate, although the actual distribution will vary depending on which data source is used. It goes without saying that when intelligence-gathering efforts target the older developed groups, it will generate an array that includes a greater number of highly structured organizations comprising more entrenched relationships, that is, people are more closely bonded by kinship, co-offending, co-ownership of property, and business associations. These multiplex (multi-layered) relationships are stronger. Felson (2009) contends that co-offending relationships may need to be stronger and more lasting when groups move contraband transnationally to insulate the group from risks. Thus, efforts to investigate the structure of transnational crime groups must be weary of both the inherent bias of source data and the multiplexity of social ties.

Considering RAT in relation to transnational crime, Felson (2009) is doubtful that individuals are recruited for specific positions (roles) on the basis of competence; instead, personal ties are more likely in the routine mechanism, linking people to the group. Our research supports this doubt. For instance, the vast majority of money launderers are not brought into an organization because of their expertise with financial or legal systems. Rather, most money is cleaned by self-launderers who launder their own illicit funds, or opportunistic launderers who exclusively launder for someone they know, through either kinship or friendship (Malm & Bichler, 2013). Further, it is not uncommon for individuals to occupy many roles in an illicit market. For instance, approximately 30 per cent of individuals working in criminal enterprise groups occupy more than one role in the illicit drug market (Malm & Bichler, 2011). Thus, “assignment” to specific positions or roles within the criminal network is more likely a function of a range of personal and social characteristics. This raises Felson’s (2006, 2009) argument that co-offending, at all levels of aggregation, is symbiotic and need not involve completely illegal relationships.

**Using longitudinal social network analysis to test neo-RAT**

Routine activities are interdependent. There is no way to get around this fundamental property of the crime event. In its simplest explanation, a crime event is an interaction. At some point, suitable targets and motivated offenders cross paths, directly or indirectly, without the protective supervision of controlling agents. This introduces the notion of a social web or system that brings agents together. To capture the social web or system of crime, it is necessary to use method and analytic techniques
capable of isolating these effects at several levels of analysis, that is, individual or setting, habitat, niche, and ecosystem. Further, these nested models must be time sensitive. Crime contexts are dynamic and shifting routine activities restrict or enlarge the range of crime opportunities. Further, the research approach must be designed to disentangle interdependencies: isolating individual behaviour while keeping this activity within the context of the larger system.

Social network analysis (SNA) refers to an empirical tradition with its own theory, methods, and analytic techniques that are fundamentally different from many of the tenets of conventional social science research. Its central premise is that the interconnectivity of actors generates a larger social structure that constrains individual behaviour. Individual choices and behaviour will impact on others that they are connected to. Over time, these individual decisions may reshape the larger group structure. Identifiable subgroups are embedded within larger social structures, and this gives rise to the intersection of local and global influences and constraints on individual actors. An actor’s position within the network determines his/her ability to access information and resources. In this way, network position is paramount to being exposed to new ideas and opportunities. Social network methods are robust, capable of examining the interconnectivity of people directly (for example, individuals, groups, organizations), and indirectly by the systems they are embedded within the places they frequent. To understand a social behaviour, like transnational crime, it is critical to understand how people and their activities are interdependent. Working from this empirical framework offers a new method for disentangling the nature of illicit/legal market fusion.

Stochastic actor-based modelling (SAOM) offers one way to conduct multivariate analysis of interdependent activities over time (Snijders et al., 2010; Ripley et al., 2011; Snijders, 2011). Rooted in social network theory, SAOM is designed to capture change in a network using the current configuration to predict future structures. Some applications even permit the inclusion of a wide range of covariates and cross-level interactions (for example, static variables, like vehicle make, can interact with dynamic attributes, such as fluctuating levels of guardianship, and interdependent conditions reflecting the network of car thieves and chop shops operating in the area). Thus, it is possible to predict change in illicit market activity with a host of opportunity parameters reflecting routine activity (Bichler & Malm, 2013, 2014). This is a significant departure from conventional analysis that stands to contribute meaningfully to the development of a RAT explanation of transnational crime.
Conclusion

Despite its widespread application to street crime, Routine Activity Theory is well equipped to explain transnational crime. From its first incarnation, RAT focused on the system underlying human behaviour. Comprising human and non-human elements, the system generates crime opportunities. As such, the system can be modified to reduce crime. To be successful in this endeavour, we must be able to dissect the system and uncover which interactions are most likely to produce crime. Studying the interdependence of actors and elements of a system is tricky. Reliable and complete data are hard to assemble, and the dynamic nature of the crime web necessitates the exploration of new methods. However, it is worth the effort. Applying RAT to transnational crime offers substantial benefit to the rather stagnant area of organized crime theory and the relatively uninvestigated realm of illicit market systems. If we can figure out what routine activities give rise to transnational crime, it is then possible to develop crime prevention initiatives that stand to reduce crime on a global scale.

Notes

1. Citation counts clearly demonstrate the theoretical apathy, perhaps lethargy, of scholars. For example, Google Scholar citations examined on 10 January 2014 showed that the original article (Cohen and Felson, 1979) was used 4,028 times, whereas more recent and arguably more complete theoretical explanations, such as Crime in Everyday Life (including the most recent 2010, 4th edition) and Crime in Nature (Felson, 2006), have a far lower usage (1,372 and 201, respectively). Albeit a more precise investigation that takes into account the date of publication is warranted, and given the preference for using journal articles in academic work, this comparison may be somewhat biased.

2. Felson (2006) distinguishes the geographic context of crime (settings and habitats) from tiers of the system within which crime events occur (the niche and larger ecosystem). Given the nature of transnational crime, settings and habitats are modelled together as a first- or lower-level context. Niches and ecosystems are considered fused at the second- or higher-level context.

3. Convergence settings are locations where people gather as they are getting ready to commit a delinquent act or they could be behavioural settings from which the idea of the crime develops (Felson, 2006). A critical convergence setting giving rise to transnational crime is the temporary market generated by international trade shows or fairs (Bichler et al., 2013). Variation in the number and location of convergence settings has important implications for the prevalence of co-offending activity (Andresen and Felson, 2010).

4. Intoxication settings involve the consumption of legal and illicit substances, often to excess, that compromise a person’s senses (for a more detailed description, see Felson, 2006).
5. Felson (1987) argues that offender routines are universally governed by two principles: Zipf’s (1950) “Principle of Least Effort” and the “Principle of the Most Obvious.” The least effort principle suggests that activity patterns naturally favor shorter routes, less time, and greatest ease. When combined with the principle of most obvious, that offenders rely on ready information, selecting the most obvious or available target encountered during routine activity, offender choices become less mysterious.

6. For example, a large law enforcement agency, perhaps a national police force, upgrades the weapons assigned to sworn personnel. To recoup part of the cost associated with rearmament, an effort is made to collect previously issued weapons. These used weapons are eventually sold through a broker. Not all weapons are recovered and not all recovered weapons are sold through legal channels. A short-term, localized blip in trade occurs as some of these second-hand weapons move through the illicit market. Another example serves to illustrate market drift. The introduction of modular weapons has a much broader implication for illicit trade. Modular weapons are akin to weapons kits. By changing out essential components, say for example the type of barrel, the function of modular weapons can be radically altered. Simply ordering a part can provide you with a completely different type of weapon. As more nations adopt this weapons technology, the trans-shipment of guns may be replaced with increased parts trafficking, which falls under different regulatory mechanisms.

7. Six different types of interdependencies can exist: (1) mutualisms offer gains to both parties; (2) parasitism occurs when illicit activity feeds off legal activity; (3) passive assistance involves the use of legal mechanisms to achieve illicit objectives; (4) competition may pit offenders against each other; (5) amensalism happens when illicit activity drives away legal enterprise; and (6) neutralisms generally involve the peaceable coexistence of different crime issues (Felson, 2006).

References


Target Suitability and the Crime Drop

Nick Tilley, Graham Farrell, and Ronald V. Clarke

Introduction

The initial focus of Felson’s routine activity perspective was the crime increases of the 1960s and 1970s that were largely a function of inadvertent changes in everyday life (Cohen & Felson, 1979). The rise in crime was an unintended side effect of developments in technology, transportation, and domestic life that were widely welcomed. More money, more consumer goods, more labour-saving devices, more transport, and more employment opportunities for women, for example, all brought benefits to citizens, but they also created more crime opportunities and hence sustained increases in crime.

Despite that focus, the routine activity framework that emerged has universal application. It facilitates identification of the mechanisms by which crime patterns and trends occur more generally. It has four central concepts, italicized here: A crime occurs on (1) the interaction of (2) a potential offender and (3) a suitable target in the absence of (4) capable guardianship. The apparent simplicity of these concepts and the framework they represent belies their strength and flexibility. All types of crime, from domestic violence to computer attacks or terrorism, can be addressed using this framework. The framework can be applied to intended as well as unintended impacts on crime, and much of Felson’s subsequent research has applied the routine activity perspective in combination with situational crime prevention.

Efforts that are intended to affect crime, particularly those relating to security and environmental design, can be assessed within a routine activity framework. They aim to reduce target suitability, increase capable guardianship, or alter the environment in ways that keep potential
Target Suitability and the Crime Drop

offenders away from suitable targets. So we suggest that crime falls due to reduced crime opportunities with three origins:

1. Unintended effects of routine activities (changed lifestyles, socio-economic, political, and technological progress)
2. Intended improvements in security
3. Unintended improvements in security

The first of these falls within the traditional realm of the routine activity approach. An example is the fall in motorcycle theft brought about by enforced legislation requiring that helmets be worn to improve rider and pillion safety (Mayhew et al., 1989). The opportunity for theft was inadvertently reduced, because motorcycle thieves could no longer inconspicuously ride a stolen motorcycle if they did not happen to have a helmet with them. A second example is the shift to non-toxic gas that caused a substantial reduction in suicide in Britain. The removal of a simple and easily available means of killing oneself clearly caused some people to think again (Clarke & Lester, 1989).

Here we will argue that security improvements were a key and perhaps the main cause of the recent unexpected, sustained, welcome, and widely experienced crime drops (van Dijk & Tseloni, 2012). Our first contribution is to present new evidence relating to the effects of household security upon burglary. Second, we suggest that some household security improvements may have been at least partly inadvertent – those relating to home improvements, particularly double glazing of doors and windows. Our third contribution is to offer key characteristics of good-quality security – it changes the default to secure, is aesthetically neutral, has a powerful preventive mechanism, is palatable to everyone, is largely effortless to implement, and is rewarding in cost-benefit terms, and we develop this as an acronym. Fourth, we conjecture that an inadvertent consequence of some of these security improvements has included inhibition of early involvement in crime and the onset of criminal careers initiated by that early involvement. In this sense, we suggest there has been an unintended diffusion of benefits beyond the immediate effects of some security measures.

Within the routine activities framework, household security reduces “target suitability.” The importance of target suitability in the study of crime has become increasingly apparent. It is now fairly well established that the major declines in car theft in industrialized countries were caused by reduced target suitability in the form of more and better vehicle security. Studies in Australia, the Netherlands, the United
Kingdom, and the United States all indicate that the spread of electronic immobilizers and central locking, in particular, produced rapid crime drops (Brown, 2004; Kriven & Ziersch, 2007; Farrell et al., 2011; Fujita & Maxfield, 2012; van Ours & Vollaard, 2013). An important implication of these studies is that car crime did not fall for other reasons such as imprisonment, abortion, demographics, changing illicit drug markets, or the range of other explanations that have been offered (Farrell 2013). And so, if those explanations are not applicable for car crime, their validity as explanations for many types of crime is brought into question. Crime drop research focused on the United States is particularly relevant here because violence was long its particular focus despite the fact that the declining car theft trajectory was almost exactly the same as that of violence. In fact, if anything, US violence trends seem to follow those of car theft (Figure 5.1). And as these crimes continue to decline, we anticipate this is due to continued improvements in car security, such as tracking systems and remote deactivation using on-Star and similar

Figure 5.1 Violent crime and motor vehicle theft in the United States, 1960–2012 (UCR)
devices. With violence being such a small proportion of overall crime, it is conceivable that it is significantly influenced by trends in car crime and other acquisitive crime.

The car theft studies are a particular instance of the “security hypothesis,” which suggests that increases in the quantity and quality of security led to dramatic declines in crime (Farrell et al., 2008, 2011, 2014). Yet, the emphasis of those studies to date has been the quantity of security, reflecting the availability of data that counts the spread of the number of vehicles with different types of security devices.

Indicators of the quality of security have been less readily available. This was not too important for the car crime studies because changes in quantity were much the same as changes in quality. So, while there is some variation in the quality of electronic immobilizer devices and central locking systems, most also tended to be high quality when they spread widely. Hence, quality and quantity increased largely in tandem.

The issue of quality is more important however when it comes to other crime types. We suggest it is fundamental. When it comes to household burglary, for example, door and window locks were already fairly prevalent before burglary started to fall from around 1993 in England and Wales. Hence, our preliminary work suggests that the increase in the prevalence of household security devices is more modest than that relating to vehicle security (Tilley et al., 2011). And while the prevalence of several key security devices increased, this seems to account for far less than all of the decline in household burglary.

Hence, the aspect of the security hypothesis that is emphasized here is improvement in the quality of security. Later, we propose the term “elegant security” for that which embodies quality as well as other desirable characteristics such as good security should be the default option, should not be visually offensive, and should not infringe civil liberties. We suggest the characteristics of elegant security are encapsulated in the acronym “dapper.” However, first, we will provide some preliminary evidence that, we suggest, supports the security quality hypothesis.

Context

The decline in burglary rates in England and Wales was similar to that of other crime types, and the rise in burglary that preceded the 1990s had been similarly steep (Figure 5.2). Yet, attempted burglary did not fall as soon or as far as completed burglaries with entry. This is important, we contend, because burglars continued to try to commit burglary when it
became more difficult, resulting in a continued higher level of attempts that then declined, but never as much as completed burglaries.

**Security quantity**

Tilley et al. (2011) showed that levels of household security had increased modestly over the course of rapid burglary declines. Hence, the evidence that increases in security caused the decline in household burglary is less convincing than it was for car theft. There is also an inconsistency in the fact that household security devices were fairly widespread before burglary began to decline, and step changes in the volume of security do not comprise a turning point coinciding with the onset of the burglary decline.

Figure 5.3 shows the trends in security device installation from 1992 to 2007/2008 as found in sweeps of the Crime Survey of England and Wales (CSEW – formerly the British Crime Survey). While it shows a steady increase in the availability of most types of device, the exception being window bars/grilles, there is no substantial growth to coincide with the period of rapid fall in domestic burglary.
This is not to say that the expansion of security device availability had no effect. The CSEW has, indeed, found that properties with more security tend to face lower burglary risk than those with less security. Figure 5.4 draws on data from the 2008/2009 CSEW. It shows that much lower proportions of burglary victims had certain security devices than non-victims. This was the case, most especially, for window locks, double/deadlocks to doors, and outdoor and indoor lights that were either on timers or activated by sensors. But the point here is that, as suggested below, security’s aggregate effectiveness increased more rapidly over time than solely its increasing prevalence would indicate, and this cannot be examined in data relating to only one year.

Security quality

In this section, we present evidence that it was the quality of household security that improved most dramatically. Data from publicly available spreadsheet files on the Office of National Statistics website for 2002–2011/2012 CSEW sweeps were combined with data from Budd (1999) for 1992–1998 sweeps to give data from 1992 to 2011/2012. The categories of household security available in the earlier source were broader, with window and door locks grouped together, so we grouped the later ones for consistency. Measures of “means of entry” were then put into

Figure 5.3 Prevalence of household security devices in England and Wales, 1992–2007/2008
two groups – the first relating to efforts that involved breaking-through security, and the second being everything else.

The means of entry categorized as “security overcome” are as follows:

- The forcing of locks on doors, the forcing of locks on windows, the removal or breaking of a door panel, and the removal or breaking of a glass window

The means of entry categorized as “other entry method” are as follows:

- A door (or window) that was already unlocked or open, where the burglar had a key, where the burglar pushed past the occupant, and burglaries involving false presences (deception)

Figure 5.5 presents our main finding. It shows incidence rates for completed burglaries with entry for 1992 onwards. It shows that the decline in burglaries was mainly a decline in those where some type of security was overcome. That is, overcoming security was disproportionately less likely to be the means of entry. From this, in conjunction with the other evidence, we think it reasonable to infer that this was due
to improvements in the quality of the security. Indeed, we can offer no other plausible explanation for this shift in means of entry. And while Figure 5.5 can only show the aggregate effect of both the quality and the quantity of security, this distinguishes it from the more usual measures that relate only to quantity. Future research might seek to parse out that component due solely to quantity.

For the 1996–1998 period, security-related burglaries decline 21 per cent compared to 4 per cent for burglaries with entry by other means. For the 1994–2003 period, burglaries that were security related declined 59 per cent compared to 28 per cent for burglaries by other means.

The year-on-year change in the number of burglaries, where security was overcome relative to others, suggests the decline in burglaries relating to security was earlier and faster (Figure 5.6). It seems telling that burglaries by “other means of entry” fell later and far less dramatically than those relating to security. We suggest the later decline in burglary by other entry methods is an indirect indicator supporting the security quality hypothesis.
As we have no alternate explanation for the difference in the trajectories of the two types of entry, it seems reasonable to conclude that it indicates the role of improved household security. If so, the improved quality of household security brought faster and more extensive declines in household burglary and may also have induced a decline in other types of burglary as a diffusion of benefits effect. The prospective offender can no longer rapidly find properties with no or inadequate security and so is less likely to expect and hence look out for such easy opportunities. One conjecture is that there may be a security “tipping point” at which offenders cease to expect easy pickings and hence stop being on the lookout for them. Along those lines, a review of repeat burglary prevention efforts provides preliminary evidence that prevention kicked in when 20 per cent of eligible households had implemented improved security (the tipping point), and that all repeat burglaries were prevented when 80 per cent of households were secured (the remainder falling to diffusion effects) (Grove & Farrell, 2012).

The importance of this analysis is, we think, as follows. Counts of numbers of security devices do not show changes in the quality of
particular devices. Door and window locks in particular are much better than they once were, especially when combined with double glazing and home insulation efforts. The result is that, in a survey’s counts, a better device still just counts as one device. Further, when it is a new-for-old replacement, no change in the count of devices is registered. So, the finding that there is a greater decline in security-breaking burglaries relative to other means of entry is, we suggest, a signature of the improved quality of household security devices. The next section provides supporting evidence.

The role of double-glazing and home insulation

We anticipate that, largely hidden in this analysis, the spread of double glazing and better-insulated doors and windows in England and Wales contributed to declining burglary. Here the changes were dramatic. The percentage of dwellings with double glazing to all windows and doors rose from 30 per cent to 71 per cent between 1996 and 2008. It was also in 1994–1997 that standards were set for double glazing in the United Kingdom that would enhance security and avoid the installation of types that had previously enabled panes to be “popped” out (PAS011: 1994, later replaced by BS 7950: 1997 for enhanced security performance of windows for domestic application). Double glazing has since normally included built-in locks to windows. It is also more difficult to break into, given that there are two sheets of glass and the glass is often toughened. To us, this suggestion is Felsonesque because a consistent theme of Marcus’ work has always been to emphasize the unintended consequences of changes in routine activities with quite other purposes than that of influencing crime levels. Here, the greater use of double glazing in England and Wales, in the interests of home comfort and energy saving, may have improved the security of houses by reducing their suitability as targets for burglary once security issues were taken into account in the design. In this case, the increase in security is somewhat inadvertent. The evidence is suggestive of a double-glazing effect, although far from conclusive. Figure 5.7 plots the change in percentage of properties with full double glazing against changes in the proportion of burglaries with entry through the window. The number of burglaries was also dropping between 1996 and 2008 in England and Wales. The percentage fall in burglaries with entry through the window fell by 70 per cent, while those by entry using other means (principally the door) fell by only 20 per cent.

We are presently unable to offer an explanation relating to the decline in household burglary in the United States. That decline appears to
begin in the 1970s. Examining double glazing and insulation may not directly transfer to the United States. The housing stock is, on average, somewhat different, with far more wooden structure housing than in England and Wales. Likewise, air conditioning (AC) tends to be more prevalent in the United States, and while in-window AC units could facilitate burglary (because that window becomes a potential source of ingress), built-in household AC seems likely to encourage more routine closing of doors and windows. However, even this brief discussion indicates the importance of pursuing research into the security hypothesis via different avenues in different contexts.

**Elegant security**

The security hypothesis suggests that some closer definition of quality is required. Clearly, effectiveness in crime prevention is critical. But that might be achieved by a variety of means. Further, truly elegant security
Table 5.1 Characteristics of quality security

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>The default condition is secure rather than insecure.</td>
</tr>
<tr>
<td>Aesthetic</td>
<td>It is aesthetically neutral or pleasing.</td>
</tr>
<tr>
<td>Powerful</td>
<td>It has a powerful preventive mechanism that is not easily circumvented.</td>
</tr>
<tr>
<td>Principled</td>
<td>It is principled and acceptable to all, often increasing liberty and freedom.</td>
</tr>
<tr>
<td>Effortless</td>
<td>It is effortless, taking little or no time and effort to engage.</td>
</tr>
<tr>
<td>Rewarding</td>
<td>It brings preventive rewards greater than its cost.</td>
</tr>
</tbody>
</table>

has other qualities that are easy to overlook. In fact, the best security can be so unobtrusive that it is difficult to recognize it as security without close scrutiny. Table 5.1 identifies preferable characteristics of elegant security (producing the acronym dapper).

Let us look at modern car security in these terms as an example. The key-button activation of secure locks, reliable alarms, and high-quality electronic immobilizers fitted to the vast majority of new cars comprises dapper security for vehicles. Hence, this specific description of dapper is as follows:

- Default: The default condition of new vehicles is secure because central locking and immobilizers activate automatically and remotely.
- Aesthetic: They are largely unseen – unlike older add-on security such as crook-locks.
- Powerful: They are very difficult to by-pass or overcome (unlike previous generations of door locks and steering wheel locks).
- Principled: They are unambiguously acceptable to all (except car thieves).
- Effortless: The effort involved in both leaving the car secure and deactivating the security measures when wanting to drive away is minimal.
- Rewarding: When built-in during manufacture, alarms, electronic immobilizers, and strong locks add little cost to the vehicle (but reduce crime costs enormously).

Other developments in car security, including locked fuel caps that can be opened from inside the car, widely distributed sound-system components, automatically retracted wing mirrors, and aerials fitted flush to the roof of the car also furnish elegant “dapper” security to vehicles.
Examples of prior, poorer quality vehicle security include steering wheel locks and retrofitted mechanical immobilizers. Steering wheel locks were fitted to all new vehicles in the United Kingdom from 1970 to 1971 (Webb, 1994, p.73). They were not fitted to older cars. They were not general. They were associated with immediate widespread displacement to older vehicles. They were also not trouble free. Offenders soon found ways of overcoming them, and these methods generally involved breaking the locking mechanism.

Security in housing can likewise be more or less dapper. Take double glazing as an example.

- Default: Double-paned windows are naturally more resistant to breaking, more so if newer glass is more resistant. Newer locks are built-in and automatic.
- Aesthetic: Some (usually older) double glazing was ugly but most can now be attractive.
- Powerful: It used to be that lockless windows were easily opened, and older, fragile, single-pane glass was easily broken. Then retrofit locks were poor and easily neglected. Each of the frame and fittings, double-paned resistant glass, and integrated frame locks (perhaps combined with electronic alerts or alarms in some systems) offers far greater protection.
- Principled: Double glazing requires no more maintenance than single glazing. Indeed, hardwood, plastic, and aluminium require less.
- Effortless: Double glazing requires no effort. Window locks are normally built into the catches that operate when a window is shut.
- Rewarding: Double glazing brings savings in terms of energy consumption plus reduced global warming. It is inexpensively built into new housing and replacement glazing. The reduced costs of crime are a potentially significant bonus.

In contrast, guns, walled communities, bars, grilles, and guards are far less elegant methods of trying to reduce burglary. They require effort and/or interfere with users’ and others’ everyday lives and/or are high cost and/or are in the hands of only a minority and/or are aesthetically displeasing and/or are not needed and/or cause trouble by way of maintenance.

How should high-quality security replace low-quality security or no security? There appear to be several mechanisms. First, crime rates increase precipitously, and this provokes pressure on manufacturers and/or builders to improve security. The pressure might come directly
from consumers. However, it tends to come from third parties. One third party comprises insurance companies, which bear the costs of insured claims and which may incentivize consumers to demand better security as a condition for insurance cover or as a basis for reduced premiums (for example, requirements that household security improvements be made following a burglary as a condition for continued insurance or reduction in the hike in premiums that would otherwise be made). A second third party comprises central or local government that can either require security (for example, minimum standard immobilizers) or leverage change by threatening regulation (for example, the substitution of tokens for cash in household prepayment metres for gas and electricity). A third third party comprises consumer groups, which can draw attention to weaknesses in the security of products and places and the scope there is for reducing vulnerability (for example, Which magazine’s comparative assessment of vehicle security). A fourth third party comprises the police, who are well placed to identify risky products and alert those in a position to the need for improved security (for example, efforts to secure trolleys from theft of purses and encouragement of kite marking for secure double glazing). Once the demand for improved security is in place, then competitive pressures may be released to improve it, at which point evolutionary pressures towards improvement in the direction of elegance can be expected, perhaps backed by regulation requiring minimum standards.

Thus, market-based incentives can be used to promote good-quality security over time. The research community has a role to play in fostering such pressures, as they have in devising elegant security solutions. Identifying products and places that are highly vulnerable requires research acumen. In the United Kingdom, the production of early car theft indices is an example of a research endeavour that provided systematic statistical evidence of which makes and models of car were most vulnerable to theft. Its authoritative publication by the Home Office led to rapid innovations in vehicle security and consequential falls in car crime (Laycock, 2004). More recent moves towards a phone theft index aspire to similarly elegant goals (Mailley et al., 2008; Beckford, 2013).

Of course, in some cases, changes are more serendipitous. The major crime increases of the 1960s–1990s, as Marcus Felson argues, were unintended effects of changes brought about for other reasons to do with routine activities. Likewise, it seems that the spread in use of double glazing (notably when security issues in its use had been addressed) may well have furnished an elegant crime prevention device despite this not being the main rationale for its installation.
Diffusions of security benefit

We note three possible mechanisms here, which may operate individually or jointly. First, some crimes facilitate others. The theft of cars, for example, facilitates crimes that require transportation in vehicles that cannot be traced to their drivers, such as large-scale burglary and armed robbery. If car theft is inhibited, access to a facilitator of other crimes is thereby also reduced, with criminals largely denied use of the road. Second, car crime and burglary are high-volume gateway or debut crimes, normally undertaken initially in the company of other more experienced co-offenders who thereby induct neophyte offenders into (routinized) criminality. Reducing the ease of car theft and burglary thereby reduces a significant pathway into criminality. A third possibility is that security-generated reductions in opportunity for car theft and burglary inhibit adolescence-limited occasional and prolific offending, perhaps with a lesser effect upon life-time persistent offending. Here, we might expect that a rump of long-term prolific offenders will be more likely to persist in their criminal behaviour, but that there will be a lasting crime-inhibiting legacy from those whose criminal careers never take off (Farrell et al., 2014). For now, the argument is that the inadvertence emphasized by Marcus in relation to secular changes in everyday life as a source of crime increases in the 1960s and 1970s may also operate in the context of beneficial side effects following the intentional prevention of specific crimes through security improvements.

Summary and conclusions

The routine activities perspective was proposed to explain why crime rates had increased from the 1960s as an inadvertent consequence of changes in everyday life at a time of prosperity and when many social problems were becoming less severe than they had been previously. Much of criminology still ignores the evidence that changes in targets, the environment, and movement patterns are fundamental in determining crime rates as well as being far more amenable to public policy intervention. And such interventions can be stimulated by market-based incentives.

This chapter provided an argument plus preliminary evidence that the quality of security was critical to the drop in residential burglary of the 1990s. We suggest that the role of quality was easy to overlook in the study of car theft because the new security devices that increased in quantity were also of higher quality. When it comes to household
security, the picture is more complex because many of the better-quality devices went by the same old names as before – door and window locks in particular. The quality of newer replacement locks and windows, partly driven by double glazing and home insulation efforts, was less easy to measure directly. We view the present study as providing additional evidence in support of the security hypothesis while recognizing that further research and further evidence from other sources would be beneficial. Moreover, we conjecture that an inadvertent diffusion of benefits from the security-induced reductions in car crime and burglary may include the inhibition of wider criminal activities. Reflecting the specific rather than general mechanisms by which we anticipate diffusion occurred in the context of the crime drop, this has elsewhere been termed “the keystone hypothesis” (Farrell et al. 2011, 2014).

In conclusion, if the security hypothesis is to be more generally accepted, we believe that more longitudinal analyses of drops in specific crimes beyond the existing ones of vehicle theft and burglary are required. For example, detailed analyses of this kind might examine the retail sector’s continuing efforts to reduce shop theft, the efforts made by the banks to reduce robbery, the work of credit card companies to reduce fraud and identity theft, and hoteliers’ ongoing efforts to reduce crimes against their guests and their premises. Without evidence of this kind, the car theft and burglary analyses for the crime drop are in danger of being seen as special cases without general application. The beginnings of the necessary work can be found in some situational crime prevention case studies, but rarely with the detail needed to support the security hypothesis.

In addition to more detailed analyses of specific kinds of crimes, a more complete theory of the mechanisms at work in producing the crime drop is also needed if the hypothesis is to gain general acceptance among criminologists. This chapter has contributed to this theory in three ways: first, by proposing in the Introduction that there are three kinds of crime drops; second, by providing evidence of the role of quality security; and third, by speculating further on the keystone hypothesis which refers to the diffusion of benefits resulting from the decline of specific categories of crime. However, many other factors will be needed to explain how such a complex phenomenon as a crime drop occurs. van Dijk (2012) has suggested that “opportunity theory” could provide the guiding framework for identifying these factors while we have suggested above that Routine Activity Theory could serve the same role. While a “theory” of crime drops (and crime increases) will benefit academic criminologists and crime scientists, who might
be expected to understand these phenomena, the longer-term goal is even more important. It is to enable them to provide advice, based on sound theory, on ways for policymakers and industry leaders to avoid future crime increases, and promote crime drops, within their particular spheres of influence. Without Marcus’ pioneering work, this might seem not merely a highly ambitious goal but one that was completely unattainable.

Acknowledgement

The first two authors acknowledge the Economic and Social Research Council Secondary Data Analysis Initiative Phase I grant (project REF: ESRC-SDAI (ES/K003771/1) and their ongoing collaboration with Andromachi Tseloni, Louise Grove, and Rebecca Thompson. Funding was provided by University College London for the open access charge.

Notes

1. The correlation between violence and motor vehicle theft rates from 1960 to 2012 is a remarkable 0.89, increasing to 0.92 when violence is lagged by two years.
2. Details are found at: http://thecrimepreventionwebsite.com/windows-of-enhanced-security-pas-242012-formerly-bs-7950/585/the-development-of-enhanced-security-windows/. Standards were subsequently set in the Netherlands, then the rest of continental Europe.

References


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6
Distributive Justice and the Crime Drop
Dainis Ignatans and Ken Pease

Introduction

The present chapter seeks to link two of the central facts concerning victimization by crime in the Western world. The first is that the burden of crime is borne very unequally across areas and within areas across households and individuals (Tseloni et al., 2010). The second is that there has been a very substantial cross-national drop in crime as captured by victimization surveys (van Dijk et al., 2007) (Farrell et al., 2010). The authors seek to establish whether the crime drop has resulted in a more or less equitable distribution of crime across households. Inequality of victimization challenges distributive justice. Harms as well as goods should be distributed equitably. Changes in inequality would suggest whether we should regard the crime drop as unequivocally benign (inequality reducing or neutral) or have reservations about its benefits (inequality increasing). The possible outcomes of the analysis have differing implications for criminal justice in general and policing in particular. There is already evidence that policing concentration at least in England and Wales is not proportionate to the presenting crime problem (Ross & Pease, 2008), and reasons have been suggested for this, the writers’ favoured account being labelled the “winter in Florida, summer in Alaska” paradox (Townsley & Pease, 2002). This contends that calls for police service are triggered in part by deviations from expected levels. People in Florida may experience their winters as cold, and people in Alaska their summers as hot, even though winters in Florida may be warmer than summers in Alaska. Likewise, crime and disorder in generally peaceful communities may trigger calls for service in respect of events that represent nothing more than the hurly burly of everyday life in more crime-challenged areas. A recent systematic review of attempts
to reduce repeated victimization was encouraging in its conclusions that the prevention of chronic victimization of the same individuals or households is viable and has proven largely successful as an approach to crime reduction (Grove et al., 2012). Thus, were the analyses to show increased inequality in victimization, there would be some consolation insofar as a strategy of concentrating effort on those already victimized would reap dividends. Katherine Thorpe (Thorpe, 2007) was, to our knowledge, the first to identify the crime drop as disproportionately due to reduced repeat victimization (Britton et al., 2012) (Farrell & Pease, 2014). Likewise, Nick Tilley’s work addresses issues of distributive justice and the crime drop (Tilley et al., 2011) (Tilley, 2012), though from the perspective of income rather than victimization concentration per se.

A supplementary justification for the present general approach is more speculative and will not be addressed by analyses reported in this chapter. However, it is potentially important enough to merit mention. Analyses adopting the approach taken here may shed light on the relative merits of the numerous theories for the crime drop. Fifteen theories have been distinguished (Farrell, 2013), which can be roughly placed into one or more of three categories corresponding to the three necessary elements for crime based on Routine Activities Theory (Cohen & Felson, 1979): change in the supply of motivated offenders (waning crack markets, immigration, declining lead levels in the blood), change in capable guardianship of an official kind (better policing strategies, more imprisonment), and reductions in the supply of victims (increased security of goods and services, migration to online leisure activities). It is contended that the first two putative causes of the crime drop would yield reduced inequality of victimization across the board, given what is known about offender concentration and travel to crime distances (Wiles & Costello, 2000). The third may not. To reiterate, it should be stressed that this chapter suggests a way of approaching the issue of how changes in the presenting profile of crime victimization may inform the reasons for the crime drop, rather than exploring the data in the detail that would be sufficient to clarify crime drop origins. The more detailed work is in hand. The criminological tradition within which the work is located is that pioneered by Marcus Felson and his colleagues. The writers are grateful for the opportunity to offer the work in this volume celebrating Marcus’ work.

The data analysed here comes from all 20 sweeps of the British Crime Survey, recently rebadged as the Crime Survey for England and Wales (CSEW). Data for the present study are thus drawn from close to 600,000 CSEW respondents over 30 years. Many key variables have been coded
consistently over the period, or can be reconciled across sweeps. Three linked features of CSEW convention are controversial and must be discussed.

1. CSEW defines repeat victimization as multiple victimizations of the same type. Thus, a heavily victimized household may not appear as such if it has suffered, say, one instance of vandalism, one of burglary, and one of assault on a household member. This convention is rejected for the purposes of the analyses reported here. The heterogeneity of criminal careers has long been recognized, though still underestimated by police officers (Roach & Pease, 2014). The heterogeneity of victim careers has received less research attention.

2. Statistics of victimization experience may be drawn from either the CSEW screener questions in the main questionnaire (completed by all respondents) or the forms completed by those identified as victims in the screener questionnaire. The justification for choosing the latter option is that some respondents report events falling outside the designated recall period and some events which turn out not to be crimes after closer questioning. Against that, the screener questions do provide an account of victimization experiences unconstrained by the artificial limits described immediately below.

3. A limit is imposed upon the number of victimization forms which a respondent may complete and upon the number of events which can be reported as a series (that is, events of the same type under the same circumstances and probably by the same offender). These constraints have been identified and criticized in respect of both CSEW and its US equivalent survey (Farrell & Pease, 2007; Planty & Strom, 2007). A limited remedy to the problem of undercounting the victimizations against chronic victims has been proposed for the US survey (Lauritsen et al., 2012) but not for CSEW.

The initial analyses reported here are, in the light of the above, based on responses to screener questions. Victimizations were aggregated across categories so that the unit of count was total household victimizations reported by a respondent. All the analyses were repeated using the victim forms and are reported.

Walby and Allen (Walby & Allen, 2004) capped series incidents at 51 and used a value of 60 incidents where there were too many for a respondent to recall, a practice adopted by Farrell and Pease (2007). In this chapter, an empirically refined approach was applied. A cap of 49 was
applied for each crime type. The decision was made by examining frequencies of each crime type for each year, showing that a miniscule proportion of less than a tenth of a percentage was affected by exclusions of respondents reporting 50 or more events. This is not to question the veracity of those reporting more offences, which requires a change of CSEW methodology to clarify.

Various measures of inequality were considered, and the simplest chosen. This involved ranking households by number of victimizations suffered, dividing the ranked households into deciles, and calculating mean number of victimizations per household per year and the proportion of each year’s total victimizations suffered by households in each decile. The approach has similarities with previous single-year analyses (Trickett et al., 1992; Tseloni & Pease, 2005).

Results

Figure 6.1 depicts the crime drop by victimization decile. It will be seen that no crime was captured by the survey in the first five deciles. Interestingly, the sixth and seventh deciles have non-zero values exclusively in the early sweeps. In recent sweeps, these deciles were also crime free (insofar as that was revealed by CSEW samples). Clearly, a population survey would reveal some crime in those deciles. Eighth, ninth, and tenth deciles show a massive reduction in mean crimes per household over time. In terms of number of crimes suffered per household, even the most victimized households seem to have benefited in the crime drop, from suffering six crimes per household in 1981 down to fewer than four in recent sweeps. In fact, in absolute terms, the most victimized have benefited most from the crime drop.

While the absolute victimization of the most victimized decile has declined quite dramatically, the proportion of total victimization suffered by the most victimized decile has increased. After an initial decline in the 1990s, that proportion increased to just over 70 per cent of total victimizations. It is probably coincidental that the initial decline coincided with the time when the prevention of repeat victimization was a tactic in vogue and supported by central government (Pease, 1998).

Parallel analyses based on victim forms are presented in Figures 6.3 and 6.4. Figure 6.3 shows a similar picture to Figure 6.1, with the most victimized decile showing the greatest absolute decline in mean victimizations. Figure 6.4 shows a similar picture to Figure 6.2, that is, an increasing proportion of crime being suffered by the most victimized decile.
Figure 6.1  Mean victimizations per household by decile, CSEW sweeps, 1982–2012
Figure 6.2  Proportion of total victimizations by decile, CSEW sweeps, 1982–2012

Figure 6.3  Mean victimizations per household by decile using victim forms, CSEW sweeps, 1982–2012
The next step in the present chapter addresses the question of whether the attributes of heavily victimized households remain similar across time. There is already a substantial literature on attributes associated with crime victimization (Osborn & Tseloni, 1998; Tseloni, 2006), but these tend to be analyses at single points in time.

So, the question is whether the same variables which distinguish the most victimized 10 per cent of the households from the rest in 1982 are the same as those which distinguish the most victimized in the top crime decile from the rest in 2012. The anticipation is that by and large they will be, and the conclusion to be reached is that the risk factors of 2012 are similar to the risk factors of 1982, that is, the same kinds of households are the most victimized across time and across deciles over the same year. This would validate attention to households with the relevant attributes (Tseloni & Pease, 2014). Bear in mind that the present analysis says nothing about area effects, which will also inform prioritization of crime prevention effort (Osborn & Tseloni, 1998; Kershaw & Tseloni, 2005; Tseloni, 2006).

Table 6.1 summarizes the analyses. Contingency table analysis was used for categorical variables and the Mann–Whitney U Test for ordinal variables. For every variable, the direction of the difference is the same.
in the years compared. The word or phrase in the left column that is the latter option in brackets of Table 6.1 is the over-represented alternative. For example, in terms of employment (full time vs other), those with other types of employment were more victimized than full-time employees. Cell entries are probabilities of the relationship.

With huge sample sizes, the significance matters little. The important point is the consistent direction of difference, as the characteristics associated with highly victimized household are consistent across survey sweeps.

### Table 6.1 Variables associated with year and decile differences in victimization

<table>
<thead>
<tr>
<th>Variable</th>
<th>Top crime decile vs remainder 1982</th>
<th>Top crime decile vs remainder 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of HRP (younger)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Gender (male vs female)</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Marital status (married vs non-married)</td>
<td>&lt;0.01</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Race (white vs non-white)</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Number of adults in household (fewer)</td>
<td>ns</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>Number of children in household (fewer)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Employment (full time vs other)</td>
<td>&lt;0.001</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>Employment type (self-employed vs employed)</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Number of cars (fewer)</td>
<td>&lt;0.005</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Number of bikes (fewer)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Accommodation (owner occupied vs rental)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Accommodation type (detached + semi-detached vs other)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Living in the area (more than 1 year vs less than 1 year)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Living in the address (more than 1 year vs less than 1 year)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Seen crime in last year (yes vs no)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Feels safe in dark (safe vs unsafe)</td>
<td>&lt;0.05</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Worried about crime (non-worried vs worried)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Note: Categorical variable statistics are chi-square with one degree of freedom. The ordinal variable statistic is z. Values without statistical significance are noted as ns.
Discussion

The conclusions reached here apply to just one national victimization survey and total crime and should be regarded as an initial foray into the question of how the crime drop meshes with notions of distributive justice. The broad-brush analyses reported above tend on balance to suggest that the crime drop was benign in that crimes against the most victimized households fell to the greatest extent in absolute terms. Yet, the proportion of total crime suffered by the most victimized 10 per cent of households increased. The conclusion to be tentatively reached is that attention to households already victimized is now no less important than before in reducing total crime. One way of expressing this is to point out that some 30 per cent of all crime captured by the 2012 survey was experienced by households that had already suffered at least one previous crime in the recall period. Bear in mind that the effective recall period for a first victimization is a year, for a second only the period between the first victimization and year end, and for the third victimization the period between the second victimization and year end. This diminishing time window means that crimes suffered by those previously victimized are massively higher than captured by the survey and the scope for crime reduction by the prevention of repeats is correspondingly higher. The decline in total crime makes the strategy of crime reduction via the prevention of repeat victimization more viable, though compromised by reductions in police resources. Focused patrol targeting areas with high likelihood of crime seem increasingly important (Buerger et al., 1995; Koper, 1995) as do focused proactive arrests (Sherman & Eck, 2002). As police resourcing declines and an understanding of the concentration of crime on the same households increases, such tactics should arguably take centre stage in policing.

As noted earlier, the work presented here is intended primarily to flag an approach to data (already available and archived), which seems to hold much promise. The writers have in hand the following studies:

1. Analysis of CSEW trends by offence type to clarify which exhibits least precipitous decline and greatest remaining concentration in the highest decile
2. Equivalent analyses of other national and cross-national victimization surveys to see whether the “signature” of the crime drop is common across countries
3. Exploration of the drop–concentration nexus by looking at variables which may clarify what is happening, such as changes in the
Distributive Justice and the Crime Drop

proportion of offenders seen and previously known, single versus group offending, and weapon use.

References


7
Opportunities for Dispute-Related Violence
Richard B. Felson

Introduction

In the near future, when automobiles are computer driven, “road rage” will disappear and drivers will stop giving “the finger” to other drivers. Since it will be impossible to cut off other cars, go out of turn, or drive too fast or slow, conflicts between drivers will be a thing of the past. Without provocations, drivers will no longer have grievances with other drivers, and violence on the road will be rare.

Occupants of the same car will still provoke each other (particularly brothers sitting in the back seat). Conflicting interests, differences in opinion, status competition, and deviant behaviour will still lead to disputes between passengers. Some of those disputes will lead to verbal aggression, and some of the verbal aggression will lead to violence. Social conflict and deviance are unavoidable in human activity, and they provide opportunities for violence.

In this chapter, I discuss the routine activities that lead to provocations, and how provocations affect whether disputes occur and whether they result in violence. I also discuss the effects of the relative coercive power (RCP) of antagonists. These ideas reflect an attempt to extend routine activities theory to include ideas from the social psychology of violence. The approaches are compatible because they both emphasize situational factors and rational choice.

The routine activity approach does not have much to say about motivated offenders. A social psychological approach helps fill that gap. It suggests that routine activities that produce conflict and provocation are critical for understanding dispute-related violence (DRV) because they produce motivated offenders. It suggests that conflict as
well as contact have an impact on the risk of DRV. For example, neighbours may see each other everyday, but if there is no bone of contention, DRV is unlikely. On the other hand, when neighbours disagree over boundaries, loud music, or barking dogs, opportunities for DRV arise. “Good fences make good neighbors” implies a method of situational crime prevention.

Social psychology can also contribute to the understanding of the vulnerability of victims and the role of third parties. It suggests that motivated offenders have an opportunity to attack their adversary when their own coercive power is sufficient to overcome the coercive power of their adversary. It also suggests that guardianship is only one of a number of roles played by third parties.

I begin with discussions of how provocation, social conflict, and social control produce motivated offenders. I then discuss the role of relative coercive power in affecting whether motivated offenders actually offend. Next, I consider the different roles played by third parties, and the facilitating effects of alcohol and stress. I conclude by applying these ideas to two types of family violence.

**Situationally motivated offenders**

From a rational choice perspective, DRV is instrumental aggression; harming others is a means to an end. Individuals are motivated to harm victims for three reasons: (1) to deter them from engaging in some offensive behaviour; (2) to attain retribution or justice – they believe those who have engaged in an offence deserve punishment; (3) to lower their adversary’s status or image in order to improve their own status or image (Tedeschi & Felson, 1994).

Provocation is the key situational factor leading to DRV. A provocation can be any behaviour that another person thinks is blameworthy. The most potent provocation is a personal attack (Felson, 1984). Individuals are most likely to become motivated offenders when someone insults, threatens, or otherwise attacks them. However, mistakes, obnoxious behaviour, nonconformity, substandard performance, and other rule violations can also be provocations. Routine activities that lead to these provocations are risk factors for DRV. For example, teasing is an activity that can lead to provocation and DRV when an overtly playful comment is taken as a personal attack.

Individuals typically want retribution when they have been offended, particularly if they are the victim of that offence. They may use verbal punishment at first, but the incident may escalate and lead to
physical violence. In addition, the accused may view the grievant’s aggressive actions as an attack and become a motivated offender. The grievant, however, is more likely to be the first to use violence (Felson, 1984).

The most common response when people have a grievance is to be polite and say nothing. Erving Goffman (1959, 1982) has written extensively about the tendency to engage in “cooperative facework” or “deference” in social interaction. Selves are sacred, “ritually delicate objects (Goffman, 1982, p.31),” and highly vulnerable to offence. Participants in conversations are expected to show mutual support for each other; neutrality can be offensive. For example, people may take offence when a greeting is not enthusiastic enough. The “interaction ritual” prevents provocations and lowers the risk of violence. However, high expectations are difficult to meet and they make it easier to offend others by mistake. It may be that the tendency to hide grievances ultimately produces more serious disputes. Individuals who do not receive corrective feedback continue to offend others. Grievants then have multiple complaints, and when they finally express their grievance, it may seem like an over-reaction. It may actually be “the straw that broke the camel’s back.”

Disputants are not necessarily motivated offenders at the beginning of an encounter. They may become motivated offenders if the adversary responds with aggression or engages in additional provocations during the encounter. On the other hand, they may lose their motivation to harm the other person during the incident if their adversary is conciliatory. Verbal incidents are less likely to escalate to physical violence if someone apologizes or gives an exculpatory explanation for his or her behaviour (Felson, 1984). Disputants can also be affected by their own behaviour. For example, if they make a threat, they may feel compelled to carry it out if the adversary does not comply. Disputants may have no plans to engage in violence when they are verbally aggressive, but they may not anticipate the consequences of their remarks and the possibility of escalation.

Of course, individual differences (for example, self-control, risk-taking, and empathy) also affect how people react to provocations. Some people wrongly attribute blame or think others have hostile intentions when they do not (for example, Dodge & Coie, 1987). Provocation is in “the eye of the beholder.” Biological differences also matter. For example, an experimental study found evidence that possession of a particular gene affected whether participants engaged in retaliation (McDermott et al., 2008). However, the effects of individual differences
depend on the situation. The most violent individuals are pleasant most of the time.

Individual differences in the tendency to provoke others may help explain offender–victim overlap (Berg & Felson, in press). One reason that offenders have high rates of victimization may be their tendency to provoke others. Offenders tend to behave irresponsibly at home and at work and have substance abuse problems and low self-control. Their provocative behaviour is likely to lead to disputes and to cause disputes to escalate.

**Social conflicts**

Situations that involve social conflict often lead to provocations and grievances and increase the risk of DRV. People have conflicts over material resources, status, and deviant behaviour. If the rules are unclear or unenforced, then the risk of conflict is higher. Establishing clear rules and enforcing them are, therefore, methods of situational crime prevention.

Conflicts are particularly likely to lead to violence when the stakes are high. Scarcity of resources increases the stakes and creates opportunities for DRV. Thus, Fischer (1969) found that participants in a bargaining experiment were more likely to make threats when resources were scarce. Rules for turn-taking when there is scarcity, such as “first come, first served,” are a method of situational crime prevention.

Status concerns can lead to conflict even when scarcity does not exist. Status concerns lead people to want more than they have and to fight for objects that do not have much material value. As a result, some conflicts leading to violence are over what observers consider trivial matters (Toch, 1969). Because people have strong feelings about their status, and being treated unjustly, they may not think the matter is at all trivial. Their behaviour is based on their point of view, not the point of view of observers.

Status concerns also lead to jealousy, and jealousy plays a role in DRV. In social psychology, the relationship between jealousy and aggression has been attributed to “downward comparison” (Wills, 1981). When individuals experience a failure, they derogate others in order to increase their own status. In other words, they “put others down” in order to “bring themselves up.” Presumably, the tendency for the losing team in a competition to engage in violence reflects downward comparison after public failure. Thus, one reason sports contests create opportunities for violence is because they produce public failures. Someone has to lose.
Fans sometimes become involved in these status competitions. The tendency for individuals to attribute more blame to members of out-groups than members of the in-group increases the potential for conflict between members of different groups (for example, Tajfel & Turner, 1979). The in-group bias occurs even when the groups are based on some trivial difference or on random assignment.

The potential for conflict is enhanced when groups are in competition, as suggested by the famous Robbers Cave Experiment (Sherif et al., 1961). The study also suggested that conflict was reduced when the two groups cooperated in an activity. Perhaps this form of situational prevention would be effective in reducing school rivalries. The tendency for competition to enhance in-group bias is also suggested by a well-known field experiment on football fans at Arizona State University (Cialdini & Richardson, 1980). Students who experienced their own personal failure rated a rival state university more negatively and their own university more favourably than did students who did not have this experience. By negatively evaluating a rival institution and enhancing their own, students were able (by association) to increase their own relative status, even though they played no role in the outcome of the game (see also Melburg & Tedeschi, 1989). Social ties can increase opportunities for DRV because individuals respond to the provocations experienced by others in their group.

Social control

Most violent disputes begin with a complaint or some other attempt at social control (Luckenbill, 1977; Black, 1983; Felson, 1984). The accused often see things differently than accusers. They may retaliate if they interpret the accusation as an unfair attack. Verbal attacks are reciprocated as the incident escalates into a battle for status and saving face. One of the adversaries may then engage in a physical attack. Status concerns lead to escalation since they become zero-sum situations where lowering the status of the adversary is necessary to raise one’s own status. While retribution requires the punishment fit the offence, status concerns lead to a desire to win the contest.

The inherent conflict between social control agents and their charges creates opportunities for violence. Violence sometimes follows if non-violent forms of social control are ineffective. The agent of influence may try to persuade or negotiate with the target and turn to threats if more benign methods of social influence fail. Like any dispute, the incident can escalate, leading to more serious outcomes than intended.
The control and disciplining of children are routine activities that create opportunities for child abuse. Thus, Libbey and Bybee (1979) found that most of the cases of abuse that they studied were preceded by disobedience or arguments with parents. Evidence also shows that children with behaviour problems are more likely to be subsequently abused than children who are better behaved (for example, Wolfe, 1985). Corporal punishment is also a routine activity that creates opportunities for abuse, since parents sometimes go further than they intend or inadvertently injure the child. Finally, the escalation process is important. Children who defy their parents and retaliate when disciplined are particularly likely to be the target of severe forms of punishment. Patterson (1982) found that parental punishment resulted in an escalating cycle of attack and counter-attack in abusive families.

Targets of social control sometimes resent attempts to control them and resist with violence. When people believe that their freedom is being unfairly constrained, they are inclined to do the opposite of what they are told (Brehm & Brehm, 1981). Thus, the target’s concern for status or image can produce rebellion or “reactance” that culminates in a violent incident. Targets of control also sometimes get angry if they think they are not getting a fair hearing; this is the issue of procedural justice (Mikula, 1993).

The interaction between the police and suspects and other citizens creates opportunities for violence by both parties (see, for example, Westley, 1970; Engel, 2003). Police officers are never at greater danger of being killed or injured as when they are making an arrest (Brandl, 1996). In 2011, about 10 per cent of police officers experienced an assault (US Department of Justice, 2012); many of these assaults occurred when suspects were resisting arrest. Corrections officers and private security guards also experience relatively high rates of victimization (Harrell, 2011).

Many violent conflicts in bars are between bartenders (or bouncers) and patrons. They often occur when the bartender refuses to serve patrons who are underage or extremely intoxicated (Felson et al., 1986). Patrons feel aggrieved when they are denied service. As a result, bartenders experience a relatively high rate of violent victimization (Harrell, 2011). It is ironic that many attempts of social control backfire and create, rather than inhibit, violent interactions. Situational crime prevention might involve the training of bartenders and police to control rule violators without threatening their self-image or making them believe they have been denied procedural justice.
Relative coercive power

From a routine activities perspective, individuals who are vulnerable are suitable targets. Violent confrontations, however, involve the vulnerability of at least two participants. Motivated offenders must consider their relative coercive power (RCP) in their decisions about whether to use violence. Their estimates of risk depend, in part, on whether they think their coercive power is sufficient to overcome their adversary’s coercive power. Violent confrontations are dangerous for offenders as well as victims, so there is a strong incentive to pay attention to the skills and resources of adversaries. The coercive power of the victim is an “adversary effect” that has important effects on decisions to use violence.

RCP is also relevant in predatory violence, and many of the same principles apply. However, predatory offenders have many choices about who to victimize; they can target anyone they think they can dominate. In disputes, on the other hand, individuals are usually angry at one person, so they do not have a choice of target. They can choose whether to target that person, but they do not search for a vulnerable target.

Experimental studies show that individuals are more likely to engage in violence when they have more coercive power than a target (for example, Smith & Leginski, 1970). A study based on survey data suggests that people are more likely to attack adversaries who are physically smaller and weaker (Felson, 1996). Size and strength, however, had no effect in incidents involving weapons. Individuals who possess a gun or other weapon alter the power equation in their favour and reduce the importance of physical characteristics.

Violence involves a social interaction where the actions of adversaries are not fixed. Both parties can take steps to increase their RCP. As a result, adversaries cannot determine the consequences of their actions; the outcome is, to some extent, out of their hands. The situation is revealed by the prisoner's dilemma and other experimental conflict games where aggression sometimes leads adversaries to cooperate and sometimes leads them to retaliate. Threats may work as intended but they may also lead to an aggressive response. The best example of this process is an arms race. Having weapons can be useful in dominating others, but it can also encourage adversaries to arm themselves to avoid that domination. In certain communities, individuals arm themselves with firearms because they know potential adversaries have firearms and they do not want to be disadvantaged. The contagious spread of firearms
may be more a function of the impact of adversaries than the impact of peer groups and other third parties.

The widespread use of firearms by offenders may account for variation in violent crime across neighbourhoods and countries. International evidence comes from a study of different types of violence using both homicide data and the International Crime Victimization Survey (Felson et al., 2014). Aggregate analyses show that the variations in homicide rates and gun violence are much greater than the variations in unarmed violence. In addition, homicide rates and nonlethal gun violence rates load on a separate underlying factor than unarmed violence and violence with other weapons. The results suggest that a country's homicide rate reflects, to a large extent, the tendency of its offenders to use firearms. They also suggest that it may be more important to focus on the characteristics of violent incidents in a country rather than the frequency.

Firearms are also important in explaining regional and race differences in violence in the United States (Felson & Paré, 2010; Felson & Painter-Davis, 2012). Southern whites have higher rates of gun victimization than northern whites, but they do not have higher rates of unarmed assault victimization. African Americans have much higher rates of armed assault victimization than whites, but they do not have higher rates of unarmed victimization (Felson & Paré, 2010). A fight between two young black males is six times more likely to involve a firearm than a fight between two young white males. It is more the nature of violence in African American and southern white communities that is different and problematic, not the frequency. Unarmed violence is much more frequent than gun violence, of course, but its frequency does not vary much across communities.

Perhaps the use of firearms, not social disorganization, explains neighbourhood effects on violence. Assaults in neighbourhoods with concentrated poverty are more likely to involve firearms than assaults that occur elsewhere (Baumer et al., 2003). Otherwise, the characteristics of assaults in different neighbourhoods are similar. Also, studies of the effects of concentrated poverty in neighbourhoods do not provide much support for a social disorganization perspective. When contextual effects are found, they are weak (controlling for individual and family factors), and they may be due to selection. In addition, concentrated poverty either does not affect non-violent crime or its effect is in the opposite direction (Paré & Felson, in press). These inconsistent effects are not consistent with social disorganization theory or any theory of crime. Criminologists should pay more attention to what it is they are
trying to explain, that is, the nature of their dependent variable. That will help determine whether theories of crime, violent crime, or armed violent crime are needed to explain a particular effect.

While the prevalence of firearms increases the likelihood of gun violence, it may inhibit violence without guns. Individuals are reluctant to engage in unarmed assaults if they believe their adversaries are armed and prone to retaliate. Antagonists may also be reluctant to engage in violence with less effective weapons (for example, knives) when they anticipate that adversaries possess guns. Supporting evidence comes from a contextual analysis of data from the International Crime Victimization Survey (Felson et al., 2014). The study found that living in countries with high rates of gun violence lowered an individual’s risk of an unarmed assault and assaults with less lethal weapons. This adversary effect may also help explain race and regional variation in unarmed assault victimization in the United States. The use of guns by blacks and southern whites may reduce the rate of unarmed violence in their communities (Felson & Paré, 2010). The presence of guns may also encourage politeness and inhibit verbal aggression and overt conflict. Perhaps that is why Southerners are more polite than Northerners (Cohen & Vandello, 2004).

Adversary effects may also help explain lethal intent and homicide rates. Some offenders are motivated to injure their victims or have ambiguous intent, while others are motivated to kill their victims. Research suggests that, during assaults, offenders are more likely to kill adversaries who have guns or who otherwise pose a greater threat (for example, Felson & Messner, 1996). According to this research, the use of firearms by offenders may affect the homicide rate because of their effect on the frequency of lethal intent as well as their lethality. Cross-national difference in rates of non-gun homicide may reflect the indirect effects of firearms (Felson & Painter-Davis, 2012).

Third parties

The concept of capable guardians or handlers does not adequately describe the variety of roles played by third parties in DRV. Experimental research suggests that the mere presence of an audience can encourage violence or discourage it, depending on perceptions of what will gain their approval (for example, Borden, 1975). Third parties can also instigate a verbal or violent dispute. Milgram’s (1974) study of obedient aggression is the most famous example of the strong impact of instigation.
Third-party mediation is typically considered an inhibitor of violence since mediators help with negotiations and allow both sides to back down without losing face. However, mediation affects relative coercive power as well as motivation. Weaker parties may be more willing to engage in violence if they anticipate mediation by third parties. They may confront the stronger party knowing they will be protected. For example, when siblings fight, parents tend to intervene on behalf of the younger sibling (Felson & Russo, 1988). Parental intervention increases the willingness of younger siblings to fight and, therefore, increases the frequency of sibling violence. Women may be willing to engage in violence towards their husbands when they think that the legal system or other third parties will protect them (see below). Intervention by third parties can turn weakness into a strength.

Mediation is more likely, and violence less likely, when adversaries have common social ties (Cooney, 1998). On the other hand, close social ties sometimes produce opportunities for DRV. If someone offends or attacks family members, friends, or intimate partners, individuals may feel obligated to protect them or their image. Also, as suggested earlier, the bias towards in-groups can lead to the third party to become involved. Individual conflicts can become group conflicts.

Individuals sometimes rely on third parties to handle their grievances. If they are victims of illegal acts, they can rely on the criminal justice system to punish the offender. However, when the criminal justice is unavailable or ineffective in addressing a grievance, they are more likely to use “self-help,” that is, take the law in their own hands (Black, 1983). For example, when victims are themselves engaged in illegal behaviour, they may engage in self-help because going to the police is costly. The unavailability of the criminal justice system is one reason why prostitution and the drug trade are dangerous businesses. The situation is comparable to sports contests where there is no referee and the participants police themselves. Perhaps the absence of referees helps explain why pick-up games are more likely to involve violence than organized games. Also, one reason for violence in professional hockey may be the difficulty referees have observing violations. With ineffective refereeing, players engage in self-help.

The effects of third parties are affected by the gender of adversaries. Felson (1982) found that the presence of an audience during a verbal dispute increased the likelihood of violence if the antagonists were males and decreased it if one of them was female. A man’s status can increase if he is violent towards other males, but it is lowered if he is violent
towards women. That is why violence towards women is likely to occur “behind closed doors.”

The civilizing effect of women is emphasized in Courtwright’s (1996) discussion of the settling of the western frontier in the United States. He attributes the frequent violence in the “wild west” to the fact that the women stayed back east. The presence of women, however, can sometimes increase the likelihood of violence between males. The norm of chivalry requires men to protect women (Felson, 2002). A man accompanying a woman is required to challenge any man who insults her or attempts to take his place. It is more difficult for him to “back down.” A man who accompanies a woman to a rough bar is, therefore, increasing the opportunity for violence.

Alcohol

One reason alcohol may be related to violence is that it leads to provocations. People who are intoxicated generate grievances because they perform poorly. For example, they are more likely to become obnoxious and violate norms of politeness. Their bad behaviour annoys others and may lead to a social control reaction that includes violence. However, the violence is not necessarily committed by the agent of social control. The agent may verbally chastise the intoxicated person who then retaliates with violence. Thus, alcohol may lead to the initial norm violation and to the aggression that occurs during escalation. This process helps explain why alcohol intoxication is associated with victimization (Felson & Burchfield, 2004).5

Evidence suggests that intoxication has a situational causal effect on victimization and cannot be fully explained by the tendency for drinkers to go out more or associate with other drinkers. The frequency and amount of alcohol people consume has a strong relationship to their risk of victimization when drinking, but it is not associated with their risk of victimization while sober (Felson & Burchfield, 2004). The effect is particularly strong for men and young adults, who may be more likely than their counterparts to behave provocatively when under the influence.

Men drink and get drunk twice as often as women, and they are three to four times more likely to be alcoholics (for example, Malin et al., 1986). Moreover, men drink more often in public places than do women (for example, Leland, 1982), creating opportunities for violence with other men. For adolescent boys, their drinking plays a large role in their victimization when they go out at night (Felson et al., 2013).
Stress

Stress is another routine feature of social life that leads to provocations. Stress interferes with an individual’s competent performance (for example, Motowidlo et al., 1986) and angers those who are affected by that performance. In addition, people who are under stress may be less likely to be polite and friendly, to feign positive emotions, or to show ritualized support for others. If distressed persons tend to perform less competently, violate expectations, or annoy others, they are likely to become involved in disputes that lead to violence. Evidence for this process comes from research showing that the experience of stressful life events is more strongly related to being a target of violence than being a perpetrator (Felson, 1992). The correlation between stressful life events and committing violence disappears when victimization is controlled.

Intimate partner violence

Intimate partners have plenty to argue about, particularly if they are living together (Sprey, 1969). Partners are interdependent: the behaviour of one affects the outcomes of the other. In addition, they have difficulty avoiding each other’s company. Conflict is inevitable regardless of gender or attitudes about gender. Research suggests that violence is just as prevalent in same-sex relationships as in heterosexual relationships (Tjaden & Thoennes, 2000). The pattern suggests that violence against partners is produced by interpersonal conflict, not sexism and domination of women.

Sex differences, however, should produce differences in disputes involving heterosexual relationships. Men tend to be physically stronger, more violent, and more highly sexually motivated, while women are more likely to get angry and more likely to express their grievances (for example, Stets & Burke, 1996; Felson, 2014). In spite of the fact that women tend to be weaker and much less violent than men, women are just as likely as men to hit their partners and just as likely to be the first to use violence (for example, Archer, 2004). The pattern suggests that men’s chivalrous attitude towards women offsets the effects of relative coercive power. Superior coercive power is only an advantage if the individual is willing to use that power. Also, a woman may hit her male partner assuming that he will not retaliate because of the norm of chivalry (Felson, 2014). Also, as indicated earlier, she is more willing to fight if she assumes that the criminal justice system or other third parties will intervene on her behalf (Felson & Russo, 1988).
Evidence suggests that marital violence is common because marital conflict is frequent and not because people think it is legitimate to hit one’s spouse (Felson et al., 2003). When one controls for the level of conflict, violence is much less likely to occur among intimate partners than among other people. In general, individuals are less likely to use violence during an altercation if the antagonist is a family member than if the antagonist is a stranger. People apparently have stronger inhibitions about hitting family members than hitting strangers, and as a result, family violence is infrequent relative to the level of conflict (Felson et al., 2003). Unfortunately, the literature on intimate partner violence largely ignores the role of conflict.

The grievances of husbands and wives are somewhat different. Men are more likely to complain that their wives are moody, while women are more likely to complain that their husbands are condescending, neglectful, and inconsiderate (Buss, 1989). Among dating couples, women are more likely than men to be angry about demands for sexual intimacy and touching their bodies without permission. Levinson (1989) examined sources of men’s grievances in spousal violence in 90 small-scale and peasant societies. Common grievances against wives included allegations of adultery, failure to perform duties, and failure to treat the husband with respect. Finally, men assaulted by their female partners are particularly likely to be drinking (Felson & Burchfield, 2004). The evidence suggested that it was not the men’s aggression that provoked their partners but rather other alcohol-related deviant behaviour.

Intimate partners also fight over rejection, extra-marital affairs, divorce settlements, and child custody. Conflict is almost inevitable when people flirt, have illicit liaisons, or lose interest and pick new partners. Intimate partner violence is, not surprisingly, more likely to occur when couples are breaking up (Felson, 2002). Offended parties who are violent towards the partner or rival may be interested in deterring future liaisons, retribution for being mistreated, or protecting their self-image (Felson, 1997).

Assortative mating also contributes to the rate of intimate partner violence. Those who marry people who are violent or provocative are more likely to be violent and provocative themselves. Both partners may have a history of personal problems and bad decisions (Krueger et al., 1998). When two difficult people are married to each other, it may have multiplicative effects on opportunities for conflict and violence.
Siblings

Sibling violence provides a good illustration of the relationship between violence, conflict, and coercive power (see Hoffman et al., 2005). Children fight more frequently with their siblings than they fight with all other children combined (Felson, 1983). They are particularly likely to fight with siblings close in age (for example, Newman, 1996).

Sibling aggression is sometimes attributed to sibling rivalry or status concerns. Jealousy may lead to derogation of the sibling because of downward comparison. The role of sibling rivalry, however, has not been demonstrated empirically. Felson (1983) found no evidence that adolescents were more likely to fight with their siblings when they believed their sibling was more successful or more favoured by their parents.

There is some evidence that siblings fight because of their conflicting interests. Felson (1983) found that young siblings have conflicts over material resources, such as the use of the family television set. The potential for conflict is high between siblings because of competition for resources and unclear ownership of these resources. While property legally belongs to parents, siblings often have some claims on their clothes and other items. Even when particular goods have been assigned to one sibling, the other sibling may be permitted limited access to them. If parents require children to share their goods with siblings, conflicts are likely. Further, young children may routinely violate the property rights of their older siblings because they do not understand them. Finally, proprietary rights may shift over time as children age. In the case of "hand me downs," goods belonging to the older sibling may be passed on to the younger one. In either case, the shifting distribution of property may result in conflict since each change needs to be renegotiated.

When Marcus and I were young, we fought over pistachio nuts. They were scarce in our household because they were expensive and we both could eat an unlimited number. Our mother's situational prevention strategy was to give us the exact same number of nuts. It failed. When the Shah fell and Iranian exiles brought pistachio trees to California, the nuts became plentiful and cheap, and my relationship with my brother improved.

The division of labour in the family is another source of conflict (Felson, 1983). Siblings may attempt to avoid the performance of undesirable chores in the household. When one sibling does not do her share, the other sibling's workload increases – a zero-sum situation. Thus, one
would expect disputes over who is to perform what chore and who is making a greater effort when they both do the same chore. These conflicts may be more frequent if parents do not establish clear rules.

As mentioned in the discussion about third parties, parental intervention can increase the incidence of sibling fighting (Felson & Russo 1988). When parental intervention is anticipated, younger siblings are more likely to fight with older siblings, and sisters are more likely to fight with brothers. The parents are a protective ally for the physically weaker sibling. The tendency to punish the more powerful sibling results in more frequent aggression, while a laissez-faire approach results in less frequent aggression. When parents do not intervene, however, siblings with greater coercive power get their way.

Sibling violence declines when the children get older, in part, because they are less likely to have conflicting interests. I am relieved that my brother, who is three years older, is no longer a motivated offender and no longer has superior coercive power. Perhaps conflict increases later in life if siblings disagree about inheritance and the distribution of property. It may be unclear whether to apply the principle of need, equity, or equality (Mikula, 1993). In general, the less clear the rules for resolving conflict, the more likely grievances will develop and the greater the likelihood of violence.

Conclusion

In this chapter, I have used ideas from social psychology to understand opportunities for violence stemming from disputes. These ideas are useful in understanding the factors that produce motivated offenders in violent crime. They have not received much attention from those who take a routine activity approach. My focus is on situational factors that motivate individuals to harm others and thus become motivated offenders. I claim that routine activities that lead to provocations provide opportunities for DRV. Provocations are more likely when there is conflict, rule breaking, rule enforcement, and intentional or inadvertent harm doing. Conflict as well as contact provides opportunities for family and other violence. Those who are stressed or intoxicated are particularly likely to provoke others and create opportunities for DRV. Sometimes adversaries only become motivated offenders after disputes escalate and produce provocations. Disputes can take on a life of their own.

The vulnerability of the target of violence is relative and variable. It reflects the relative coercive power of adversaries rather than
characteristics of a single individual. It can vary because adversaries can arm themselves or otherwise increase their relative power. An individual’s efforts to gain advantage may not be successful because adversaries can respond by increasing their own coercive power. Adversary effects are important because violence is dangerous. They can affect the nature of violence in a community as well as the frequency. For example, the use of firearms inhibits adversaries from engaging in unarmed attacks without guns.

Third parties can play a variety of roles besides capable guardian or handler. They can be mediators, instigators, allies, and passive audiences. They can affect both motivation and coercive power, sometimes in opposite directions. For example, mediation can reduce the motivation to harm by allowing both sides to back down without losing face. However, it can also encourage weaker adversaries to fight, knowing they will be protected.

When I explained the routine activity approach to my mother 30 years ago, she asked: “Isn’t that obvious?” Sibling rivalry would lead me to ask the same question. However, I must admit that my brother’s insights have resulted in what I believe is the most important work in criminology today. *Crime and Everyday Life* is a classic that appeals to professional criminologists as well as undergraduates. I assign it to my criminology classes. Importantly, the approach has produced a community of scholars who are doing science, making progress, influencing policy, and giving their work lives meaning. That is rare in the field of criminology today.

**Notes**

1. DRV is different from predatory violence in that offenders attach a positive value to harming the victim. Predatory offenders, on the other hand, do not care whether victims are harmed. Predatory violence might be described as “incidental” or “indifferent aggression,” while DRV might be described as “judgmental aggression.”

2. I assume that readers of this volume accept the fact that targets can play a causal role in criminal offences and do not worry about “blaming the victim.” They are willing to discuss provocations for violence because they are interested in causal analysis and not “blame analysis” (Felson, 1991). Establishing blame is a concern for the criminal justice system, but it is irrelevant in a scientific analysis. If this statement makes you angry and you attack me, I have played a causal role in the incident, but you are still blameworthy in a court of law. You will also have to answer to my big brother, whose picture is on the cover of this book.
3. Image includes both self-image and social image. Note that thrill seeking is another motive, but it applies mainly to predatory violence.
4. Also, many people seem to think it is acceptable to lie to social control agents and social control agents tend to be sceptical about what their charges say to them.
5. Drinking may also be associated with victimization because drinkers are more likely to go to risky places and lead a party lifestyle that brings them in contact with offenders. Drinking may also increase vulnerability if the intoxicated person is to some extent incapacitated (for example, Homel et al., 1992). Finally, others may stigmatize or devalue a person who is intoxicated and punish or mistreat them as a result (for example, Testa & Parks, 1996).
6. Men's greater coercive power probably accounts for why they produce more injuries.

References


This chapter spotlights the contribution of Marcus Felson’s work, specifically Routine Activity Theory and its outgrowths, to the work of the police crime analyst. In the environmental criminology field, the term “crime analysis” is used to denote what researchers, theorists, and practitioners do in a variety of ways to understand and analyse crime (that is, “Environmental Criminology and Crime Analysis” or ECCA) (Wortley & Mazerolle, 2008). However, in the context of this chapter, crime analysis is used more deliberately. That is, a police crime analyst is not anyone who analyses crime, but is someone specifically employed by a police department. The crime analyst examines crime and calls for service data, identifies patterns of crime, conducts statistical analysis, and assists with problem solving of long- and short-term problems (Santos, 2012). A police crime analyst’s main responsibilities are to help police deploy their crime reduction efforts, evaluate the agency’s effectiveness in addressing crime and disorder, and to be an overall authority on the analysis of crime within the agency (Santos, 2012). Consequently, this chapter contends that police crime analysis is fundamentally grounded in applying Routine Activity Theory and its concepts through the practical perspective of the theory, the adoption of problem-oriented policing strategies, and the focus of police crime reduction on geography and the clustering of crime by place. I would argue that Routine Activity Theory is one of the cornerstones of police crime analyst work and that Marcus Felson can be touted as one of the architects of modern crime analysis.

The primary objective of a police crime analyst is to assist the police organization in addressing everyday crime and disorder. Unfortunately, sociological and psychological theories that explain the root causes of
an individual’s criminal activity are not relevant to the working crime analyst because police have little influence over these root causes. In the mid- to late 1970s, a small group of academics, Marcus Felson being one of them, began to emphasize the importance of the characteristics of criminal events. This was a radical move away from the theoretical focus on the explanation of criminal motivation at the time. Marcus Felson’s Routine Activity Theory of crime, put forth in the 1979 with Lawrence Cohen, laid out a new theory for explaining crime based on “the fundamental human ecological character of illegal acts as events which occur at specific locations in space and time . . .” (Cohen & Felson, 1979, p.589).

One of the key assumptions of Routine Activity Theory is that motivated offenders exist. The theory is not concerned with the background of offenders that explain why they commit crime generally, but it seeks to truly understand why offenders commit crime at specific times, places, and within specific situations. Police, and by association crime analysts, deal with individuals who have already committed crimes or with potential offenders who will make choices about crime in specific situations. By the nature of their work, they too are not concerned with the personal background and general explanation for a particular criminal’s motivation. Thus, Routine Activity Theory is a natural fit as the underlying paradigm by which both police and crime analysts understand and analyse crime. Even further, Routine Activity Theory has given rise to other important concepts with direct practical application that clearly guide the work of police crime analysts in their support of the crime reduction and prevention work of police.

In the 1970s, when Routine Activity Theory was introduced to criminology, police research was moving towards focusing on how police address crime and disorder problems and away from focusing on administrative and political concerns (Goldstein, 1979). This shift in the focus of police research provided additional opportunities for the integration of Routine Activity Theory into police practice and crime analysis. Probably the most prominent example of this is Herman Goldstein’s problem-oriented policing approach, which relies on the problem-solving process – identifying, analysing, responding, and assessing a problem (Goldstein, 1990). Once police sought to truly understand the problems they faced, routine activity began to take hold, because it provided a systematic way to break down crime problems into parts. Routine Activity Theory’s “crime triangle,” which describes how the motivated offender and target come together lacking a capable guardian, has been the basis of today’s “problem analysis triangle”
that encompasses offender, victim/target, and place along with handlers, managers, and guardians (Felson & Boba, 2010). It is this triangle that is world renowned and pinned to crime analysts’ office walls.

Police crime analysts play a key role in the problem-solving process, and the triangle is used to dissect and understand the simplest to the most complex crime and disorder problems. The practical structure that Routine Activity Theory provides through the problem analysis triangle facilitates crime analysts’ examination of stages of crime, offender, and victim relationships and temporal and geographic patterns, as well as guides them in qualitative data collection to understand why the problem is occurring. Relatedly, the Center for Problem-Oriented Policing has produced a series of guidebooks that summarize the research and practice of individual problems (POP Center, 2014). All of these guidebooks are organized around the problem analysis triangle to communicate what is known about that problem. These guidebooks are an invaluable tool used by police crime analysts, providing them a concise overview and direction for analysing and responding to a particular crime or disorder problem. So, not only does Routine Activity Theory provide a theoretical perspective in understanding crime, it also has provided a concrete structure by which police crime analysis inquiry is implemented.

Felson’s original work, in 1979, corresponded with other researchers’ focus on the physical and social environments that create opportunities for crime and the prevention of those crimes (Clarke, 1980, 1983; Brantingham & Brantingham, 1981; Cornish & Clarke, 1986). More specifically, crime pattern theory influenced the practice of mapping crime, an important part of police crime analysis, as researchers shifted from aggregate analysis of crime and social factors to the analysis of discrete criminal events and their locations. What was learned from the research testing both Routine Activity Theory and crime pattern theory has directly influenced the work of police crime analysts – in particular, the development of the concepts of hot spots, repeat victimization, and near-repeat victimization.

One of the key responsibilities of police crime analysts is using mapping to identify long-term hot spots in order to direct police resources to those areas that have disproportionate amounts of crime (Santos, 2012). Police crime analysis is vital in identifying the long-term hot spots where the policing strategies are best implemented because police do not accurately identify hot spots themselves (Ratcliffe & McCullagh, 2001; Bichler & Gaines, 2005; McLaughlin et al., 2006). In the 1980s, the geographic nature of crime became a focus of inquiry for researchers who
believed in the concepts of Routine Activity Theory and sought to test them. Sherman, in his work in Minneapolis, Minnesota, identified that a very small number of addresses were responsible for a large amount of the police activity (Sherman et al., 1989). Calling these hot spots, Sherman found what Routine Activity Theory hypothesized, which is that people's routine behaviours contributed to geographic patterns of crime. The research area of criminology of place was born out of these findings, which led to many other researchers confirming in a variety of ways that crime does in fact cluster geographically (Weisburd et al., 2012). That research, in turn, has led to the policing approach called hot spots policing, which is a place-based approach in which traditional police strategies, such as increased police presence and arrests, are implemented in hot spots that have disproportionately more crime than other areas (Sherman & Weisburd, 1995). And as a result of the vast amount of research on the effectiveness of hot spots policing, we know that police response to hot spots is effective in reducing crime (Braga et al., 2012). Although crime analysts may not be fully aware of it, when they sit down at their computers working with data in their geographic information system to find hot spots, Routine Activity Theory is the foundation of what they do through its influence on criminology of place (Sherman, 1998) and the study of long-term crime hot spots (Weisburd et al., 2010).

Another essential concept used in police crime analysis that is based on routine activity is the idea of repeat victimization. Routine behaviours that facilitate routine situations create the same or similar opportunities for crime and for victimization. A significant body of research has shown that repeat victimization does exist for a wide variety of crimes and circumstances (Farrell & Pease, 2001). To understand this phenomenon in their own jurisdictions and assist police in focusing their crime prevention efforts, police crime analysts use a specific technique called the 80/20 analysis (Clarke & Eck, 2005; Santos, 2012) to identify not only those victims that are repeatedly victimized but also places (that is, risky facilities), offenders, and property that account for a disproportionate amount of crime or disorder. A derivative of repeat victimization is the phenomenon of “near repeats,” which is the discovery that non-victimized places near places that have been victimized are much more likely to be victimized (Johnson & Bowers, 2004). Researchers have found that not only do near repeats cluster in space, but they also occur rapidly (Johnson et al., 2007, 2009).

Police crime analysts have been identifying clusters of near repeats for decades, calling them “crime patterns,” as part of assisting the tactical response of police. Using a practice-based research approach (Boba,
2010), Roberto Santos is one of the first to examine the actual practice of crime analysts and responses implemented by police as part of their normal everyday practices and not through grant funding and/or a special project. He focuses on a specific type of crime pattern he calls a “micro-time hot spot” and defines it essentially as multiple near repeats clustered in space and time – a crime “flare up” (Santos, 2013). In Santos’ research, the agency’s crime analysts consistently identified micro-time hot spots and disseminated the information in a bulletin to police who responded with traditional hot spot strategies. Through a quasi-experimental design, his examination of five years of data showed that police response to micro-time hot spots was effective in reducing crime (Santos, 2013). Thus, his findings supported the long-standing police crime analysis practice of identifying crime patterns, which is an evident practical application of Routine Activity Theory and the near-repeat phenomenon.

In this short chapter, I have argued that Marcus Felson’s Routine Activity Theory is one of the cornerstones of police crime analysts’ work by highlighting a few ways it has been applied in police crime analysis practice. As an applied researcher, a former crime analyst, and second author of the fourth edition of Marcus’ book, *Crime and Everyday Life*, there is no question in my mind that Marcus’ work is essential for successful police crime analysis and has significantly and positively influenced how crime analysts do their jobs. Although crime analysts may not be aware of this or immediately see the practical relevance of Routine Activity Theory in their work, the theory underlies what they do every day. Yet, it is not only the theoretical concepts and their application that have influenced crime analysis but also Marcus’ approachable style and delivery of information. I instruct both university students and working crime analysts using both Marcus’ *Crime and Everyday Life* (2010) and *Crime and Nature* (2006) books to provide them an understanding of the nature of crime, crime prevention, and the world in which crime occurs. Marcus approaches each book in a thoughtful and practical way, including both original content and concise and interesting synopses of others’ research. He provides succinct palatable information and a clear understanding of crime that is so important for students as well as practitioners tasked with preventing and reducing crime.

Lastly, on a personal note, Marcus’ generosity and energy as a “crime scholar” have been an inspiration to me. While at the 2013 ECCA meeting in Philadelphia, my husband, Roberto Santos, presented his research findings about micro-time hot spots discussed earlier in this chapter. Marcus was enamoured and sent many emails to Roberto in the middle
of the night giving him a plethora of ideas for the definition of a micro-time hot spot, which, in the end, made it all that much better. You might guess that “crime flare ups” was one of his contributions. And second, I was both honoured and humbled when Marcus generously agreed to work with me on the fourth edition of Crime and Everyday Life. I was grateful not only for being able to assist with a book that I use in nearly all my classes and recommend to students, police, analysts, and even my grandparents but also to be able to contribute, in a small way, some of my own ideas about police crime analysis to a book that represents the general field of crime analysis so well.

References


Introduction

Marcus Felson is not only an exceptional scholar, a great colleague, and a good friend, but he is also a man who is very free with his ideas. This chapter focuses on just one of the many ideas that Marcus has given us over the years that we have known him. We picked this idea in particular because it fuses together two of the subjects that we know are dear to his heart. The first subject, which we are sure will be mentioned on numerous occasions throughout this book, is guardianship. The second is how temporal patterns of crime can reveal clues as to the possible causes of crime or their prevention.

We will not make tedious work of this chapter for the reader by reviewing in detail Routine Activity Theory and research on guardianship, as we are sure our fellow authors will have done so more articulately than we can. However, it is important that we briefly discuss some of these concepts to provide a framework for the central hypothesis of this paper. As Cohen and Felson (1979) point out, not only are the necessary ingredients for crime (a motivated offender, a suitable target, and a lack of a capable guardian to prevent the crime) important, but it is also important that these converge in both time and space. Marcus himself has noted that scholarly work has tended to focus on the spatial element of this jigsaw rather than the temporal dimension (for example, Felson & Poulsen, 2003). Less research still has focused on spatio-temporal patterns, although this seems to be gathering momentum in the field of environmental criminology (for example, Johnson et al., 2007). A key element of the routine activity perspective concerns human mobility patterns and how these lead to those conditions that make crime more or less likely. People – offenders included – have rhythms of activity that
reflect those actions they routinely engage in. These may include sleeping, going to work, engaging in recreation, and so on. These patterns of activity lead to an ebb and flow in the movement of people through places, and they affect (for example) their availability to act as guardians at their home or the other places they frequent. Urban crimes can only happen where people are (and of course where capable guardians are not) and according to the theory (and the empirical record) illegitimate activities will tend to mirror legitimate ones, occurring within offenders’ routine activity spaces at particular times. This is an important principle that informs the understanding and prevention of crime from an opportunity theory perspective.

People’s access to and use of places thereby becomes a central factor where crimes occur. Accessible places are more likely to be part of the landscape used and therefore remembered and re-used by members of the public and offenders alike. Considering the way people use and remember spaces, Brantingham and Brantingham (1981; 1993) discuss the formation of mental maps or “awareness spaces.” These are mental representations of frequented locations that comprise nodes or places of activity such as the workplace or home and that are linked by the edges or routes they take to travel between them. One individual’s mental map will likely contain only a fraction of the places in (say) a city, and different individuals will be aware of different locations. However, there will be collective awareness for some places including busy spaces such as major roads that link key facilities, areas of entertainment or shopping, or high-density housing estates. Such areas are likely to be known to offenders too, and if it is the case that offenders take advantage of the opportunities they encounter, then these places should experience more crime. Empirical research supports this assertion. For example, crime is often highest in busy settings such as city centres (for example, Uittenbogaard & Ceccato, 2012) and large facilities (for example, Kurland et al., 2014), and the risk of burglary is higher on more accessible roads that connect places (for example, Beavon et al., 1994; Johnson & Bowers, 2010).

So, spatial patterns of crime appear to be associated with the locations of opportunities that are most likely to be encountered by offenders. But what about temporal patterns of crime? At the macro-level, the empirical record suggests that the risk of property crime (for example) varies by season (for example, Farrell & Pease, 1994). We know that temporal patterns of crime are more acute for certain types of crime and more diffuse for others (for example, Felson & Poulsen, 2003; Ratcliffe, 2004). Examples include the fact that in busy city centres, bag theft from bars
is more likely in the early hours of the evening (Smith et al., 2006), assault happens after pubs close for the night (for example, Humphreys et al., 2013), while crimes such as burglary occur at more diffuse times of the day (for example, Townsley, 2008), although the precise timing of burglaries is often unknown as many are committed while homes are unoccupied. However, there is less research that attempts to unpack the micro-level conditions necessary for crime and how these vary over time. One exception is Coupe and Blake (2006) who demonstrated that the individual-level characteristics of houses that open them to vulnerability to burglary are time dependent – they vary between the daylight and the night-time hours.

A final literature to consider is that concerned with the so-called “journey to crime,” which considers where offenders typically commit their offences. Most of this research (for a review, see Townsley & Sidebottom, 2010) has considered the geographic distance travelled by offenders, and the central conclusion is that most crime trips are short. More recent research (for example, Bernasco & Nieuwbeerta, 2005; Bernasco & Block, 2009; Townsley et al., 2014), which uses a spatial econometric approach, has examined what factors other than distance appear to influence offender spatial decision making. Such factors vary by offence type but include the location of routine activity nodes such as schools (Baudains et al., 2013), transportation nodes (Clare et al., 2009), and illegal markets (Bernasco & Block, 2009). A recent piece of research, co-authored by Marcus (Andresen et al., 2013), demonstrated that the relationship between age of offender and distance to crime was better described as quadratic rather than linear. However, while such analysis is more sophisticated than that which preceded it, to date such studies have mainly focused on how the spatial characteristics of areas might attract offenders, or how offender characteristics might change their journey-to-crime profiles, but have not yet explored how the conditions and uses of areas might vary over time.

(One of) Marcus’ idea(s)

Marcus’ idea, which is the basis for this chapter, emerged in part (at least we would like to think) out of his reading of a recent chapter that was written in honour of Henk Elffers (Johnson & Bowers, 2013). This chapter had examined how levels of residential burglary were moderated by the type of road on which the homes were located and the time of the day. In that chapter, we concluded that more accessible street segments typically had higher rates of burglary than those that were less
easy to get to. In terms of types of streets, there is a clear rank ordering in risk, with this being lowest on cul-de-sacs, followed by residential streets, followed by major roads. However, these patterns vary by time of day. During hours of daylight, the patterns are very clear, while during hours of darkness the differences are relatively subtle. The explanation for this, and the idea that motivated that chapter, was that levels of guardianship – the volume of potential guardians and their ability to detect and challenge criminal behaviour – will differ by daylight and darkness. Less permeable streets are typically those that are more residential, and, therefore, residents and others with a stake in the local area will be more available throughout the day to act as capable guardians. At night, however, the conditions for monitoring a neighbourhood are impaired. Levels of illumination are lower, which makes it more difficult for people to survey their street, and many residents may be engaged in other activities (including sleeping) that could reduce their ability to act as capable guardians outside of their home.

This suggests that some offenders are “insiders” while others are “outsiders.” The conceptual distinction being that insiders are local offenders who live near the targets they choose and who know the area well. They might also be described as opportunistic criminals. Outsiders would be those who travel farther from their homes to commit offences. In discussion with Marcus regarding this research, he had suggested that the lengths of journey to crime trips vary over the course of the day. He was interested in how variation in these trip lengths might be influenced by people’s routine activities. According to Marcus’ logic, shorter trips should be more likely at night-time because residents – or “insiders” – would be more likely to take advantage of opportunities encountered during their routine activities, and that these would more typically take place around their home at this time of the day. During the day, people’s routine activities – offender or otherwise – may take them farther afield from their home location, and, therefore, there would be greater variation in the locations of the opportunities for crime they encounter. As a consequence, all else being equal, we would expect the typical distance between an offence location and an offender’s home address to be greater during the daytime. Put differently, offences committed at a location would be more likely to be the work of an “outsider” during the day than at night.

A further influence likely to affect how far offenders travel to commit offences in an area is the type of area concerned. While the routine movement of people through residential areas is likely to be dominated by local people, areas of mixed land use might more routinely attract people from outside the area. Hence, a natural question to ask
is whether insider crime trips are more likely in residential areas during the night-time and whether, in contrast, in more commercial areas (outsider) offenders travel greater distances.

Motivated by the above discussion (which was inspired by Marcus), in this chapter we examine two hypotheses:

1. There is variation in the length of the journey to crime for residential burglary by time of day. In what follows, we analyse patterns for four six-hour intervals of the day (morning, afternoon, evening, and night). In particular, we hypothesize that there may be more “insider” or shorter trips taken during the night-time.

2. The variation in length of journey to crime for residential burglary over the course of the day might be moderated at least in part by the land use of the area.

Data

Crimes detected by the police

The data analysed are a sample of incidents of residential burglary that were detected by the police in Dorset (the United Kingdom) for the period 1 January 2000 to 31 December 2005. It is important to acknowledge that such events represent only a sample of all those committed. Earlier work that employed these data established the rate of detection for the police force area as a whole as being 24 per cent, which is good relative to other studies (Bowers & Johnson, 2011). For example, in the studies by Bernasco and Niewbeerta (2005) and Clare et al. (2009), the detection rates were 7 per cent and 5.5 per cent, respectively.

The data comprise 652 residential burglaries. However, some crimes involved more than one offender and hence there are more participations in crime (812 in total) than there are detected offences (see Andresen & Felson, 2010). For each event, the time and location of the offence are known. The latter are accurate to a resolution of one metre. Details regarding the offender are also available and include a unique identifier, their occupation, nationality, age, gender, and the full unit postcode for their address (as recorded at the time of an offence). The latter are accurate to a resolution of around 100–200m and were used to generate x and y coordinates for the offender home locations. While there are limitations to this level of resolution, it is more than adequate for the types of analysis that follow.

One well-acknowledged issue associated with crime data, particularly that concerned with residential burglary, is that the timing of the
offence is often unknown (for example, Ratcliffe, 2002; Ashby & Bowers, 2013). This is because the victim is often absent at the time of the offence and consequently can often only indicate the earliest and latest time that the crime could have occurred. Given that the analyses that follow consider the timing of offences, we excluded those incidents for which there was uncertainty about the period of the day in which they occurred. This resulted in a loss of 50 per cent of the original data (there were initially data for 1300 offences). For the remaining 652 offences, it was possible to allocate them to one of the four eight-hour intervals of the day (that is, the earliest and latest times the offences could have occurred were encapsulated by one of these intervals). The time periods used here for the purpose of the analysis were morning (6am to noon), afternoon (noon to 6pm), evening (6pm to midnight), and night-time (midnight to 6am).

Census and land use data

Further data were used to provide contextual data for the areas in which offences were committed. These were extracted from the 2001 UK Census of Population and OpenStreet Map data sets. Census data were extracted at the census output area (OA) level. This is the smallest unit of analysis for which data are available, and there are around 125 homes in each OA. The data extracted provided small area-level estimates of population, household types and counts, and a quantification of physical size of the area. Further information on land uses was extracted from OpenStreetMap. These data provide an estimate of the number of facilities in different categories, such as entertainment, leisure, eating and drinking, government, and so on. After processing the data, we produced a count of the total number of facilities in each OA.

Further data processing

In addition to the factors already discussed, two others might influence how far offenders travel to offend. The first is whether they are “occasional” or low-frequency offenders or those who are more prolific in their activity. For this reason, for each offence we consider whether the crime involved one or more prolific offender. To prepare the data for analysis, it was necessary to create a new variable that identified how many times each offender had participated in crime over the five-year period for which data were available. It is acknowledged that because most crimes go undetected, the data most likely reflect only a sample
of each offender’s activity for the period of interest. However, because
the data include those that are taken into consideration (TIC – see foot-
ote 1), we think this issue is less problematic than in other research for
which they are not. Nevertheless, the point remains.

Having calculated how many events each offender participated in,
offenders were categorized as either “prolific” or “occasional” offenders.
Any criterion used to do this will be subject to debate, but in the cur-
rent study, to be coded as a prolific, they had to have undertaken five
or more burglaries in the five-year period. This equates to roughly one
offence per year. Those who committed less than five were categorized
as “occasional” offenders. Of course, one limitation of this approach is
that if an offender was imprisoned for much of the five-year period,
they would be unable to commit further offences, and hence some pro-
lific offenders may have been incorrectly assigned to the “occasional”
offender group as a result of this.

The second additional factor considered was the employment status
of the offender. The reason for including this variable was specula-
tive but relates to people’s routine activity patterns. The workplace is
a significant routine activity node for many people and can increase
their activity space quite substantially. Similarly, it seems likely that
for unemployed individuals their routine will concentrate around their
home location. If true, this would mean that the opportunities that they
encounter during the day are more likely to be in residential locations
close to home. For these reasons, we felt it important to include this
variable in the analysis.

At the level of the offence then, we calculated (1) whether or not at
least one prolific offender was involved, (2) if the employment status
of the first offender listed was employed or unemployed, (3) a count of
the number of co-offenders involved in the offence, and (4) the mean
distance travelled by the offenders to the crime location.

Finally, incidents were coded as “insider” or “outsider” offences. Var-
ious criteria could be used to classify offences in this way. For example,
research on space syntax (Hillier et al., 1976) is concerned with the
movement of people through cities and differentiates (for example)
between pedestrian and vehicular movement and trips that are local and
those that are global. Precise definitions of local movement will vary by
location, but according to Space Syntax scholars, trips of around 800m
will reflect predominantly local travel. In the case of our study area, the
county is quite rural, and so we use a slightly different criterion, defining
trips of 1km as local. Using this threshold has the additional advantage
of ensuring that there are sufficient data allocated to each group, thereby
minimizing Type II statistical error. However, we return to this point in the discussion.

**Results**

Table 9.1 (presented in tabular form to respect Marcus’ preference for (hopefully) well-structured tables) provides basic descriptive statistics concerning the journey to crime for our sample and shows how trip length varied over the course of the day. Examination of the 1st and 2nd quartiles (the median) provides support for hypothesis 1, suggesting that during the night-time the typical trip distance is shorter than at other times of the day. This trend seems to be specific to the time of night people are most likely to be sleep, as there is no noticeable shortening of trips during the evening. The inter-quartile ranges also demonstrate that crime trips vary considerably for each time period considered.

For the analysis shown in Table 9.2, and the remainder of results presented in this section, the dependent variable is the binary inside/outside classification discussed above. Other research might, of course, look at the precise distances involved.

**Table 9.2** Percentage of trips made by insiders and outsiders, by time of the day

<table>
<thead>
<tr>
<th>Time period</th>
<th>Trip type</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>Outsider trip</td>
<td>93</td>
<td>75.6</td>
</tr>
<tr>
<td></td>
<td>Insider trip</td>
<td>30</td>
<td>24.4</td>
</tr>
<tr>
<td>Afternoon</td>
<td>Outsider trip</td>
<td>196</td>
<td>74.8</td>
</tr>
<tr>
<td></td>
<td>Insider trip</td>
<td>66</td>
<td>25.2</td>
</tr>
<tr>
<td>Evening</td>
<td>Outsider trip</td>
<td>124</td>
<td>78.5</td>
</tr>
<tr>
<td></td>
<td>Insider trip</td>
<td>34</td>
<td>21.5</td>
</tr>
<tr>
<td>Night-time</td>
<td>Outsider trip</td>
<td>71</td>
<td>65.1</td>
</tr>
<tr>
<td></td>
<td>Insider trip</td>
<td>38</td>
<td>34.9</td>
</tr>
</tbody>
</table>
Table 9.2 demonstrates that over one-third of the trips taken at night-time were insider trips – that is, of 1km or less. In contrast, one quarter or less of trips at other times of day were so classified. Again, it is important to note that this means that two-thirds of trips that occurred at night-time were over 1km in metric distance. However, the difference in the distribution of trips at night-time is noteworthy and encourages further exploration and statistical analysis.

As mentioned above, we had access to other contextual data for the area of Dorset and Poole. For the purposes of the current research, we distinguish between areas that were primarily residential in nature from those that were more commercial. We therefore used relevant data to undertake a very simple classification exercise. Those OAs that were classed as “more commercial” contained at least two “facilities,” according to the OpenStreetMap data, or at least three households that resided in a commercial building. We used these criteria as we felt it should reflect both busier town centre places and areas with more mixed land use and local shops. Using these criteria also gave a good balance in terms of area type, with 315 burglaries being classified as occurring in more commercial areas and 337 in purely residential areas. Table 9.3 illustrates how the distribution of insider and outsider trips varied over time for exclusively residential areas.

Table 9.3 demonstrates that for residential areas in particular, relative to other periods of the day, offences tend to be more likely to be committed by insiders during the night-time period.

To this point, the analysis presented has been entirely descriptive. To test the statistical significance of these results, we conducted a number of logistic regression models. In the models that follow, the

<table>
<thead>
<tr>
<th>Time period</th>
<th>Trip type</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>Outsider trip</td>
<td>49</td>
<td>81.7</td>
</tr>
<tr>
<td></td>
<td>Insider trip</td>
<td>11</td>
<td>18.3</td>
</tr>
<tr>
<td>Afternoon</td>
<td>Outsider trip</td>
<td>106</td>
<td>76.8</td>
</tr>
<tr>
<td></td>
<td>Insider trip</td>
<td>32</td>
<td>23.2</td>
</tr>
<tr>
<td>Evening</td>
<td>Outsider trip</td>
<td>66</td>
<td>83.5</td>
</tr>
<tr>
<td></td>
<td>Insider trip</td>
<td>13</td>
<td>16.5</td>
</tr>
<tr>
<td>Night-time</td>
<td>Outsider trip</td>
<td>41</td>
<td>68.3</td>
</tr>
<tr>
<td></td>
<td>Insider trip</td>
<td>19</td>
<td>31.7</td>
</tr>
</tbody>
</table>
Table 9.4  Logistic regression analysis for insider crime trips (evening is used as a reference category)

<table>
<thead>
<tr>
<th>Area context</th>
<th>Predictor</th>
<th>β</th>
<th>s.e.</th>
<th>p-value</th>
<th>Exp(β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential areas</td>
<td>Night-time</td>
<td>0.856</td>
<td>.411</td>
<td>.037</td>
<td>2.353</td>
</tr>
<tr>
<td></td>
<td>Morning</td>
<td>0.131</td>
<td>0.451</td>
<td>.772</td>
<td>1.140</td>
</tr>
<tr>
<td></td>
<td>Afternoon</td>
<td>0.427</td>
<td>0.364</td>
<td>.241</td>
<td>1.533</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>−1.625</td>
<td>0.303</td>
<td>.000</td>
<td>.197</td>
</tr>
<tr>
<td>Commercial areas</td>
<td>Night-time</td>
<td>0.559</td>
<td>0.388</td>
<td>.150</td>
<td>1.749</td>
</tr>
<tr>
<td></td>
<td>Morning</td>
<td>0.176</td>
<td>0.374</td>
<td>.638</td>
<td>1.193</td>
</tr>
<tr>
<td></td>
<td>Afternoon</td>
<td>0.042</td>
<td>0.325</td>
<td>.896</td>
<td>1.043</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>−1.016</td>
<td>0.255</td>
<td>.000</td>
<td>0.362</td>
</tr>
</tbody>
</table>

dependent variable is the binary variable discussed, categorizing into insider or outsider trips. Table 9.4 shows the results of a primary logistic regression analysis. In this case, the predictor variables indicate the time of day at which the burglary incident occurred. Note that this table reports the outcome of two separate analyses: one for areas classified as residential and the other for the more commercial areas. This enables us to see the relative effects of time of the day in these two contexts.

In both cases, the model fit was fairly unremarkable (for residential areas, −2 Log Likelihood was 352, Nagelkerke R Square 0.023; for commercial areas, −2 Log Likelihood was 379, Nagelkerke R Square 0.011). However, the results suggest an association between whether crimes were committed by “insiders” and the time of day an offence was committed. Consistent with hypotheses 1 and 2, for residential areas, night-time is a significant predictor of shorter trips. That is, crimes were 2.4 times more likely to be committed by “insiders” at night-time than during the evening (the reference category). In the case of more commercial areas, there is a similar trend but this is non-significant, providing support for hypothesis 2.

This is only an initial exploration, but it appears to indicate that perhaps resident offenders do take advantage of the opportunities closer to them during the night-time hours. In contrast, there are no reliable patterns (in the statistical sense) in the trips taken to commercial areas, suggesting a weaker or no insider/outsider crime preference for particular times of the day in such areas. This result also falls quite neatly in line with Routine Activity Theory.

Finally, we conducted logistic regression analyses that included some of the co-variates identified as being potentially important to length of
trip in the introduction. The analyses are in no way exhaustive. In what follows, we first include an indication of household density. The reason for including this variable is as follows. It seems logical that in areas of high housing density, offenders would encounter more suitable targets per unit of space searched than in areas of low housing density. Thus, all else equal, we would predict offenders to travel shorter distances to offend in areas with high housing density. Second, we examine the influence of characteristics of the offenders involved (see above). In particular, we include co-variates to indicate whether the degree to which individuals involved are prolific offenders and whether the offence was undertaken by more than one offender.

As in Table 9.4 above, Table 9.5 shows the outcome of two separate analyses: one for areas classified as residential and the other for those identified as being more commercial in land use. Also as noted above, in

<table>
<thead>
<tr>
<th>Area context</th>
<th>Predictor</th>
<th>β</th>
<th>s.e.</th>
<th>p-value</th>
<th>Exp(β)</th>
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</thead>
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<tr>
<td>Residential areas</td>
<td>Night-time</td>
<td>1.233</td>
<td>0.447</td>
<td>.006</td>
<td>3.432</td>
</tr>
<tr>
<td></td>
<td>Morning</td>
<td>0.465</td>
<td>0.489</td>
<td>.341</td>
<td>1.592</td>
</tr>
<tr>
<td></td>
<td>Afternoon</td>
<td>0.649</td>
<td>0.391</td>
<td>.097</td>
<td>1.915</td>
</tr>
<tr>
<td></td>
<td>Unemployed offender</td>
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<td>0.311</td>
<td>.108</td>
<td>0.607</td>
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<td></td>
<td>Household density</td>
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<td>Co-offenders</td>
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<td>0.262</td>
<td>.137</td>
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<td>Prolific offender</td>
<td>0.802</td>
<td>0.401</td>
<td>.045</td>
<td>2.231</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>−2.376</td>
<td>0.661</td>
<td>.000</td>
<td>0.093</td>
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<tr>
<td>Commercial areas</td>
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<td>0.396</td>
<td>.216</td>
<td>1.632</td>
</tr>
<tr>
<td></td>
<td>Morning</td>
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<td>0.382</td>
<td>.601</td>
<td>1.221</td>
</tr>
<tr>
<td></td>
<td>Afternoon</td>
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<td>0.330</td>
<td>.853</td>
<td>1.063</td>
</tr>
<tr>
<td></td>
<td>Unemployed offender</td>
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<td>.863</td>
<td>0.953</td>
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<tr>
<td></td>
<td>Household density</td>
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<td>.033</td>
<td>1.017</td>
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<tr>
<td></td>
<td>Co-offenders</td>
<td>0.022</td>
<td>0.251</td>
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<tr>
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<td>Constant</td>
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<td>0.626</td>
<td>.000</td>
<td>0.113</td>
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</tbody>
</table>
both cases, the model fit was fairly unremarkable, but a little improved on the basic model (for residential areas, \(-2\ \text{Log Likelihood was 325, Nagelkerke R Square 0.138; for commercial areas, -2 Log Likelihood was 369, Nagelkerke R Square 0.057}\).

The results shown in Table 9.5 are consistent with those in Table 9.4. After controlling for other factors, shorter trips are more likely in residential areas in the night-time, but not commercial areas. In addition, household density is observed to have a significant impact on the length of trips in the direction expected. That is, trips appear to be more likely to be less than 1km in areas with greater household density. This is true in both residential areas and more commercial ones. It would also appear to be the case that trips of less than 1km (those that we classify as being committed by “insiders”) are more likely to be the work of prolific offenders. Co-offending appears not to be a significant predictor.

**Discussion**

Research concerning the journey to crime suggests that offending is typically local in nature, but that longer crime trips are not out of the question. However, such research typically fails to consider the time of day that offences are committed and the characteristics of the areas within which they occur. As discussed, people's routine activities vary by the time of day and this may systematically affect the likelihood of finding a capable guardian (see Johnson & Bowers, 2013) or a motivated offender in a particular locale. Based on such reasoning, it was hypothesized that crimes committed overnight would be more likely to be committed by offenders who live within or near to a particular neighbourhood – what Marcus refers to as an “insider.” In the case of residential neighbourhoods, where those most likely to be present overnight for legitimate purposes will be residents, the current study provides support for this hypothesis. However, in those neighbourhoods that contain more varied land uses and which might attract people from farther afield for the purposes of legitimate activity throughout the day, we find no such effect (or at the very least a much weaker one).

Analyses also suggest that there is a significant, albeit weak, effect of housing density. Specifically, it appears to be the case that offences are more likely to be committed by “insiders” in neighbourhoods (of any type) with greater housing density. This is entirely logical – in neighbourhoods with few homes per unit area, offenders may have to travel some distance to find suitable targets, but in those with many opportunities, suitable targets may be encountered frequently and so offenders
wishing to minimize the effort associated with offending need not travel far.

It also appears to be the case that – all else equal – offences committed by those who live near a burgled home are more likely to be committed by prolific offenders. Earlier work (Bowers & Johnson, 2011) suggested that prolific offenders are more likely to travel greater distances to commit offences than their less active counterparts. However, the two findings are not necessarily contradictory. Indeed, in combination, the findings may simply suggest that prolific offenders are more likely to be prepared to travel and to also exploit opportunities on their doorstep.

As well as potentially informing theory, the findings reported may have direct implications for geographic profiling (for example, Rossmo, 1999). The aim of such analysis is to estimate the likely activity space of an (unknown) offender responsible for a series of linked offences. To simplify, methods of geographic profiling are based on the observation that offender crime trips are typically short. Accordingly, a risk surface is produced that essentially shows the regions of geographic space that minimize the distance between each possible location and all offences in the series of interest. In such analysis, all offences are typically treated equally. The current findings suggest that for residential burglary at least, the calibration of such models might be improved by taking account of the interval of the day during which crimes are committed and the types of area in which they occur. Whether this improves such models is an empirical question for future research.

A further important implication is that the study of offenders’ familiarity with certain places and opportunity should be adapted in a way that acknowledges that this is not static and likely varies over the course of the day. Research has discussed differences in offender’s awareness spaces; but this has been done in the context of comparing awareness spaces of different offenders, rather than exploring how the awareness spaces of individual offenders may vary over time. An offender will most likely be familiar with certain places at certain times of the day, and therefore a trip to a well-used space at a different time could diminish awareness of the time-sensitive opportunities that exist.

As noted above, a number of limitations are associated with the current study. The most obvious of which is the degree to which the sample size restricted more detailed analysis. While the sample was not small, a larger sample would allow for the use of shorter time frames in the analysis. As discussed, we therefore hope to replicate this study with a much larger sample. A second issue concerns the criteria used to classify
incidents as those committed by insiders and outsiders. It is possible that
the use of different thresholds (for example, 500m, 800m, and 1.5km)
would yield different results. However, the selection of the threshold
used should be theoretically informed. In the current study, given the
geography of the area studied, we felt that the threshold used was a sen-
sible one, but we acknowledge the issue at hand. A related issue concerns
the definition of the intervals of the day used. These too can be varied,
and doing so might yield different findings. For example, the lack of
evidence of shorter trips in the evening warrants further investigation.
During the evening as defined here (6pm – midnight), there is likely to
be seasonal variation in terms of the number of daylight hours and very
possibly in terms of the activities and whereabouts of residents.

The current study was an exploratory one, conducted using data for
one sample of offenders. There are a number of caveats associated with
the analyses presented, but the findings provide preliminary support
for the theory articulated in the introduction (and in an email from
Marcus). In the future, we hope to replicate the findings using data for a
larger sample of offenders, with Marcus as an explicit co-author.

Note

1. Note that the data available for analysis include those crimes that are taken
into consideration (TICs). That is, offences that offenders admit to having
committed as opposed to those detected through investigative effort. It is
important to note that there is a requirement in UK policing to demonstrate
that such offences were committed by the offender who admitted to them.

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Introduction

Environmental criminology began as a novel addition to criminology in the 1970s by calling for a shift in focus from offenders exclusively to the multidisciplinary exploration of criminal events. This involved the study and analysis of crimes, crime sequences, clusters of crimes, and the patterns yielded by them. This analysis always considered people (offenders, victims, and observers or guardians), locations where crimes occurred (convergence settings, crime niches, crime attractors, and more generally people attractors), and how people moved about between locations (home, daily activity nodes, and occasional trip end points). The mix of people, places, situations, attractions, and routines helps shape crime.

This chapter reviews briefly the past, but puts special emphasis on taking the concepts of the past and suggesting how these may be transformed in the consideration of our current hyperspace world. Special consideration will be given to research that is based on computationally intensive approaches (Brantingham, 2011) and topological ways of thinking, a mathematical approach relatively new to environmental criminology and crime analysis.

Crime patterns in urban space

It is best to think of crime patterns as a human way of abstracting patterns from an overwhelming amount of information. We see similarities and simplify; we see temporal and spatial variation but look for regularity. Pattern recognition is based on interpreting information by seeing repetition and extracting the patterns of repetition. The classic Brunswik
lens model (1939, 1952) where people use interpretive filters to simplify and organize a complex environment has its value in understanding theory development. Theoreticians search for similarities and hints of patterns.

Finding crime patterns is a challenge. Crime patterns depend on knowledge of the underlying backcloth of the environment, information about the ways people navigate through the environment, and an understanding of what influences both conscious, deliberate decisions and routinized decisions of which the decider may be little aware. At a simplified level, aggregate crime patterns are visible because people live in communities that develop well-defined major attractor points and aggregate travel paths. People are limited in urban environments by locations of residence, work, shopping, and entertainment and the travel paths that connect them.

At a high level of aggregation, crime can be seen as following population flows. But when patterns are explored in more detail, it becomes apparent that not all high concentrations of people experience correspondingly high concentrations of crime. Understanding crime patterns requires looking at subsets of the population who are attracted towards crime or are attracted towards situations that may trigger a crime. At the same time, understanding crime requires looking at the characteristics of a location or a potential target that attracts or facilitates crime. Understanding crime also requires better understanding of how people and subgroups of people move about in space. The movement patterns of teenagers in general have been shown to predict where they will become involved in delinquent acts (Bichler et al., 2011). The journeys to crime of Sheffield burglars are interpretable in terms of general movement patterns and routines of the city’s population (Wiles & Costello, 2000). But, even at the aggregate level, while patterns have some level of stability, they also change over time as environment and people change.

At a finer grained level of study, there can be substantially idiosyncratic patterns of crime that are associated with individuals or co-offending groups. The movement patterns and crimes of probationers tracked by GPS devices in Florida, for instance, fall into individualized routines that vary slightly at crime time (Rossmo et al., 2012). When the individuals or groups are high repeat offenders, their patterns may be discernable and potentially predictable within a spatial and temporal range (Felson, 1986; Johnson et al., 2009; Mohler et al., 2011). Theory and research at this level look for a more detailed, finely grained quantum of similarity and require more information about the crimes, people, and places involved. Using digital imaging language,
these micro patterns require a higher number of pixels and assignment of multiple attributes to each pixel. Without study of additional dimensions of the information, which are often neglected by researchers and are best accessed by mathematics criminologists do not often utilize, the individual patterns may be confused with noise in the data or may be indiscernible from the commonly explored aggregate patterns.

Crime patterns can be understood through layered visualizations in ways that are difficult to discern in numeric tables. The urban environment can be divided into regions and regions can be connected by adjacency. Research has found that crime accumulates along the edges of regions and is sharpest where the differences between adjacent regions are the strongest (Brantingham & Brantingham, 1975; Rengert et al., 2012). Nodes and paths also stand out visually when researchers look at and try to understand crime patterns. That is, street networks, mass transit systems, and major attractors such as entertainment districts or major shopping areas shape crime. In fact, patterns of crime along major roads even show an uptick in crime at intersections (Song et al., 2013). Crime patterns show a clustering of crime at locations that fit within a convergent setting with associated awareness space and choice templates, that is, settings that host potential targets attractive to potential offenders and do not have sufficient capable guardianship in place (Cohen & Felson, 1979; Felson, 1987, 1994; Felson & Boba, 2010). Overall, analysis requires the stacking of these structural layers and many others (Brantingham & Brantingham, 1993) to study complex ecologies of crime (Felson, 1987, 2006a, 2006b).

**Crime patterns in hyperspace**

This chapter began with discussion of physical proximity urban space because of its ease of interpretation. In our current and rapidly changing environment, theoretical ideas grounded on urban proximity space have to be expanded conceptually to include hyperspace in order to address novel and evolving crime patterns. Crimes are no longer limited to occurring just where victims and offenders intersect in some way in physical space. Linkage networks are not limited to streets and mass transit systems. Communication is less and less face-to-face and, at the same time, is becoming more frequent and much more electronic. All of the easily perceived space–time dimensions in many layers of complexity reminiscent of Doxiadis’ ekistics (1970) must now be supplemented by many dimensions of transport, communications, and other connectivities, all of which are interleaved in an active hyperspace more
reminiscent of Christopher Alexander’s argument that a “city is not a tree” (1965a, 1965b) and in which the Internet forms the most tangible and easily imagined set of new dimensions.

Internet use is increasing rapidly. Between 1995 and 2013, the number of Internet users worldwide increased from about 16 million to about 2.8 billion, or from about 0.4 per cent of world population to almost 39 per cent of world population (Internet World Stats, 2014). Traditional crimes such as shoplifting are decreasing as Internet shopping increases: Amazon’s market capitalization is about 33 times the market capitalization of Sears Holdings, which owns both Sears and K-Mart. Canadian crime statistics, which track crimes known to the police in much more detail than most other countries, show 40 per cent declines in reported shoplifting between 1991 and 2012. The 2012 English commercial victimization survey conducted by the Home Office (2013, p.14) found that thefts by customers of wholesale and retail establishments (that is, shoplifting) had declined from an estimated 11.5 million incidents in 2002 to an estimated 4.1 million incidents in 2012, a 64 per cent decline. Canadian police statistics also show rising trends in such Internet-enabled crimes as electronic fraud, identity theft, identity fraud, and child pornography (see, for example, Perreault, 2013). The recent collapse of a major BitCoin brokerage in Japan highlights the growth of both an Internet underworld working through such dark websites as Silk Road or the Hidden Wiki and using payment facilities operating outside the international monetary and banking systems commonly monitored by policing agencies (Bryant & Bryant, 2014; Erb, 2014; Gwern.net, 2014).

Law is challenged by these changes. Offenders and victims can be in different jurisdictions on different continents but only a fraction of a second away from interaction via the Internet. Various actual interactions may be legal in some countries and illegal in others. Physical proximity, the basis for most criminal justice jurisdiction, is often missing and so the problems of law enforcement and criminal justice agencies have become much more complicated, both in identifying criminal events in the first place and then responding to them. See Brenner (2006) for a good overview of the legal issues.

There is a continuing growth in research exploring vulnerabilities in cyberspace and about prevention of cybercrime through improved security. This is particularly a focus in specialties in computer science. In an enforcement sense, there are growing numbers of policing jurisdictions that develop special units dedicated to identifying and dealing with high-impact offenders and units dedicated to reducing cyberbullying
and cyberstalking. Cyberterrorism and use of Bit Coin and other dark web financial facilities are a clear focus in policing and security (for example, Anonymous, 2012; McGuire, 2007; UK fights cybercrime, 2012).

Over the last five years, there has been some research specifically focused on using the ideas of Marcus Felson (Cohen & Felson, 1979; Felson, 1986, 1987, 1994; Felson & Boba, 2010) in looking at cybercrime. The natural focus has been on Routine Activity Theory and the virtual convergence of victims and/or offenders (for example, Yar, 2005; Reyns et al., 2011; Kigerl, 2012; Soudijn & Zegers, 2012). The results of the research are mixed, primarily, we believe, because not all the authors wish to take the physical spatial dimension of Routine Activity Theory and expand it into a distal linkage type of analysis where physical proximity is transformed into functional proximity through hyperspace.

The ideas in environmental criminology in general, and Routine Activity Theory and its associated enhancements in particular, need to be transformed into a not-limited-to-physical, n-dimensional hyperspace where adjacency and convergence do not refer simply to physical adjacency and physical convergence. Identity also needs to be transformed into a plurality of linked cyber identities as well as personal visual identities.

The rate or velocity of communication and the spread or diffusion of contacts also need to be considered at a larger, non-proximate scale. In the more physical side of environmental criminology and crime analysis, lives are organized around activity nodes, the paths between them, and the time spent at the nodes and along the paths (Ratcliffe, 2006). This awareness space, while continuously evolving and morphing, is constrained in size at any one time in order to be conceptually manageable. Networks of friends1 are also limited in size so that common, shared awareness spaces are formed from intersections in time and space of individual awareness spaces and are transformed through personal convergent interactions.

People sometimes navigate through physical space in a purposive search for targets but often chance upon crime targets in the course of moving from one activity node to another (Brantingham & Brantingham, 2013). Physical space–time action is structured by mode and speed of transit and by visual census (Lowe & Moryadas, 1975; van Vliet, 1983). In hyperspace, it is easy to understand navigation in computer games, particularly virtual reality games. But the games, being especially attractive to those born into an era in which people
live routinely in both physical and hyperspace, frequently require player movements between different layers or dimensions. Hyperspace is natural for many younger people today.

Overall, people can remain fixed in one physical dimension but link and navigate through other dimensions in hyperspace at the same time and quickly change between multiple dimensions. People have a plurality of identities and preferences in different hyperspace dimensions. People follow major (and minor) linkage pathways in navigation within a hyperspace dimension or between dimensions.

People can experience overload with high-volume congestion in hyperspace. Canada experienced an overload of most government computer systems from people streaming the US/Canada hockey game to their workstations during the 2014 Winter Olympics. The government computer systems went down due to something that had an unintended effect similar to the impact of a denial of service attack by hackers. People who wanted to work could not, and citizen users could not access government websites. Effectively, a peak work time lost out to the streaming of the game live to multiple millions of Internet users.

So activity space, routine activities, convergence settings, attractor nodes, and generator nodes exist in both physical space–time and hyperspace. Environmental criminology and crime analysis is conceptually workable with a [physical, hyperspace] set or using notation similar to our original articles on point set topology (Brantingham & Brantingham, 1975, 1980a).

Environmental criminology is an interdisciplinary field. Routine Activity Theory can be actively transformed into a powerful tool for understanding the growing crime problems of the 21st century by using abstract spatial reasoning where space exists in n-dimensions, which reach beyond the classic Euclidean concept. The following section provides a brief overview of the fields of topology and computational topology. This is one theoretical area of mathematics that seems to have a natural value in the analysis of crime patterns across many different dimensions.

**Topology and computational topology**

Topology is a field in mathematics that builds spaces and structures by looking at similarity and proximity of objects. Objects can be thought of individually but with an emphasis on different ways in which they could be grouped. It is frequently easiest to draw pictures to describe topological forms and structures and relationships, but the pictures, while limiting the illustrations to objects structured in two or three
dimensional space, should not be taken as limiting a topology to two or three dimensions. Topology is n-dimensional.

This section of the chapter will provide a few examples of topological structures already used in criminology, examine some specific types of topology that are of strong potential value in environmental criminology, and explore some examples of the use of computational topology in research into activity spaces, routine activities, and convergence settings that may influence cybercrime.

**Topology**

In topology, formally, you have a set \( X \) and a family of subsets of \( X \) that include the empty set (null set) and all unions and intersections of subsets. In application, a topology might have a finite number of elements (finite point set topology), but in theory the topology could have an infinite number of elements.

Topology explores higher dimensions of space. Topology can explore a non-Euclidean Geometry. It is not attached to one distance metric, but is associated with ideas of nearness and connectivity not miles, kilometres, or time alone. Basically, geometry with its Euclidean distances is a type of mathematics that is taught in secondary school with strict definitions. We learn geometry at an early age and take our cognitive plasticity and make space and distance rigid. But, in reality, coordinates in geometry are not real. We use them, but we have created them.

Similarly, we develop variables with numeric values for analysis, but these are created for analysis. Our ultimate goal in the analysis is to find patterns, and not values of variables for individual points, but more flexible representations of an aggregate pattern.

**Past use of topology in environmental criminology**

We first started using topology in analysis of the distribution of residential burglaries in Tallahassee, Florida (Brantingham & Brantingham, 1975). Instead of using the standard statistical analysis, we looked at the city divided into similar regions formed as sets of Census Block groups that were adjacent to each other and that were similar on measures of housing type, cost, and ownership. Several levels of difference were permitted between block group values for houses (single family, small and large apartments). The model was an attempt to replicate the visual feeling of sameness as you move through areas where there is very little change from block to block. Several levels of variation block to block were allowed to identify when there was a gradual change or transition.
from one homogeneous neighbourhood type to another and when there was a sharp transition. The topological technique used in the analysis identified the interiors and the edges of the neighbourhoods. Edges between two different neighbourhoods were seen as areas less likely to belong to either of the neighbourhoods and more likely to be open to both the people from within the neighbourhood and to outsiders. For this reason, topologically defined neighbourhood edges were also predicted to concentrate criminal events. In this study, crime was about 20 times as high on the edges as the interiors. Roads through neighbourhoods are more attractive to travellers than roads that wander within a neighbourhood.2

This initial topological study used multiple dimensions and varying epsilon. As we have carried this forward, we have used it with modifications to look at what is called fuzzy topology (Brantingham et al., 2009) where there are clear interiors of neighbourhoods (interiors are the subsets where all adjacent subsets are similar) and boundary areas where the subsets belong in part to two or more sets. Zadeh (1965) developed the idea of fuzzy sets. It was seen to have value initially in decision-making and clustering. One of the classic early examples came from cases in the justice system where a decision had to be made about guilt or innocence. In some situations, guilt or innocence is easily determined; but in others the facts are not as clear, and overall there is some indication of guilt and some of innocence. In the end, there are two categories – “guilty” and “not guilty” – into which cases must be grouped, but in reality there are uncountable levels of variation between “absolutely guilty” and “absolutely not guilty.”

The use of topology and related graph theory has been put forward in a series of papers and articles dealing with the geometry of crime (Brantingham & Brantingham, 1975, 1978a, 1978b, 1980a, 1980b, 1981, 1984; Brantingham et al., 1979, 1992, 2009), a non-Euclidean geometry where the actual point is the connectedness between two locations and the pathways for moving from one location to another. Individuals may have different activity nodes and different pathways and links between them. This produces different activity and awareness spaces, but in a topological sense these spaces are constructed using similar rules. The underlying social-structural backcloth – the structure of a city or even the Ecumene in all its dimensions – shapes everyone’s individual activity and the awareness space in mathematically similar ways, but the push and pull of routine activities may mask these structures if activities are depicted in simple two-dimensional coordinates, making similar patterns appear quite different. Figures 9 and 11 in Notes on the Geometry of Crime (Brantingham & Brantingham, 1981) show what happens as the
awareness spaces of people who do not know each other are combined for analysis and what happens when the activity spaces of people who do know each other are combined through their interactions. In the former, there is an intersection of awareness spaces and risk zones that produces crime hot spots in high-activity areas with expected crime by volume of people. In the latter, the people interact and learn and use to some extent the activity space of the others.

In either of these circumstances, a convergence of offenders and targets absent capable guardians or place managers is likely (Felson, 2003, 2006b, 2008; Felson & Boba, 2010; See also, Andresen & Felson, 2010; Bichler et al., 2010). Following this tradition, Justin Song (2013) researched the hyper overlay of convergence zones for crime around four convergence settings. These layers of information or dimensions can be moved into hyperspace for analysis that identifies convergent settings, which will not always require a proximal physical location.

Similarly, geographic profiling can be used for one repeat offender, finding the pattern of potential paths and nodes, or for understanding multiple spatio-temporal patterns for multiple offenders (Rossmo, 1999; Rossmo et al., 2012). With cybercrime, there is actually a proliferation of high repeat offenders with many potential victims located on the Internet or many thefts or other crimes committed through the Internet. Geographic profiling could become hyperspace profiling when considering n-dimensions.

Topology has been carried forward in many other areas including biology, neuroscience, and physics. Criminology is beginning a move in this direction too. Major advances in criminology may become possible through applications of computational topology to big data in order to assess patterns for crime preventive intervention.

**Computational topology and cybercrime**

Environmental criminology, with its macro-focus on routine activities and the confluence of people in general and its micro-focus on the routine, repetitive patterns of individuals, can provide insights for the analysis of cybercrime (Holt & Bossler, 2009). Analysis of navigation through the physical environment can be expanded and transformed to include navigation around the Internet. Study of friendships or working relationships set up between people who physically meet each other can be expanded to include people who know each other through cyber-connection or who know the mundane or cyber identity (or identities) associated with some particular individual. That represents convergence settings in hyperspace (Soudijn & Zegers, 2012; Masys, 2014).
Add the fact that a group of people may be considered similar or equivalent and consequently become identifiable. Should some sort of link develop between these people, then there is more reason for those people to know each other (Calderoni, 2014).

Travel paths in hyperspace may be between distant locations, but there needs to be a linkage between the points and, for a good connection, an easy navigation between points. There is a Darknet or dark web that is used by criminals and terrorists for seriously harmful illegal activities, but it requires exchange of information and trusted connections outside the Internet (Chen et al., 2008; Everett, 2009; Chen, 2012; Martin, 2013; Xu & Chen, 2008).

What we now have is:

- Activity networks narrowed in physical space and more connected in hyperspace
- Many activity spaces overlapping when there is a common endpoint like Amazon.com or Twitter or Whatsapp
- Repeat offenders who specialize in malware can impact many through the use of a common Internet attractor
- Groups and gangs that can form even when individuals never meet face-to-face
- Crime, as described by Brenner (2006), when the event occurs far from where the offender resides

The list goes on, but the fundamental questions in better understanding crime of the 21st century is understanding new activity spaces, awareness spaces, and convergence settings as well as the meaning of capable guardian in the contexts of guarding virtual as well as physically discrete locations. We also need to develop better understandings of the users of locations; the links between users, and users and locations in hyperspace.

But mathematically, topology is amenable to this analysis because the researcher defines regular users or group of users. Computationally, time can vary in the analysis; a stable simplified form can be created, and through homeomorphism the researcher can move between the different levels of the hyperspace or tilt the focus of the research to connections between the dimensions.

Basically, computational topology is an applied and computationally intensive process for finding important patterns within a large amount of space and information. It is used heavily in biology and neuroscience and in astronomy. It provides a way for environmental criminologists to
begin an abstract use of space that moves beyond the physical proximity space.

Computational topology moves into computationally intensive dimensionality reduction, uncovering underlying patterns from large volumes of data, moving towards a more fluid use of space and away from our pre-computer emphasis on the geometric. Ideas like algebraic topology, Betti Numbers (Goff, 2011; Cerri et al., 2013), and Landmarks have high value. See the work of Gunnar Carlsson (2009; See also, http://comptop.stanford.edu) for an overview and theoretical edge of the field.

Summary

The core of environmental criminology is a focused study of human–environment interaction. Understanding of human awareness and activity spaces in differently structured environments has proved extremely useful in developing both better knowledge of crime patterns and better strategies and tactics to effect crime reduction. Marcus Felson’s Routine Activity Theory and his ideas about convergence settings (among many protean ideas developed by him) are central to modern understandings in environmental criminology. The evolution of the environment in which human activity now takes place requires an evolution of our understandings from four-dimensional space–time into n-dimensional hyperspace. As we have tried to advance in this paper, topology holds the promise of providing conceptual and mathematical tools for understanding human activities and especially criminal activities in hyperspace. Computational topology holds out the possibility that we can truly begin to understand virtual convergences and hyper routines in the 21st-century environment.

Note

1. By this, we mean actual, known friends as opposed to the unknown hordes who might “friend” someone in social media.
2. As a side note, this is a non-recursive relationship. The US Census frequently breaks its data aggregation areas along major roads and major roads facilitate differences in housing types and costs on different sides of the street.

References


11
Factors Associated with Homeless Encampment Locations in Anchorage, Alaska
Sharon Chamard

Introduction

Imagine that you are homeless in a major urban area in the United States and for various reasons are “sleeping rough” – that is, in a place not meant for human habitation. You may opt to sleep in your car, if you have one, or in an abandoned building. Or you may resort to sleeping outside, perhaps in a tent or other temporary shelter. What features would you seek in a camp location? What amenities would be important to you? You might think back to your days as a youngster when you may have had the opportunity to go camping in the wild and learned useful tips: don’t camp under a big tree that could blow down in a storm or attract lightning; beware of slopes or avalanche areas; avoid thick woods, heavy underbrush or weeds, and rocky ground; never camp in gullies or dry river beds; and seek a campsite close to a water source but not right on its edge (Jobson, 1974; Howe et al., 1997; Tawrell, 2006). Unfortunately, this knowledge would be of limited use in a built-up urban area because extensive use of most spaces by other people places significant constraints on site selection. Also, some cities lack significant tracts of undeveloped land where wilderness survival skills would be useful. Instead, there are skid rows – places with homeless encampments in plain sight, on city streets, and in vacant lots, urban parks, and parking lots.

Research on homeless encampments typically focuses on the individuals in the camps themselves (Cousineau, 1993; Erlenbusch et al., 2001; Lawson, 2002; Amster, 2003; Aubry et al., 2003). Descriptions of camp locations are very broad, for example, “They are located on vacant lots,
beneath freeway underpasses, in wooded areas, in church parking lots, in public parks, and on other public and private lands” (Loftus-Farren, 2011, p.1046). Cousineau (1997) describes encampments in Los Angeles as being “assembled in public places such as on sidewalks or in vacant lots” (p.71), while “others are more concealed from public view, along riverbanks and train tracks, under freeway overpasses or bridges, in alleys or in shrubbery along open highways, on freeway on-ramps, and on transition roads” (p.71).

Such descriptions are often little more than lists of the types of places in urban areas that are not actively used for residential, commercial, or industrial purposes. Snow and Mulcahy describe this sort of urban space as marginal: “Space that has little if any use value to most residents; little if any current economic or exchange value to entrepreneurs, except perhaps as a tax write-off; and no immediate political or symbolic value” (2001, p.157). As long as homeless people and their encampments remain in these marginal spaces, conflict over use of public space is minimized.

Many cities contain large non-active land use spaces, but homeless encampments are not in all such areas, suggesting that other factors determine the location of encampments. One relevant factor may be the camping experience and world view of the homeless campers themselves. A study of camps located along creeks and other waterways in the jurisdiction of the Contra Costa County (CA) Flood Control and Water Conservation District (Devuono-powell, 2013) classified camps into three types largely based on the characteristics of the people camping there: “old-timer” camps, “newcomer” camps, and “veteran” camps. Old-timer camps were usually located near water and under-neath an existing element of infrastructure, such as freeways, overpasses, or bridges. Newcomer camps were found in areas that had not been sites of previous encampments. Such encampments tended to be larger than the other two types, supposedly because these campers, relatively new to life as unsheltered homeless and thus not experienced in finding locations for good campsites, sought out safety in numbers. The third type of encampment, veteran camps, typically occupied by military veterans or survivalists, blended into their surroundings through concealment or use of structures that are relatively well camouflaged. These encampments were smaller and often located in areas that were spatially isolated and not very accessible (Devuono-powell, 2013).

Homeless encampments in East Orange County in central Florida were almost always located along one particular main road and located near “restaurants, gas stations, and other commercial outlets” (Donley &
Factors Associated with Homeless Encampment Locations

Wright, 2012, p.291). The authors explain that there is much undeveloped or abandoned property along the highway, adding privacy and security for those living in the homeless encampments there (Donley & Wright, 2012, p.291).

Southard (1997) focused on camp locations in more rural settings, sometimes within a few miles from a town, and classified non-recreational campers on public lands as either “voluntary nomadic,” “economic refugees,” or “separatists.” Voluntary nomadic campers tended to seek out camp sites close to flowing water and in wooded areas, while economic refugees often slept in abandoned buildings or their own vehicles and preferred sites located as close to town as possible while still on public land and with road access (Southard, 1997, p.57). The third classification of campers, separatists, located their camp sites in places with features similar to the “veteran” camps identified by Devuono-powell (2013). These sites were isolated, sometimes far from roads, and built near features like “year-round surface water” and “escapements from which they can have an excellent view of the access trail leading up to their camp” (Southard, 1997, p.60).

The goal of the research described in this chapter is to identify factors associated with homeless encampment placement in one urban area – Anchorage, Alaska. At the time of this study, Anchorage did not have a skid row. The commercial areas of the city have concentrations of chronic public inebriates and panhandlers, and the occasional open-air drug market or prostitution stroll, but it is rare to see anyone camping or sleeping on the sidewalk or in commercial building doorways (as is commonly seen in cities like Los Angeles or Honolulu). A more likely scenario for those “sleeping rough” in Anchorage is to establish a camp site. So the question is: Why are these camp sites in some places and not others?

In the literature, particular land use types emerged as likely locales for encampments, such as parks, vacant lots, and land next to roadways. Proximity to services such as restaurants and gas stations was noted. Closeness to water was valued by campers in more rural areas. In her review of the scholarly literature, Chamard claimed that encampments tend to be located close to the services transients need, specifically “food, alcohol, employment (or crime) opportunities, and shelter (in case of inclement weather)” (2010, p.11).

To gather background information on why homeless encampments are located where they are in Anchorage, police officers with the specialized unit tasked with enforcing the illegal camping ordinance in Anchorage and the Municipality of Anchorage’s (MOA’s) homeless
Sharon Chamard were asked, “Why are homeless camps where they are?” They thought closeness to bus lines, trails, water sources, and alcohol was important. This makes intuitive sense. Homeless people have physical needs similar to everyone else, so easy access to water and food, and for many, alcohol and tobacco, would be desirable. They must move about from place to place, and if we assume that few encampment dwellers have motor vehicles, there is value in proximity to public transportation and pedestrian pathways.

Previous research on spatial characteristics of homeless encampments in Anchorage used risk terrain modelling to predict the emergence of new encampments (Chamard, 2012). Trails, parks, limited service restaurants, bars, liquor stores, and grocery stores were all found to be significantly related to the presence of homeless encampments in the first year. The predictive model was highly statistically significant, but only explained 5.4 per cent of the variation in homeless encampment locations in the second year. The model did not include bus routes and natural water sources.

**Homeless encampments and crime**

In many jurisdictions, including Anchorage, camping on public land that is not designated for such use is considered an infraction of municipal code. While not a “crime” of the level of seriousness ordinarily studied by crime scientists, illegal camping nonetheless can have significant impacts on the surrounding community. Pollution of nearby water sources by human waste (Devuono-powell, 2013) and other environmental hazards like wildfires and damage to animal and plant habitat are known problems associated with illegal encampments (Chamard, 2010). Criminal activity engaged in by homeless people tends to be fairly minor (for example, trespassing, shoplifting, and public excretion), but police report that areas around homeless encampments have higher rates of both petty and serious crime, including theft, burglary, rape, robbery, vandalism, and aggravated assault (Chamard, 2010, p.9).

Encampments are examples of “behavior settings” (Felson, 2006). Depending on the time of day and who is there, what is considered appropriate and acceptable behaviour varies. One could imagine that in the camps classified by Devuono-powell (2013) as “veteran,” unruly behaviour and lack of hygiene are frowned upon. But other camps are undoubtedly less structured, and in such settings, excessive drinking and partying would be the norm. In these encampments, sexual assault and other violence, committed by one drunk person against another
drunk person, are likely to be common occurrences. Encampments are frequently inhabited by people who are addicted to drugs or alcohol, are mentally ill, or could be dually diagnosed with both substance abuse problems and mental illnesses (Cousineau, 1993; Aubry et al., 2003). For these vulnerable people, camp life can be fraught with danger.

**Study site**

Anchorage, Alaska, is a subarctic city of approximately 300,000 people in a land area of about 1,700 square miles (US Census, 2014), most of which is unpopulated. The current study focuses on the part of the municipality described as the “Anchorage Bowl” (because it is encircled by water and mountains) that itself is about 100 square miles. Most roads in Anchorage, even if they are multi-lane, are at grade. There are few sections of freeways or elevated roadway, thus there are few highway overpasses and bridges. There is only one set of railroad tracks. There are 10,946 acres of parkland controlled by the local municipal government, including 223 parks, and 250 miles (135 miles paved) of trails running through greenbelts (Municipality of Anchorage, 2014a). The largest park, Far North Bicentennial Park, is 4,000 acres.

Estimates of the number of people living in homeless encampments in Anchorage are not precise. Once or twice each year, homeless service providers and volunteers in Anchorage conduct a “point-in-time” count of people who attend an all-day event called “Project Homeless Connect.” During intake, each client is asked where he or she slept the night before – one possible answer is “a place not meant for habitation.” This is not a perfect measure of the population of those living in encampments. A place not meant for habitation includes abandoned buildings and vehicles as well as tents in illegal campsites. More significantly, it is unknown what proportion of illegal campers participate in Project Homeless Connect. It is likely that the population of hard-core campers, the people Devuono-powell (2013) might classify as “old-timers” or “veterans,” is not fully captured by this point-in-time count.

Another data source, complementary to the “Project Homeless Connect” count because it occurs at the same time each winter, is the point-in-time count done on a single night each January to meet US Department of Housing and Urban Development (HUD) requirements for Continuums of Care. People in emergency shelters and transitional housing, or who are unsheltered, are included in these annual counts. In 2008, this count showed 102 unsheltered people in households without children and 61 unsheltered chronically homeless
people. In 2009, there were 132 unsheltered people in households without children and 46 unsheltered chronically homeless people. In 2010, there were 107 unsheltered people in households without children and 13 unsheltered chronically homeless people (Municipality of Anchorage, 2014b). The variation in the number of unsheltered chronically homeless people, in the absence of any interventions that could account for these large changes, makes the validity of these data suspect. A possible explanation for poor data is irregularity from year to year in the logistical aspects of the data collection. For example, the success of efforts to count people who live in illegal encampments depends a great deal on when enumerators go to the camps. Early in the morning (about 5 am) is ideal, because most campers are still “home,” but later in the day, many of them have left the campsite to do their daily activities. Beyond issues with data validity, a point-in-time count of this subpopulation in January would tend to deflate numbers because during dangerously cold weather, only hard-core campers stay outside.²

Data from the “Project Homeless Connect” point-in-time counts show expected seasonal patterns and much higher numbers than the HUD-required point-in-time counts. More people reported sleeping in a place not meant for habitation in the summer counts than in the winter counts: August 2008 (84, 17.6 per cent of total Project Homeless Connect clients), January 2009 (63, 9.4 per cent of total), July 2009 (154, 23.8 per cent of total), January 2010 (61, 7.9 per cent of total), and July 2010 (154, 26.6 per cent of total) (Municipality of Anchorage, 2014c).

Outreach to “streets, trails, and woods” as part of the “100,000 Homes Anchorage” registry on 13 and 14 September, 2011, surveyed 355 people experiencing street homelessness; 87 (or 24.5 per cent) were surveyed outside (as opposed to a shelter) (100,000 Homes Anchorage, 2011).

Data

Geocoded calls-for-service (CFS) data from the Anchorage Police Department were used in this study. The particular subset of data was the CFS from 19 July 2008 to 30 December 2010 that were classified as “Camp.” This is a call type used to denote a response to an illegal camp. Both officer-initiated and citizen-initiated calls are included. During the time frame, there were 617 such calls-for-service. Anchorage Municipal Code (§15.20.020B.15) specifies that an illegal camp on public property can be removed within 72 hours after trespassing notices have been posted, in which case removed items have to be stored for 30 days. Alternatively, the camp can be “posted” and the campers given 15 days to vacate the site, after such time any items remaining can be disposed of. However, if
someone camped illegally notifies the municipality in writing of plans to remove their belongings, 15 additional days can be granted. This means the maximum time from posting the camp to removal of the site could be 30 days. Accordingly, CFS from the same location were deemed to be related to enforcement actions at the same camp if the calls occurred within a one-month period. In those situations, duplicates were eliminated. But camps often recur in the same places where camps had previously been closed down, so CFS from the same location if each occurred more than one month apart were retained. About 20 per cent of the CFS were removed, leaving 495 locations for the analyses.

For many of Anchorage's homeless living in encampments, alcohol is consumed on a daily basis, so liquor stores and bars were included in the analysis as factors associated with encampment location. Stand-alone tobacco stores, independent of other businesses where cigarettes can be purchased, such as grocery stores, pharmacies, convenience stores, and bars, were also included. Food is also essential. As such, grocery stores, convenience stores, combination gas stations and convenience stores, and limited-service restaurants, for example, fast food restaurants, were included as factors. Locations of all these businesses were obtained from lists of business licenses maintained by the State of Alaska and then geocoded.

The final variable included in this study was homeless services. These facilities, such as emergency shelters, transitional housing, soup kitchens, daytime drop-in centres, and the “sleep-off” centre, provide access to showers, laundry, food, mail delivery, case workers, and opportunities for social interaction because they might function as known gathering spots. They can also serve as an anchor of sorts for some homeless campers who transition back and forth between staying in a shelter and camp life. A list of homeless service provider locations was generated from personal knowledge and directories published for use by homeless people seeking services. For all these variables, the street addresses were geocoded.

Map layers of land use, water features, trails, and parks were obtained from the MOA. Bus routes were hand drawn onto a map layer using published bus route maps as a guide.

Methods and findings

Initial analyses focused on the spatial distribution of the camps and characteristics of underlying land use. As noted above, there were 495
Sharon Chamard 153

encampments in the data. Their locations are neither random nor dispersed. “Average Nearest Neighbour” analysis in ArcGIS 10.1 showed an expected mean distance of 1,273 feet and an observed mean distance of 383 feet. A nearest neighbour ratio of .301 and z-score of $-33.21$ indicate a statistically significant degree of clustering. Homeless encampment hot spots were identified using a kernel density estimation procedure with a cell size of $300 \times 300$ feet and manual classification of all non-zero cells based on standard deviation (less than mean, mean to $+1$ SD, $+1$ SD to $+2$ SD, $+2$ SD to $+3$ SD, and over $+3$ SD). Four hot spots comprising cells in the $+3$ SD category emerged; they are named for their general area in Anchorage: Fairview, Mountain View, Tudor, and Turnagain – see Figure 11.1 for a map of the Anchorage Bowl with

![Homeless Encampment Hot Spots](image)

**Figure 11.1** Homeless encampments, Anchorage, Alaska, 2008–2010 ($n = 495$)
the hot spots labelled. As it turns out, these hot spots are very different in some respects, such as underlying land use, but similar in others, like proximity to bus routes. Characteristics of these hot spots are discussed later in this chapter.

**Land use**

Of the 64,106 acres in the “Anchorage Bowl” (not including Chugach State Park to the east), single-family residential constitutes the largest use of acreage (25.0 per cent), followed by “vacant land” (17.2 per cent) and “right-of-way” (15.0 per cent). Assuming no association between land use and the locations of homeless encampments, one would expect to see little variation between land use overall and the land use classifications of the parcels upon which homeless encampments are located. That is, if one-quarter of all land in Anchorage is classified as single-family residential, about one-quarter of encampments should be found on single-family residential land, and so on. Table 11.1 shows the percentage of acreage in the Anchorage Bowl by land use classification and the percentage of homeless encampments located on land of each classification. The last column shows a ratio of these percentages. Numbers greater than 1.0 indicate a greater percentage of homeless encampments

<table>
<thead>
<tr>
<th>Land use</th>
<th>% of acreage in Anchorage Bowl (n = 64,106)</th>
<th>% of Homeless encampments (n = 495)</th>
<th>z-score</th>
<th>sig.</th>
<th>Ratio of % encampments to % acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family</td>
<td>25.0</td>
<td>6.7</td>
<td>9.371</td>
<td>0.001</td>
<td>0.3</td>
</tr>
<tr>
<td>Vacant land</td>
<td>17.2</td>
<td>1.6</td>
<td>9.159</td>
<td>0.001</td>
<td>0.1</td>
</tr>
<tr>
<td>Right of way</td>
<td>15.0</td>
<td>47.1</td>
<td>−19.766</td>
<td>0.001</td>
<td>3.1</td>
</tr>
<tr>
<td>Park</td>
<td>13.0</td>
<td>12.4</td>
<td>0.41</td>
<td>Ns</td>
<td>1.0</td>
</tr>
<tr>
<td>Institutional</td>
<td>5.0</td>
<td>8.5</td>
<td>−3.595</td>
<td>0.001</td>
<td>1.7</td>
</tr>
<tr>
<td>Commercial</td>
<td>4.7</td>
<td>11.6</td>
<td>−7.103</td>
<td>0.001</td>
<td>2.5</td>
</tr>
<tr>
<td>Industrial</td>
<td>4.7</td>
<td>3.9</td>
<td>0.902</td>
<td>Ns</td>
<td>0.8</td>
</tr>
<tr>
<td>Multifamily</td>
<td>3.5</td>
<td>4.7</td>
<td>−1.453</td>
<td>Ns</td>
<td>1.3</td>
</tr>
<tr>
<td>Two family</td>
<td>2.4</td>
<td>3.4</td>
<td>−1.553</td>
<td>Ns</td>
<td>1.4</td>
</tr>
</tbody>
</table>

| Total             | 90.5†                                     | 99.8†                              |         |     |                                     |

† Military, tide/water, and transportation land use classifications are excluded from this table.
located on a land use classification than would be expected assuming no association between land use and location of encampments. Numbers lower than 1.0 indicate a lower percentage of encampments located on a land use classification than would be expected assuming no association between land use and location of encampments. Homeless encampments are relatively less likely to be found on land classified as single family and vacant, but more likely to be situated on right of way and institutional and commercial land.

It seems likely that encampments are rarely reported on single-family land because of high levels of guardianship that prevent establishment of the encampments in the first place. It is not surprising to see somewhat more homeless encampments located on land classified as two family and multifamily, although encampments are not significantly concentrated on this type of land. Such property is likely to be occupied by renters (that assumption could not be tested using these data), who are often less inclined than homeowners to exert guardianship over their immediate surroundings.

Homeless encampments appear with some regularity on land classified as institutional and commercial. While there may be lack of guardianship on such properties, a more likely explanation for this finding is the nearness of desirable amenities. Devuono-powell noted that many homeless campers liked to be close to “large commercial or retail centers whose garbage [could be] scavenged either for recycling or for materials to set up their camps” (2013, p.36). Commercial land, in particular, is also close to job and crime opportunities. The former is important for campers who may be employed but earning so little that conventional housing is not affordable. Commercial land can also offer target-rich environments for the criminally inclined because of the number of stores and parking lots.

Close to one-half of all encampments (47.1 per cent) are located on land designated as “right of way.” Roadways and publically owned land next to roadways are considered right of way. In the Anchorage Bowl, land of this type constitutes only 15 per cent of the total acreage. This finding is anticipated by other research that described homeless camp sites as being “…under freeway overpasses or bridges, in alleys or in shrubbery along open highways, on freeway on-ramps, and on transition roads” (Cousineau, 1997, p.71). From a routine activities perspective, such land suffers from lack of guardianship (Cohen & Felson, 1979). Because it is technically owned by all of us, diffusion of responsibility means it is looked after by none (or few) of us. Proximity
Factors Associated with Homeless Encampment Locations

to roadways and their facilitation of movement are also desirable for campers. It is also possible that a large portion of encampments are identified in rights of way because police are the most obvious points of contact for those who become aware of camps on public land. Finally, rights of way are typically narrow strips of land, so encampments would be fairly visible unless there are environmental features (like sharp drops in grade at the side of the road or overgrown brush) that obscure them to motorists and other passers-by.

A finding inconsistent with the literature was the small number of encampments located on vacant land. A fair amount of the acreage in the Anchorage Bowl is vacant (17.2 per cent), but fewer than 2 per cent of camps are on such land. Vacant lots in some parts of the city would seem to provide many desirable features: closeness to amenities, a fenced-in area, access to public transportation and pedestrian pathways, and overgrown trees and shrubbery. But if a vacant lot is privately owned, an encampment there could be dealt with directly and quickly by the property owner, who, unlike police, is not required to follow procedures and allow campers days to clear out. Such a camp may be removed and never reported at all to the authorities. It is also possible that because camping illegally on private land is so risky due to the possibility of immediate removal and destruction of the campsite with no notice, campers in such places take extra precautions to ensure their encampment is not easily observable and, thus, it is less likely to be reported to the police and be recorded in CFS data.

Factors associated with encampments

Based on the results of the “Average Nearest Neighbour” analysis described earlier, which showed homeless encampments in Anchorage are spatially concentrated, the next step was to examine whether encampments are located where they are because of proximity to the identified factors (roads, trails, streams, vacant land, parks, bus routes, bars, package stores, grocery stores, tobacco stores, gas stations/convenience stores, limited-service restaurants, and homeless services). But knowing how close encampments are to these factors is not informative without putting it into context of where other people live in Anchorage; it would not be surprising to discover that homeless camps are close to features like stores, bars, and public transportation, because these are amenities that are desired by many people, homeless and
domiciled alike. But if homeless encampments are on average closer to these features than residential parcels are, this suggests that these amenities influence encampment site location. Multifamily residential parcels were also included in the analyses described below, because these parcels can be reasonably assumed to be where low-income people live, and it is useful to compare homeless people to other low-income people rather than to people with more income or wealth.

Using the “Near” function in ArcGIS 10.1, the proximity of encampment locations, all residential parcels, and all multifamily residential parcels in the Anchorage Bowl to the factors thought to be associated with homeless encampment locations were calculated. “Near” calculates the distance in feet between each encampment (or residential parcel) and its closest particular factor (such as a liquor store) and appends this distance to each record; the minimum, maximum, and mean distances can then be obtained. Table 11.2 shows the results of the analysis involving encampments and the 52,481 residential parcels in the Anchorage Bowl. T-tests (assuming unequal variance) were used to compare means. With the exception of “vacant land,” “trails,” and “road,” homeless encampments were on average statistically significantly (at a p<.001 level) closer to every factor than were residential parcels, on average.

The differences in proximity to factors of homeless encampments and of the 4,038 multifamily residential parcels are more complex, as shown in Table 11.3. The average multifamily residential parcel is significantly closer to roads and vacant land than is the average homeless encampment. Package liquor stores are also closer, on average, to multifamily residential parcels than they are, on average, to encampments, though this is not a statistically significant difference. With respect to the other factors (grocery stores, bars, gas station/convenience stores, parks, bus routes, streams, limited service restaurants, tobacco stores, and homeless services), homeless encampments are on average closer to these than is the case for the average multifamily residential parcel. These differences are statistically significant, but are much smaller in magnitude than those seen in Table 11.2. Compared to all residential parcels, multifamily residential parcels are on average closer to the factors included in this study (with the exception of streams), as shown in Figure 11.2. Mean distances are also presented graphically in Figure 11.2. Not only are encampments not randomly distributed, they are concentrated close to factors. This suggests that proximity to some factors is associated with encampment location.
Table 11.2 Distances from homeless encampments and residential parcels to factors (in feet), Anchorage, Alaska, 2008–2010

<table>
<thead>
<tr>
<th>Factor</th>
<th>Homeless encampments (n = 495)</th>
<th>Anchorage Bowl residential parcels (n = 52,481)</th>
<th>t</th>
<th>sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Trails</td>
<td>0.0</td>
<td>484.91</td>
<td>26.92</td>
<td>48.97</td>
</tr>
<tr>
<td>Road</td>
<td>0.0</td>
<td>539.90</td>
<td>33.46</td>
<td>55.67</td>
</tr>
<tr>
<td>Vacant land</td>
<td>0.0</td>
<td>3,757.97</td>
<td>439.86</td>
<td>431.45</td>
</tr>
<tr>
<td>Parks</td>
<td>0.0</td>
<td>7,097.26</td>
<td>697.76</td>
<td>810.72</td>
</tr>
<tr>
<td>Bus routes</td>
<td>0.0</td>
<td>44,708.02</td>
<td>830.77</td>
<td>3,035.47</td>
</tr>
<tr>
<td>Streams</td>
<td>0.8</td>
<td>12,318.69</td>
<td>1,348.44</td>
<td>1,221.88</td>
</tr>
<tr>
<td>LS restaurants</td>
<td>50.3</td>
<td>13,197.84</td>
<td>1,858.28</td>
<td>1,363.82</td>
</tr>
<tr>
<td>Bars</td>
<td>0.0</td>
<td>11,369.87</td>
<td>1,958.84</td>
<td>1,562.93</td>
</tr>
<tr>
<td>Package stores</td>
<td>19.8</td>
<td>10,613.22</td>
<td>2,084.98</td>
<td>1,540.51</td>
</tr>
<tr>
<td>Grocery stores</td>
<td>35.4</td>
<td>12,651.61</td>
<td>2,451.47</td>
<td>1,713.14</td>
</tr>
<tr>
<td>Tobacco stores</td>
<td>130.6</td>
<td>60,655.46</td>
<td>3,681.23</td>
<td>4,716.22</td>
</tr>
<tr>
<td>Gas and conv</td>
<td>94.1</td>
<td>60,477.81</td>
<td>4,226.21</td>
<td>4,635.84</td>
</tr>
<tr>
<td>Homeless services</td>
<td>14.5</td>
<td>72,964.61</td>
<td>7,321.31</td>
<td>7,574.63</td>
</tr>
</tbody>
</table>
Table 11.3  Distances from homeless encampments and multifamily residential parcels to factors (in feet), Anchorage, Alaska, 2008–2010

<table>
<thead>
<tr>
<th>Factor</th>
<th>Homeless encampments (n = 495)</th>
<th>Anchorage Bowl multifamily residential parcels (n = 4,038)</th>
<th>t</th>
<th>sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Trails</td>
<td>0.0</td>
<td>484.91</td>
<td>26.92</td>
<td>48.97</td>
</tr>
<tr>
<td>Road</td>
<td>0.0</td>
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<tr>
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<td>439.86</td>
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</tr>
<tr>
<td>Parks</td>
<td>0.0</td>
<td>7,097.26</td>
<td>697.76</td>
<td>810.72</td>
</tr>
<tr>
<td>Bus routes</td>
<td>0.0</td>
<td>44,708.02</td>
<td>830.77</td>
<td>3,035.47</td>
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<tr>
<td>Streams</td>
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<tr>
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<tr>
<td>Bars</td>
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<td>11,369.87</td>
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<tr>
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<td>14.5</td>
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<td>7,321.31</td>
<td>7,574.63</td>
</tr>
</tbody>
</table>
Factors Associated with Homeless Encampment Locations

Figure 11.2  Mean distances from homeless encampments and residential parcels to factors (in feet), Anchorage, Alaska, 2008–2010

Encampment hot spots

Turnagain

There were 21 homeless encampments in this hot spot (see Figure 11.1), the majority of which are located on land-zoned (Public Lands and Institutions (PLI)). A post office and ice rink are there, as are trees that offer seclusion. There are a variety of additional amenities in this area that would seem to make it attractive for homeless people: a liquor store, a grocery store, and two gas stations/convenience stores. Within another block there is a large strip mall. There are numerous semi-public toilet facilities in the area. Indeed, all basic needs can be met within a short distance of the encampments in this hot spot. Nearby are two major traffic light-controlled intersections, which are popular gathering spots for panhandlers and chronic public inebriates (some of whom may be campers). One intersection in particular could not have been better designed for this purpose. Each corner has been landscaped with small stands of dwarf mugo pines, which is important in this context because they provide dense ground cover under which backpacks and the like can be stashed out of sight, but they are also high enough to provide concealment for people who are sitting or lying down. Two corners have
concrete retaining walls with wide sitting surfaces on top. Finally, the area is well served by two separate bus routes.

There is a small creek on one edge of the Turnagain hot spot and a lake less than a mile to the north on another edge, and while some encampments were close to these water sources, a much greater number were found closer to the liquor store.

Fairview

The 25 encampments in this area constitute one of the most concentrated hot spots. Unlike the Turnagain hot spot, dominant land use in the Fairview hot spot is mainly light industrial and institutional, affording few places for camping. Most industrial properties are surrounded by high-security fencing, and much of the empty space is covered with pavement and gravel. But there are a few densely vegetated areas, and this is where the encampments were located, in particular, a sloped wooded area that over 10 years ago used to be a popular fitness circuit park. Social services aimed at homeless people and chronic public inebriates are clustered nearby, including a soup kitchen, emergency shelter, and "sleep-off" centre. The area features few other risk factors. The nearest liquor store and grocery store are almost a mile away, though there is a gas station/convenience store about three or four blocks away. There are two bus routes running through the hot spot.

The main draw to the Fairview hot spot is the homeless services. No other area of Anchorage offers as many services in one place. An encampment dweller can eat meals at the soup kitchen and can do laundry and shower, receive mail, and meet with a case worker next door at the emergency shelter. There is also the possibility of staying overnight at the shelter.

Mountain View

This hot spot had only ten encampments, but they were concentrated in a small area on the boundary between a dense, multifamily residential neighbourhood that could be described as "in transition" and a large wooded area that abuts a grassy park that has picnic tables and shelters, providing many desirable spaces for people to sit and while away the hours. There are no apparent natural water sources. A bus route is one or two blocks away. The area is within 1,000 feet of a gas station/convenience store and half-a-mile from a liquor store. It is also immediately behind a clubhouse building in the park, which likely adds an element of guardianship to the space. Users of the clubhouse may
be vigilant for the emergence of encampments and contact the police frequently enough that the camps cannot become firmly established.

**Tudor**

This is the most expansive hot spot – over one mile long and half-a-mile wide. In all, 49 encampments were located here, many of them in a wooded park transected by multiple trails and a creek. The land use next to the park is predominantly medium-density apartment complexes. A bustling commercial corridor on the edge of the university-medical district runs through the hot spot. Many risk factors can be found here, including a homeless shelter, three liquor stores, bars, and numerous limited-service and fast-food restaurants. Transportation facilities are very good here, with three bus routes and a connection to Anchorage’s extensive trail system. The other three encampment hot spots were also close to trails, but the character of a “trail” can differ; sometimes sidewalks constitute trails, while in other parts of the city, such as in wooded areas, parks, or close to creeks, trail surroundings are more rustic. Encampments in the Tudor hot spot are close to a rustic section of trail, where it is possible to leave the trail and walk for about 100 feet and find oneself suddenly in the middle of an illegal campsite.

**Discussion**

Homeless encampments in Anchorage that were reported to the police during 2008–2010 were spatially clustered and were disproportionately located on land zoned for commercial and institutional use and in rights of way. Also, encampments were generally located closer to various factors than were the average residential land parcels in the city. Multifamily residential parcels were more similar to homeless encampments than to the rest of the residential parcels with respect to average distance to both bars and package stores. In Anchorage, neighbourhoods with lots of multifamily housing are often located close to commercial areas where alcohol is sold. Homeless encampments tended to be relatively close to bus routes, much closer than either the average residential parcel or the average multifamily parcel, and to environmental features more common in less built-up parts of the city – parks, trails, and streams.

We would expect to find that if homeless encampments are close to one type of commercial establishment, they are close to others. Anchorage uses Euclidean zoning to separate land uses broadly into residential,
commercial, and industrial. Moreover, within those categories, there is further classification into different densities. Also, certain land uses, in particular package liquor stores and bars, require conditional use permits, which further limits the number of places these establishments can be. Large businesses, like grocery stores, can only locate in certain places because of the lot sizes required. And of course, good business site planners will take into account things like traffic volume and how many people in the target consumer group live close to a potential site.

Commercial land use, especially retail, tends to cluster together. Consequently, it is difficult to know what types of businesses serve as attractors for homeless encampments. In only two of the hot spots (Tudor and Turnagain) is close proximity to alcohol apparent. Grocery stores are only really close to one hot spot (Turnagain), and for both the Fairview and Mountain View hot spots, the only close businesses are gas stations/convenience stores. Homeless services seem to be an important factor for the Fairview and Tudor hot spots, while being in or very near a park was noted only for the Tudor and Mountain View hot spots.

The only risk factor that is consistently observed for all hot spots (and most other “luke-warm” concentrations of homeless encampments) is closeness to bus routes. Figure 11.1 shows this relationship. Many homeless people in Anchorage rely on public transportation to get around the city. Or, like other low-income people, they may prefer living within reasonable walking distance to essential goods and services. Also, the four homeless encampment hot spots described in this chapter are similar in one important way – each is located on the “edge” of inhabited areas of the city, or what Snow and Mulcahy (2001) would describe as marginal space.

Limitations of current research

Homeless encampments are located throughout the populated area of the Anchorage Bowl, though not randomly. It is of course likely that other encampments, not captured in police data, can be found in the less-populated areas. Even in populated areas, well-hidden or off-the-beaten-path camp sites are not known. There are inevitably meaningful differences in site selection processes among people whose camp sites are easy to find and those whose campsites are almost undetectable. Devuono-powell (2013, p.38) notes that one type of campers, “veterans,” consider a remote location to be good, but “newcomers” and
“old-timers” prefer sites that are close to services. The current study had no way of uncovering these differences.

Also, it is not known from the CFS data if each encampment location was for an active camp. Members of the specialized police unit that handles enforcement of the illegal camping ordinance say that sometimes a citizen reports a camp, but in fact it is abandoned. No one is living there, but the remnants remain. Differences between camp-sites that are active and those that are abandoned might be associated with the ease with which campers can carry out their routine activities. Or there could be other reasons unrelated to the location of the campsites. Sometimes desirable sites will be abandoned if they become filled with garbage or overcrowded, or if people that don’t fit in socially move in (Devuono-powell, 2013, p.38). The current study could not explore this.

Policy implications

This research can inform police and outreach workers about the general features of areas where there are existing encampments and where new ones are likely to emerge. This could be a good thing. Encampments, particularly those that are firmly established, present a myriad of environmental hazards and can be unsafe behavioural settings. Finding the camps and clearing them out would seem to be beneficial. However, in Anchorage at the time of this study (and currently), the paucity of affordable permanent housing and emergency shelter beds, not to mention a severe lack of treatment facilities, means there are limited resources available for those who wish to transition out of life in the camps.

Like situational crime prevention interventions aimed at making crime less rewarding and more risky, encampment closures may be able to deter some people from being homeless and unsheltered. There is some indication that rigorous enforcement of the illegal camping ordinance in Anchorage has pushed many campers into emergency shelters. In recent years, the primary facility of this type has experienced more frequent overcrowding, which the managers there attribute to police crackdowns on illegal encampments. Also, according to the police officers who enforce the illegal camping ordinance, a portion of people whom they find in encampments are not actually homeless, but like to hang out at the camps because they can drink and party without anyone (like pesky neighbours or landlords) bothering them. Those people might conclude it is just too much hassle to have their party spots
dismantled again and again, and find other places to drink, or even cut down on their partying.

But for an unknown number of campers, spatial displacement is likely. Unwilling or unable to go to an emergency shelter (perhaps because of sex offender status), these people will have few options beyond establishing a new camp site, perhaps deeper in the woods and less detectable. These more secluded encampments may become entrenched, increasing their damage to the natural environment, and illegal activities going on there would be less likely to attract the attention of police or passers-by. These are undesirable outcomes of an otherwise reasonable law enforcement strategy.

**Future directions**

At least two assumptions have been made in this study – that people living in homeless encampments will patronize the nearest purveyor of a supposedly-desired good or service, and that the location of said purveyors is known to the potential encampment establisher and is deemed to be a relevant factor in site selection. But we know that as-the-crow-flies distances (used in this study) are not ideal for capturing the actual cost of travelling a distance. For example, a homeless encampment on one side of a creek may be closer to a risk factor on the other side of the creek, but despite this, campers will opt to go to a similar class of risk factor that is more distant if it means not getting their feet wet. Other terrain features, like steep hills, mosquito-infested bogs, and areas of known animal habitat might be avoided, thus increasing the actual distance to a risk factor. Whether a business or service would be patronized is also likely related to how comfortable a person is going there. A camper with a drinking problem may seek out a liquor store that is believed to be less particular about who is sold alcohol. Some stores may be rejected because a dishevelled camper would stand out among more well-groomed patrons, and thus attract greater scrutiny from staff and risk being issued a trespass notice from managers of the premises.

As to the second assumption, it is possible that just because a risk factor is closest to an illegal encampment (however that is measured), it is not within the awareness spaces of the campers there. I buy my groceries from a store that is not the closest to my house because I pass by the store multiple times a week on my way to and from work and thus it feels safe and familiar. Similarly, a homeless person will form impressions of certain parts of the city based on his or her movements.
through space, and will seek goods and services in more familiar areas (Brantingham & Brantingham, 2008).

We can never rest on our assumptions about why people make the decisions they do. Future research along these lines should entail going to homeless encampment sites to ask the people living there to document their mental maps, taking note of nodes, paths, and edges. Campers should be asked why they chose that particular location for their encampment rather than someplace else, and also about their routine daily activities and what decision rules they follow concerning why they go to certain places and the best way to get there. It might be that something intangible (or difficult to quantify in a map layer) is important in site selection. Felson (2002) encouraged environmental criminology researchers and ethnographers to consider the concept of the “topography of crime” – that is, how the landscape and cityscape affects criminal activities. Further research on homeless encampment site selection should more explicitly address natural features like terrain and ground cover.

Note
1. A Continuum of Care is a community-wide system for organizing resources and allocating federal grant funds in the most efficient way to end homelessness.
2. Low temperatures on the dates of the point-in-time counts were $-12.2^\circ$ C ($10.2^\circ$ F) in 2008, $-11.0^\circ$ C ($12.2^\circ$ F) in 2009, and $-15.5^\circ$ C ($4.1^\circ$ F) in 2010 (National Climatic Data Center, National Oceanic and Atmospheric Administration).
3. Camps tend to quickly reestablish themselves after being abated and cleaned up by authorities. Devuono-powell reported that of the 78 abatements done in the course of a year by one agency, 62 occurred at just three sites (2013, p.17).
4. The median adjusted rent (that is, the amount of the contract rent plus utilities not included in the rent but paid for by the tenant) for a studio (or bachelor) apartment in Anchorage in 2009 was $806 (Alaska Department of Labor and Workforce Development, 2009). A person with a full-time job paying the minimum wage of $7.75/hour would pay about 62 per cent of his or her pre-tax income each month for such an apartment. The US Department of Housing and Urban Development considers anything higher than 30 per cent to be an indicator that the household may not have enough remaining money for nondiscretionary spending for things such as “food, clothing, transportation and medical care” (US Department of Housing and Urban Development, 2014).
5. The problem of illegal encampments in this area, known by locals as “Party Hill,” has only been satisfactorily addressed by deforesting the hill and fencing it in.
References


Factors Associated with Homeless Encampment Locations


Introduction

In Routine Activity Theory, “...we take criminal inclination as given and examine the manner in which the spatio-temporal organization of social activities helps people to translate their criminal inclinations into action” (Cohen & Felson, 1979 p.589). In essence, to get an understanding of crime, focus must be placed on patterns of human activities and how they are affected by various conditions. Many of these patterns emanate from fundamental biological needs – the need for food, shelter, rest, and the sexual drive. It may thus be stated that, ultimately, it is the pre-conditions for human life and how these requirements are satisfied that give rise to different patterns of crime.

In his book Crime and Everyday Life (1994, p.46–50), Marcus Felson describes different stages in the history of everyday life, where the main deciding factor is the use of non-human energy. In the urban stage, where non-human energy derives from fossil, the radius of daily activities is 19 km. In metro stage, with fossil, electric, or nuclear sources of non-human energy, the radius is 48 km and cars are used for local non-pedestrian travel. In the urban stage, crime is characterized as serious and in metro as endemic.

In this chapter, I will give an example of how nature, in interaction with the properties of a rather old technological achievement for transport – the bicycle – gives rise to a recurring pattern of crime in a highly developed society like Sweden. The bicycle, as we know it, dates back to the beginning of the 20th century. Nowadays, bicycles are the most common means of transport internationally and fulfill an important role even in post-industrial societies. It was introduced during
the urban stage of development of everyday life, but the bicycle is still commonly used in metro stage societies.

More specifically, the issue of this chapter is how cyclical weather conditions may bring about corresponding shifts in crime patterns. Primarily, the chapter deals with two important properties of Routine Activity Theory, namely rhythm – the regular periodicity with which events occur – and tempo – the number of events per unit of time (Cohen & Felson, 1979 p.590).

**Cycling as an everyday activity**

A fundamental everyday activity for people is to transport themselves from home to places where they perform various activities (for example, work, shopping, and leisure). For distances where walking is not a viable option, other means of transport must be used. Modern society is adapted to and largely dependent on motor cars that also make possible rapid transfers over long distances. For shorter distances, however, a bicycle is a convenient means of transport.

Cycling rates are found to vary wildly both between and within countries. In Sweden, according to the *The National Travel Survey* (Sika, 2007), of all 13,439,000 purposeful journeys on an average day, about a tenth were made by bicycle. However, it was more common to walk and even more to be transported by car. The average journey is longer for cars – 33 km for drivers and 41 km for passengers, compared to 4 km with a bicycle and 2 km by foot (Table 12.1).

An advantage of the bicycle is that even younger persons can utilize them, in contrast to cars that exclude young drivers. The age group with the highest number of bicycle journeys is the 6–14 years group, followed by the 15–24 years group. The oldest age group, 75–84 years, has

<p>| Table 12.1 Percentage and number of purposeful journeys, distance travelled, by mode of transport |
|-------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Car Driver</th>
<th>Car Passenger</th>
<th>Bicycle Driver</th>
<th>Bicycle Passenger</th>
<th>Foot Driver</th>
<th>Foot Passenger</th>
<th>Other means Driver</th>
<th>No information</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>38.7</td>
<td>14.0</td>
<td>9.3</td>
<td>23.4</td>
<td>13.9</td>
<td>0.7</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>n (in thousands)</td>
<td>5,205</td>
<td>1,877</td>
<td>1,247</td>
<td>3,142</td>
<td>1,869</td>
<td>98</td>
<td>13,439</td>
<td></td>
</tr>
<tr>
<td>Average travelled distance (km)</td>
<td>30</td>
<td>41</td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Generated from data in Sika (2007) Table 1, Tables attachment p.3.*
**Table 12.2** Number and percent of bicycle journeys by age group, an average day, Sweden

<table>
<thead>
<tr>
<th>Age group</th>
<th>6–14</th>
<th>15–24</th>
<th>25–34</th>
<th>45–54</th>
<th>55–64</th>
<th>65–74</th>
<th>75–84</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>21.5</td>
<td>20.9</td>
<td>18.1</td>
<td>15.4</td>
<td>16.7</td>
<td>5.7</td>
<td>1.8</td>
<td>100</td>
</tr>
<tr>
<td>n (in thousands)</td>
<td>231</td>
<td>224</td>
<td>194</td>
<td>165</td>
<td>179</td>
<td>61</td>
<td>19</td>
<td>1,073</td>
</tr>
</tbody>
</table>

*Source:* Generated from data in Sika (2007) Table 1, Tables attachment p.2.

the lowest value (Table 12.2). The criminally prone group of younger persons thus accounts for a large proportion of all bicycle journeys.

A disadvantage is that cyclists are left to the mercy of weather conditions. To cycle in cold weather, especially below the freezing point, is disagreeable. Add snow and biking is next to impossible. Climate will thus affect cycling patterns. Studies from Sweden show that with snow and ice on the roads the bicycle traffic flow is halved, compared to road conditions without snow and ice. Snow indicates cold weather. Compared to plus 5–10 degrees Celsius (C), bicycle traffic declines 20 percent with a temperature of zero degrees C and 30 percent with minus 5–10 degrees C (Spolander, 2006). In Stockholm, where counts are made of the number of bicycles entering the inner-city area, there is a sharp decline in the winter months of about 20–30 per cent of the mean value and an increase of 50 per cent during the warmer months.\(^1\) This means that we can expect spatio-temporal divergent patterns of use, depending on the variations in climate.

**Bicycle thefts and climate**

Compared to cars, bicycles tend to be easier to park close to the place of destination. However, when left unattended, they are vulnerable of theft – something many bicycle owners have experienced. It is common to find concentrations of parked bikes close to railway stations, schools, and other public buildings like libraries (see Johnson et al., 2008). In university cities, bicycles seem to be a common means of transport with accompanying heaps of bicycles that are left unattended when students – and teachers – are not using them. Bicycles, by being concealable (a bicyclist on a stolen bike is not conspicuous, unless a well-known offender gets sighted by the police), removable, available, valuable (to a varying degree), enjoyable, and disposable, fulfill the criterion of making an object attractive for theft (Clarke, 1999; Johnson et al., 2008, p.13–14). Given the large number of journeys each day, there is
an abundance of opportunities to steal bikes. In Sweden, like in many other countries, there is a growing interest in getting more people to use bikes; for health reasons, to decrease traffic congestions in big cities and to decrease air pollution from cars. More bicycles will lead to increased opportunities for bike thefts. This is a tremendous challenge for crime prevention (see Sidebottom et al., 2009; Sidebottom & Johnson, 2014).

In common with other European countries, bicycle thefts are far more frequent in Sweden than thefts of cars (see, for example, van Dijk et al., 2005). In 2011, there were 14,000 car thefts recorded by the police compared to about 64,000 bicycle thefts. The amount of unreported thefts of cars is small; this, however, is not the case for bicycle thefts. According to a victimization survey, 6.7 per cent of all households in Sweden experienced bicycle theft in 2011. In absolute numbers, it amounts to 270,000 households. As some experienced multiple bicycle thefts the number of stolen bikes was estimated to be 325,000 (Brå, 2013).

Since the use of bicycles is weather and climate dependent, fewer bicycles will be used for travel during colder weather conditions, and, consequently, a smaller number of bicycles will be exposed to theft. For example, in the United Kingdom, there is strong seasonal variation with fewer reported bicycle thefts occurring during the colder months (November–March) and an increase during the warmer summer period. The most affected month is September, which could be associated with the beginning of the university terms (Hird & Ruparel, 2007).

In Sweden, it is a common practice to store bicycles indoors during the colder period, which makes them less vulnerable for theft during the winter. Apart from that, it is, just as for legitimate cyclists, disagreeable for potential thieves to cycle during the cold period. Accordingly, the criminal inclination will also be affected by weather conditions. The bicycle thieves have a parasitical relationship to bicyclists and thrive on their habits (see Felson, 2006, p.196–215).

Sweden is located north of Denmark and closer to the North Pole, which means that the climate is colder in Sweden. Denmark has an average temperature of 8.8 degrees C compared to Sweden’s 4.8. The differences are bigger in winter as opposed to summer. Both countries have a high rate of bicycle ownership with 90 per cent of households at least possessing one bicycle. The victimization rate is about the same. In 2005, during the five preceding years, one out of every four to five households in both countries had experienced at least one bicycle theft (van Dijk et al., 2005). Due to the differences in climate, we expect the recurrent variation for bicycle theft to be larger in Sweden than in Denmark.
A simple measure of seasonal variations in crime is the quotient between the number of crimes reported to the police during a period and the number if the distribution was even. If the value is one, there is no heightened level of crime; anything higher than one denotes concentration during that period. Using yearly quarters as the unit of analysis, the crime concentration quotient (CCQ) has a maximum value of four if all crimes are reported in that quarter; three means 75 per cent and two 50 per cent (the values expressed in percentages can be obtained by multiplying the CCQ value by 25).

In 2012, altogether 68,707 bicycle thefts were recorded by the police in Denmark and 63,954 in Sweden. Relative to the population, it means 1,304 per 100,000 inhabitants in Denmark and 854 in Sweden.

In Table 12.3, the mean temperature per quarter of the year is displayed as well as the crime concentration quotient for Sweden and Denmark.² The differences in temperature are greater during the colder period of the year with a mean temperature below 0 degrees C in Sweden during the first quarter of the year that holds the lowest CCQ value.

The variations of the CCQ values are less pronounced in Denmark, but across both countries the CCQ is highest during the warmest quarter, thereby indicating the greatest concentration of cycle theft.

The CCQ values in both countries during the 3rd quarter could indicate a generally higher-activity level among criminally inclined persons during the warmer season. If car thefts are stable over the seasons with no concentration in the summer months, the CCQ should be close to one for car thefts. The value in 3rd quarter for Sweden, 1.06, means that 1.5 per cent more crimes are reported compared to an even distribution. For Denmark, the CCQ value is 1.05, which means that the difference

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Sweden</th>
<th></th>
<th>Denmark</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean temp</td>
<td>CCQ</td>
<td>Mean temp</td>
<td>CCQ</td>
</tr>
<tr>
<td>January–March</td>
<td>−3.2</td>
<td>0.49</td>
<td>1.9</td>
<td>0.74</td>
</tr>
<tr>
<td>April–June</td>
<td>8.2</td>
<td>1.26</td>
<td>11.2</td>
<td>1.08</td>
</tr>
<tr>
<td>July–September</td>
<td>13.6</td>
<td>1.48</td>
<td>16.1</td>
<td>1.25</td>
</tr>
<tr>
<td>October–December</td>
<td>0.4</td>
<td>0.76</td>
<td>5.8</td>
<td>0.93</td>
</tr>
</tbody>
</table>

Table 12.3 Mean temperature (Celsius) Sweden (1991–2005) and Denmark (2001–2010) and crime concentration quotient (CCQ) for recorded bicycle thefts, per quarter of the year, 2008–2012
between Sweden and Denmark is negligible. The results are consistent with the hypothesis that the cyclical pattern of bicycle thefts, more evident in Sweden with its colder climate, is a function of the seasonal variations in temperature.

**Bicycle theft and climate in different regions of Sweden**

Sweden is a spacious northern European country stretching in a south-northerly direction. This means that there will be large regional variations in seasonal weather conditions. The farther north one goes, the colder, snowier, and longer the winter season is. Thus, the closer a region is to the North Pole, the increasingly larger concentration of bicycle thefts committed during summer is expected and, correspondingly, lower fractions of cycle thefts during the winter season. However, there is a possibility that, since bicycles are harder to get in the winter in combination with difficulties because of snow and the unattractiveness of bicycling in cold weather, there will be a displacement to thefts of other means of transport, where automobiles could be a suitable alternative.

To test these hypotheses, a dataset has been created with variables as displayed below (Table 12.4). Data have been gathered for the 14 counties where there are meteorological stations reporting county weather. The properties of the variables are displayed in Table 12.5.

Will counties with more northerly and colder climates have a higher concentration of bicycle thefts during the summer season? The tests have been conducted with simple correlation analyses. The Pearson correlation coefficient ($r_{xy}$) between Latitude and SCCQ Bike is .86 ($p = .01$) and between mean temperature and SCCQ Bike $- .69$ ($p = .01$), indicating support for the hypothesis. To illustrate, the most southerly county of

<table>
<thead>
<tr>
<th>Definition</th>
<th>Denoted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude of meteorological station</td>
<td>Latitude</td>
</tr>
<tr>
<td>Mean yearly temperature</td>
<td>Mean temp</td>
</tr>
<tr>
<td>Crime concentration quotient for bicycle theft, June, July, and August, 2006–2012</td>
<td>SCCQ Bike</td>
</tr>
<tr>
<td>Crime concentration quotient for bicycle theft, December, January, and February, 2006–2012</td>
<td>WCCQ Bike</td>
</tr>
<tr>
<td>Crime concentration quotient for car theft, December, January, and February, 2006–2012</td>
<td>WCCQ Car</td>
</tr>
</tbody>
</table>
Skåne has a SCCQ value of 1.32, signifying that during the three summer months 33 per cent of all bicycle thefts were reported, while the most northerly situated county Norrbotten had a value of 1.92, which corresponds to 48 per cent of all bicycle thefts.

Is there an increase in car thefts during the cold season that is more pronounced the lower the WCCQ Bike value is? The Pearson correlation coefficient between WCCQ for bike and car is .53 (non-significant). To back the displacement hypothesis, we would expect a negative correlation. The data do, accordingly, not support the hypothesis that reductions in bike theft are simply offset by shifts to car theft.

**Conclusion**

The intention of this chapter is to illustrate one property of the Routine Activity Theory: rhythm and tempo. It has been possible to establish a link between nature in the form of climate and its variations to a cyclical pattern of crime where seasons give rise to rhythm and deviations in temperature impact tempo. The rhythm is similar in the studied regions. It is the number of events per unit of time – tempo – that varies and is affected by differences in climate. The Swedish northern bicycle thieves have a more compressed and intense bout compared to their southern counterparts.

**Note**

References


13
Time Use Matters for Risk Assessments: Time-Based Victimization Rates for Specific Types of Place

AM Lemieux

Introduction

In the late 1970s, routine activities became an important part of criminological research. As victimization data became more readily available, researchers began to explore links between crime and the movements of populations in time and space. They became interested in explaining crime as a function of what individuals did and where they went as an alternative to static or slow-changing demographic characteristics. The result was a wave of new theoretical writings published in different parts of the world within a relatively short period of time. In America, Cohen and Felson (1979) put forth their routine activity approach just after Hindelang et al. (1978) published their lifestyle perspective. Across the Atlantic, similar writings were published in the Netherlands (van Dijk & Steinmetz, 1980) and the United Kingdom (Mayhew et al., 1976). In general, these scholars all believed criminal opportunities were dynamic across time and space and their presence or absence was directly related to the routine activities of individuals and populations.

Since then, this avenue of thinking has been widely used as a theoretical construct for numerous studies of crime. The ideas of Cohen and Felson (1979) and Hindelang et al. (1978) have received the most support and are typically referred to collectively as the routine activity/lifestyle approach. Despite minor differences in the original formulation of these two works, referring to them as complementary approaches poses no major problems. In short, Cohen and Felson emphasized
how routine activities such as going to work or attending school create opportunities for crime at the macro level by altering when and where victims, offenders, and guardians meet during the course of a day. On the other hand, Hindelang and colleagues emphasized that some individuals lead risky lifestyles that take them away from home at night and cause them to spend more time in public places where youths congregate, which increases their chances of being victimized. Thus, both groups postulated that some activities and places were more dangerous than others and the likelihood of being in dangerous situations will depend on what people do, where they do it, and who they are with.

Continuing along that line of thought, this means the risk of becoming a victim depends on how much time people spend in dangerous activities and places. This is typically referred to as exposure to risk and has been identified as a central concept of the routine activity/lifestyle approach (Miethe & Meier, 1994). In essence, operationalizing this concept means describing the frequency and duration of time spent in high- or low-risk environments at the individual level. According to the approach, those with high exposure to risk are the most likely to be victimized and vice versa. However, quantifying exposure to risk is much easier said than done. The dynamic nature of time use means collecting data on this topic is much harder than recording demographic variables.

Previous attempts to relate routine activity patterns with victimization have used a variety of methods to quantify exposure to risk. Demographic proxy variables related to employment and marital status were one way researchers tried to create lifestyle profiles for individuals (Cohen & Cantor, 1980; Cohen et al., 1981; Miethe et al., 1987; Kennedy & Forde, 1990). Frequency measures, such as the number of nights per week individuals go outside their home or visit leisure settings, were another way (Gottfredson, 1984; Clarke et al., 1985; Sampson & Wooldredge, 1987; Massey et al., 1989; Mustaine, 1997; Felson, 1997). The problem with frequency measures, as with demographic proxies, is that they do not account for the actual amount of time spent in risky settings. For example, a night out for leisure might last two hours for one respondent and six for another; the latter having three times the exposure to risk. Therefore, it is not surprising that the results of studies using such measures to quantify time use have found mixed support of the exposure to risk concept. To be clear, the limitations of previous attempts to study this concept are related to limited data on the topic, and not a lack of thoughtful research design.
In a perfect world, victimization surveys would include a detailed portion about respondents’ time use to help build more realistic lifestyle profiles. All respondents, victims or not, would provide information about where they spent their time and what they did. This would enable a robust comparison of victim and non-victim routine activity patterns and allow researchers to delve deeper into the concept of exposure to risk. Unfortunately, such an approach would be extremely expensive and time consuming for a national-level survey, and thus the idea was abandoned decades ago (Skogan, 1981, 1986; Gottfredson, 1981, p.721–722). This has placed significant limitations on the ability to build causal models of victimization that relate the amount of time spent in a risky environment to the probability of becoming a victim using current national survey data. That said, recent work on smaller study groups such as the Study of Peers, Activities and Neighborhoods (SPAN) in the Netherlands (Weerman et al., 2013) and the Peterborough Adolescent and Young Adult Development Study (PADS+) in the United Kingdom (Wikström et al., 2010) have been able to collect time budget and criminal involvement information from individuals to help create such models. These studies have shown participating in certain activities, such as unstructured socializing, increases the risk of delinquency, but much remains unknown about links to victimization.

Lacking the data needed to build casual models of victimization, descriptive analyses have also been used to examine exposure to risk. This approach seeks to answer simple questions like, “Which type of place is the most dangerous?” or “Which activity has the lowest risk of victimization?” Drawing from the epidemiology literature, time-based rates have been employed by criminologists to answer such questions. Health scholars have used time-based rates to describe the hour-for-hour risk of injury during different sports (deLoës, 1995; Messina, 1999), injury while using different consumer products (Hayward, 1996), or the risk of death in different activities (Starr, 1969). Used for criminological purposes, time-based rates have described the hour-for-hour risk of victimization in different settings (Cohen & Felson, 1979; Clarke & Mayhew, 1998) and activities (Lemieux & Felson, 2012). These descriptions confirm that risk is not distributed evenly across routine activities or types of place. For example, the most recent study showed students’ risk of violence is five times higher during the commute to/from school than it is at school. Moreover, the studies show accounting for time use changes the output of risk assessments when compared to incidence counts alone. Unfortunately, the data used in these studies are not spatially referenced, and thus one cannot view how population movements
and risk are distributed across space. Such information is difficult to come by, but Andresen’s work with ambient population data is a good example of how criminologists can better conceptualize and measure crime risk while controlling for the movement of populations as they engage in different routine activities (Andresen 2006, 2007; Andresen & Jenion, 2008). While not exactly “tests” of the routine activity/lifestyle approach, the studies described here are useful for gauging the relative risk of victimization in different environments using a standardized rate that considers the dynamic nature of activity patterns.

The current study

The current study builds upon previous work by Lemieux and Felson (2012) that combined victimization and time use data to calculate time-adjusted rates of violence for everyday activities. In that study, the authors not only compiled information from the United States about how many victimizations occurred during each type of activity but also estimated the number of people participating in the same activity and the amount of time they participated for. This enabled them to calculate activity-specific, time-based rates of violence that accounted for the unequal amounts of time Americans spend in different activities. In this study, a similar approach is used to calculated time-based rates of violent, non-violent, and personal victimization in the United States. However, unlike Lemieux and Felson (2012), the focus here is on types of place, and not activities. While time-based rates of violence have been reported for different types of places before (see Lemieux (2010)), those results are hidden away in a lengthy dissertation. Moreover, the current work employs data across a larger time period and extends the methodology to personal and non-violent victimizations. Rates are reported as the number of victimizations per ten million person-hours and can be used to (a) determine which type of place is the most dangerous hour-for-hour and (b) compare the relative danger of places to another and (c) compare the risk of crime types between these settings.

Data sources

To calculate time-based victimization rates for different types of place, two pieces of information about a population are necessary. First, the number of victimizations experienced by a population in different types of place is needed to establish the prevalence of crime. Second, information about the number of people who frequent these types of place and how much time they spend at each is needed to calculate a population’s
exposure to risk. With this information in hand, it is possible to calculate place-specific, time-based victimization rates; simply divide the number of victimizations by the population’s exposure to risk. Unfortunately, there currently exists no national-level data source in the United States that contains such information. Instead, like Lemieux (2010) and Lemieux and Felson (2012), two separate data sources, the National Crime Victimization Survey (NCSV) and the American Time Use Survey (ATUS), are used here to obtain the required information. Because both datasets are drawn from a large, stratified, multistage sample of American households and weighted to the national level, it is possible to match them and calculate time-based rates of victimization. The sections that follow describe the sources of numerator and denominator data used in this study, the procedure for matching these, and the basic arithmetic used to calculate time-based rates.

**Numerator data: National Crime Victimization Survey**

Each year, the National Crime Victimization Survey (NCSV) collects a wealth of information about victimization in the United States that is both crime- and place specific. Victimizations are grouped under three broad crime categories labelled as violent, non-violent, and personal; for information about which types of crime are included in each category, see Appendix A. Place-specific information about victimizations experienced by respondents is derived from the question, “where did the incident happen?”, which are recorded as NCSV variable V4024. Twenty-five separate place categories, grouped into eight broad descriptions, are provided as possible answers (see Appendix B). Using weights provided in the NCSV incident-level extract files for the years 2003–2010, it was possible to estimate the number of victimizations occurring in these types of place during this time period.

**Denominator data: American Time Use Survey**

In 2003, the Bureau of Labor Statistics began collecting American Time Use Survey (ATUS) data from a nationally representative sample of the United States. Using computer-assisted telephone interviews (CATI), respondents were asked to describe where they went, with whom they went, and what they did during a 24-hour period, beginning at 04:00 the day before an interview (Fisher et al., 2011). For example, respondents interviewed on Thursday would describe their time from 04:00 Wednesday morning until 03:59 Thursday. Interviewers would walk the respondent through their day noting the number of minutes spent in each activity and place. More than 20 place categories were used to show where respondents went (see Appendix C). To avoid bias towards certain
days of the week, weekends and weekdays are equally represented in the ATUS interviews. As with the numerator data used, weights found in the ATUS data files were used to estimate the time use of Americans. These included (1) the number of people who visit a type of place each day and (2) the average amount of time each individual spends there. The weighted estimates account for disparate time use on weekends and holidays to ensure they are reliable; moreover, the large sample size helps prevent skewed approximations. Together, these produced an estimate of how many person-hours the American population spent in each type of place.

**Methodology**

To make time-based rate calculations possible, the NCVS and ATUS data had to be reconciled. This involved matching the datasets on certain demographic features and recoding the unique place categories of each survey into a general set used for the current analysis. Types of place were broadly defined as follows: (1) home, (2) friend’s home, (3) school, (4) work, (5) commercial building, (6) bar or restaurant, (7) public transportation, (8) street or outdoors, (9) other. Because the NCVS did not have a place category for work, variable V4478 that describes what respondents were doing when they were victimized was used to code these incidents as occurring at the workplace. To be clear, events recorded at occurring “at work” were actually distributed across various types of place including home, commercial buildings, the street, and so on as people work in different settings. Delving deeper into the relative risk of working in different settings is an interesting question that deserves more attention but is ultimately beyond the scope of this chapter. That said, the frequency of violent victimizations at work was highest in commercial buildings or “other” places while non-violent victimizations were most commonly reported by those who worked at home or on the street.

To ensure estimates would describe similar portions of the American population, NCVS respondents residing outside the United States, who were active-duty military personnel and/or were under 15 years of age were removed from the analysis; these groups are not included in the ATUS sample. Incidents classified as series crimes were also omitted, which is a standard procedure when making NCVS estimates (see US Department of Justice, 2008, p.459). The matched data were then used to estimate (a) the number of victimizations that occurred each
Table 13.1  Sample calculation of place-specific time-based rates of victimization: The risk of non-violent crime at home, United States, 2010

<table>
<thead>
<tr>
<th>Component estimated from the surveys</th>
<th>Source</th>
<th>National estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Non-violent victimizations while at home (incidence count)</td>
<td>NCVS, 2010(^1)</td>
<td>1,086,942</td>
</tr>
<tr>
<td>(B) Average daily population visiting home (participants)</td>
<td>ATUS, 2010(^2)</td>
<td>241,859,296</td>
</tr>
<tr>
<td>(C) Average time spent at home per day (person-hours)</td>
<td>ATUS, 2010(^2)</td>
<td>16.99</td>
</tr>
<tr>
<td>(D) Total time spent at home in 2010 (person-hours)</td>
<td>(B) * (C) * 365</td>
<td>1,499,854,145,250</td>
</tr>
<tr>
<td>(E) Time-based rate of non-violence (Victimizations per 10 million person-hours)</td>
<td>(A) / (D) * 10 million</td>
<td>7.24</td>
</tr>
</tbody>
</table>

\(^1\) National Crime Victimization Survey (NCVS) Incident-Level Extract File, 2010.

year in different types of places, (b) the average number of people visiting each type of place per day, and (c) the average number of hours each visitor stayed for.

Table 13.1 outlines how estimates derived from NCVS and ATUS data were used to calculate time-based rates of victimization in this study. Using simple arithmetic, it was possible to divide the number of victimizations at a type of place by the total person-hours spent there. The example in Table 13.2 shows how the risk of non-violent crime at home was calculated using NCVS and ATUS data from the year 2010. In the final step of this calculation (Row E), the rate is multiplied by ten million to avoid reporting rates using scientific notation because the risk of crime is very low. The time-based rates are reported as the number of victimizations per ten million person-hours spent at a type of place. Using the example in Table 13.1, the rate indicates if ten million Americans spent one hour at home, seven would become the victim of a non-violent crime. In the results section, these rates are used as a standardized measure to compare the relative risk of different types of place.

Results

The results of the time-based rate calculations are presented in Tables 13.2, 13.3, and 13.4. Rather than describing each table in detail,
### Table 13.2  Time-based rates of violent victimization for different types of place, the United States, 2003–2010

<table>
<thead>
<tr>
<th>Type of Place</th>
<th>Violent victimizations per 10 million person-hours spent at each type of place</th>
<th>AVG</th>
<th>SD</th>
<th>CV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
<td>2006</td>
</tr>
<tr>
<td>Home</td>
<td>11</td>
<td>9</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Friends’ home</td>
<td>69</td>
<td>64</td>
<td>70</td>
<td>72</td>
</tr>
<tr>
<td>School</td>
<td>117</td>
<td>69</td>
<td>81</td>
<td>92</td>
</tr>
<tr>
<td>Commercial building</td>
<td>34</td>
<td>27</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>Bar or restaurant</td>
<td>67</td>
<td>73</td>
<td>63</td>
<td>69</td>
</tr>
<tr>
<td>Public transportation</td>
<td>33</td>
<td>66</td>
<td>67</td>
<td>75</td>
</tr>
<tr>
<td>Street or outdoors</td>
<td>119</td>
<td>113</td>
<td>135</td>
<td>129</td>
</tr>
<tr>
<td>Other</td>
<td>31</td>
<td>15</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>Work</td>
<td>32</td>
<td>31</td>
<td>30</td>
<td>31</td>
</tr>
</tbody>
</table>

*Sources: Numerators are from the National Crime Victimization Survey, Incident-Extract Files, 2003–2010; denominators are from the American Time Use Survey Activity Files, 2003–2010.*
Table 13.3  Time-based rates of non-violent victimization for different types of place, the United States, 2003–2010

<table>
<thead>
<tr>
<th>Place</th>
<th>AVG</th>
<th>SD</th>
<th>CV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>60</td>
<td>6</td>
<td>0.10</td>
</tr>
<tr>
<td>Friends’ home</td>
<td>71</td>
<td>13</td>
<td>0.18</td>
</tr>
<tr>
<td>School</td>
<td>219</td>
<td>60</td>
<td>0.28</td>
</tr>
<tr>
<td>Commercial building</td>
<td>87</td>
<td>23</td>
<td>0.27</td>
</tr>
<tr>
<td>Bar or restaurant</td>
<td>58</td>
<td>10</td>
<td>0.17</td>
</tr>
<tr>
<td>Public transportation</td>
<td>188</td>
<td>53</td>
<td>0.28</td>
</tr>
<tr>
<td>Street or outdoors</td>
<td>270</td>
<td>40</td>
<td>0.15</td>
</tr>
<tr>
<td>Other</td>
<td>113</td>
<td>20</td>
<td>0.18</td>
</tr>
<tr>
<td>Work</td>
<td>87</td>
<td>8</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Table 13.4  Time-based rates of personal victimization for different types of place, the United States, 2003–2010

<table>
<thead>
<tr>
<th>Personal victimizations per 10 million person-hours spent at each type of place</th>
<th>AVG</th>
<th>SD</th>
<th>CV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
</tr>
<tr>
<td>Home</td>
<td>0.02</td>
<td>0.04</td>
<td>0.02</td>
</tr>
<tr>
<td>Friends’ home</td>
<td>0.70</td>
<td>1.37</td>
<td>0.86</td>
</tr>
<tr>
<td>School</td>
<td>3.48</td>
<td>1.19</td>
<td>4.44</td>
</tr>
<tr>
<td>Commercial building</td>
<td>9.63</td>
<td>11.50</td>
<td>15.20</td>
</tr>
<tr>
<td>Bar or restaurant</td>
<td>6.66</td>
<td>6.16</td>
<td>8.49</td>
</tr>
<tr>
<td>Public transportation</td>
<td>36.25</td>
<td>19.47</td>
<td>43.20</td>
</tr>
<tr>
<td>Street or outdoors</td>
<td>4.82</td>
<td>5.22</td>
<td>4.81</td>
</tr>
<tr>
<td>Other</td>
<td>0.52</td>
<td>1.81</td>
<td>3.54</td>
</tr>
<tr>
<td>Work</td>
<td>0.10</td>
<td>0.15</td>
<td>0.14</td>
</tr>
</tbody>
</table>

it is better to discuss general patterns observed. For easy reading, Tables 13.2, 13.3, and 13.4 use the same layout to, respectively, present the relative risk of violent, non-violent, and personal victimization. In each table, annual victimization rates are presented for each type of place from 2003 to 2010. The final three columns of the table present the mean (AVG), standard deviation (SD), and coefficient of variation (CV) of the time-based rate throughout the study period. Overall, the victimization rates for each type of place were relatively stable between 2003 and 2010 as indicated by a CV ≤ 0.5. Personal victimizations were the exception; the CVs were quite high and likely the result of a specific definition which only includes pickpocketing and purse snatching. Compared to the other broad crime categories, the incidence of personal crimes is low and sensitive to disaggregation across the types of place. That said, it will be most prudent to discuss the relative risk of different crime types using the eight-year average.

The relative risk of victimization across the nine types of place is displayed graphically in Figure 13.1. The chart shows the average time-based rate of victimization for each crime type and has been arranged by the risk of non-violent crime from lowest to highest and left to right, respectively. For both violent and non-violent crime, the highest risk of victimization is found on the street or outdoors. For personal crime, public transportation was the most risky. For every type of place, the risk of non-violent crime was higher than the risk of violent or personal crime. On average, the risk of non-violent crime was three times higher than the risk of violent crime across all types of places. Outliers included bars and restaurants, where the risk of violent and non-violent crime is almost even; the same was true of a friend’s home. The greatest difference was seen at home, where the risk of non-violent crime is six times higher than the risk of violent crime.

It is interesting to note that when the risks at different types of place are compared within a single-crime category, the rank order of risk is not identical. For example, with respect to violence, home is the safest place, bars are in the middle, and the street is the most dangerous. For non-violence, bars are the safest, commercial buildings are in the middle, and the street is the most dangerous. For personal crimes, work and home are the safest, school and other are in the middle, and public transportation is the riskiest. For personal crimes, the relative risk of victimization is skewed more heavily than other types of crime. The most dangerous place, public transportation, is 415 times more risky than the safest setting. Put into context, for non-violence the riskiest activity is only five times more risky than the safest. Although this may be the
result of comparing means with high CVs, a review of Table 13.4 clearly shows the difference between these settings is very large. In summary, the time-based rates presented here give a unique view of how risk is distributed across different types of place and are useful for comparing the risk of different crime types.

**Discussion**

When criminologists started writing about routine activities and lifestyles more than 30 years ago, their point was simple, *time use matters*. To fully understand criminality and victimization, it was necessary to think about what people do, where they go, and with whom they spend time. The desire to integrate time use data into criminological research has existed since then only to be hindered by a lack of such data. This study was an attempt to reaffirm the original thinking of
scholars regarding routine activity and lifestyle by showing that, indeed, time use matters. To show this, data from the American Time Use Survey and National Crime Victimization Survey were used to calculate time-based rates of violent, non-violent, and personal crime. In essence, the idea was to compare how much time Americans spend in different types of place, to the number of victimizations they experience in each. These rates were reported as the number of victimizations per ten million person-hours spent at each type of place. Doing this produced a standardized measure of victimization risk that accounted for time use. This made it possible to objectively compare the relative risk of different places and determine the relative danger of each.

An important finding of this research is that time-based rates of victimization show that the risk Americans face during their everyday movements is quite low. For example, the highest victimization rate is for non-violent crime on the street at 270 victimizations per ten million person-hours. This suggests that if ten million Americans spent one hour on the street, 270 would be victimized, that is, 0.0027 per cent of the potential targets. The risk of violence is even lower at 108 victimizations per ten million person hours. Thus, these rates help contextualize risk and show individuals’ total exposure to risk will vary greatly from one place to the next but will ultimately be quite low. This is especially true for persons who spend a great deal of time at home.

The results of this study are interesting and confirm common-sense notions about the risk of victimization. First, home is the safest place and the street is the most dangerous. Second, the risk of non-violent crime is higher in nearly every type of place. Bars and restaurants and a friend’s home are the only exception where the risk of violent and non-violent victimization is nearly equal. Third, the risk of personal crimes such as pickpocketing and purse snatching is highest on public transportation. Because the data used in here describe risk generally for all Americans, they should be interpreted as such. This means the actual risk individuals face is likely to be above or below the average with some further away than others. In the future, more detailed data collection would enable better conclusions to be made about situational factors affecting the risk of victimization for individuals in different types of place.

As with previous studies using NCVS and ATUS data to calculate time-based victimization rates (Lemieux, 2010; Lemieux & Felson, 2012), the limitations of this approach are clear. The most obvious is that the time use and victimization data used here came from different respondents. While both surveys were sampled and weighted to represent the
national population, the ability to do more than give general descriptions of risk is not possible. Had the same respondents provided both sources of information, there would have been great potential to build causal models of victimization. Instead, it was only possible to perform a descriptive analysis to avoid misinterpreting the data at hand. The creation of a combined time use and victimization survey is highly recommended and might be easier with current advances in technology. The ability of smartphones to track locations automatically and streamline data collection with user friendly apps is an avenue for future research that should be explored.

Finally, it should be noted that the rates reported here could have been disaggregated even further to explore risk between subpopulations of the American public. For example, what is the risk of victimization in bars for people in their 30s, 40s, 50s, and 60s? Is it the same? Is it drastically different? What about for men and women? While this sort of analysis has been performed to describe activity-specific risks, it would be interesting to do the same for types of place. Moreover, there remains uncharted territory with these data concerning how risk is distributed throughout the course of a day. For example, does the risk of violence in bars change dramatically as the night goes on? I choose to end the discussion there in hopes that it may act as a catalyst to reunite a certain “dynamic duo” to finish fleshing out these rich datasets.
## Appendix A

### National Crime Victimization Survey crime categories and types

<table>
<thead>
<tr>
<th>Category of crime</th>
<th>Crime type</th>
<th>Category of crime</th>
<th>Crime type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VIOLENT</strong></td>
<td>Completed rape</td>
<td>PERSONAL</td>
<td>Completed purse snatching</td>
</tr>
<tr>
<td></td>
<td>Attempted rape</td>
<td></td>
<td>Attempted purse snatching</td>
</tr>
<tr>
<td></td>
<td>Sexual attack with serious assault</td>
<td></td>
<td>Pocket-picking (completed only)</td>
</tr>
<tr>
<td></td>
<td>Sexual attack with minor assault</td>
<td>NON-VIOLENT</td>
<td>Completed burglary, forcible entry</td>
</tr>
<tr>
<td></td>
<td>Completed robbery with injury from serious assault</td>
<td></td>
<td>Completed burglary, unlawful entry without force</td>
</tr>
<tr>
<td></td>
<td>Completed robbery with injury from minor assault</td>
<td></td>
<td>Attempted forcible entry</td>
</tr>
<tr>
<td></td>
<td>Completed robbery without injury from minor assault</td>
<td></td>
<td>Completed motor vehicle theft</td>
</tr>
<tr>
<td></td>
<td>Attempted robbery with injury from serious assault</td>
<td></td>
<td>Attempted motor vehicle theft</td>
</tr>
<tr>
<td></td>
<td>Attempted robbery with injury from minor assault</td>
<td></td>
<td>Completed theft less than $10</td>
</tr>
<tr>
<td></td>
<td>Attempted robbery without injury</td>
<td></td>
<td>Completed theft $10 to $49</td>
</tr>
<tr>
<td></td>
<td>Completed aggravated assault with injury</td>
<td></td>
<td>Completed theft $50 to $249</td>
</tr>
<tr>
<td></td>
<td>Attempted aggravated assault with weapon</td>
<td></td>
<td>Completed theft $250 or greater</td>
</tr>
<tr>
<td></td>
<td>Threatened assault with weapon</td>
<td></td>
<td>Completed theft value NA</td>
</tr>
<tr>
<td></td>
<td>Simple assault completed with injury</td>
<td></td>
<td>Attempted theft</td>
</tr>
<tr>
<td></td>
<td>Sexual assault without injury</td>
<td></td>
<td>Completed theft value NA</td>
</tr>
<tr>
<td></td>
<td>Unwanted sexual contact without force</td>
<td></td>
<td>Attempted theft</td>
</tr>
<tr>
<td></td>
<td>Assault without weapon without injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Verbal threat of rape</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Verbal threat of sexual assault</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Verbal threat of assault</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Appendix B**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coding rules</th>
</tr>
</thead>
</table>
| V4024 Where did the incident happen? | *In respondent’s home or dwelling*  
1–In own dwelling, own attached garage, or enclosed porch  
2–In detached building on own property, such as a detached garage, storage shed, etc  
3–In vacation home/second home  
4–In hotel or motel room respondent was staying in  

*Near own home*  
5–Own yard, sidewalk, driveway, carport, unenclosed porch  
6–Apartment hall, storage area, laundry room  
7–On street immediately adjacent to own home  

*At, in, or near a friend’s/relative’s/neighbour’s home*  
8–At or in home or other building on the property  
9–Yard, sidewalk, driveway, carport  
10–Apartment hall, storage area, laundry room  
11–On street immediately adjacent to their home  

*Commercial places*  
12–Inside restaurant, bar, nightclub  
24–Inside bank  
25–Inside gas station  
26–Inside other commercial building such as a store  
13–Inside other commercial building such as store, bank, gas station  
14–Inside office, factory, or warehouse  

*Parking lots/garages*  
15–Commercial parking lot/garage  
16–Non-commercial parking lot/garage  
17–Apartment/townhouse parking lot/garage  

*School*  
18–Inside school building  
19–On school property  

*Open areas, on street, or in public transportation*  
20–In apartment yard, park, field, playground  
21–On street  
22–On public transportation or in station  

*Other*  
23–Other 98–Residue 99 (M)–Out of universe

### Appendix C

**ATUS place variable**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coding rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEWHERE Where</td>
<td>1–Respondent’s home or yard</td>
</tr>
<tr>
<td>were you during</td>
<td>2–Respondent’s workplace</td>
</tr>
<tr>
<td>the activity?</td>
<td>3–Someone else’s home</td>
</tr>
<tr>
<td></td>
<td>4–Restaurant or bar</td>
</tr>
<tr>
<td></td>
<td>5–Place of worship</td>
</tr>
<tr>
<td></td>
<td>6–Grocery store</td>
</tr>
<tr>
<td></td>
<td>7–Other store/mall</td>
</tr>
<tr>
<td></td>
<td>8–School</td>
</tr>
<tr>
<td></td>
<td>9–Outdoors away from home</td>
</tr>
<tr>
<td></td>
<td>10–Library</td>
</tr>
<tr>
<td></td>
<td>11–Other place</td>
</tr>
<tr>
<td></td>
<td>12–Car, truck, or motorcycle (driver)</td>
</tr>
<tr>
<td></td>
<td>13–Car, truck, or motorcycle (passenger)</td>
</tr>
<tr>
<td></td>
<td>14–Walking</td>
</tr>
<tr>
<td></td>
<td>15–Bus</td>
</tr>
<tr>
<td></td>
<td>16–Subway/train</td>
</tr>
<tr>
<td></td>
<td>17–Bicycle</td>
</tr>
<tr>
<td></td>
<td>18–Boat/ferry</td>
</tr>
<tr>
<td></td>
<td>19–Taxi/limousine service</td>
</tr>
<tr>
<td></td>
<td>20–Airplane</td>
</tr>
<tr>
<td></td>
<td>21–Other mode of transportation</td>
</tr>
<tr>
<td></td>
<td>89–Unspecified place</td>
</tr>
<tr>
<td></td>
<td>99–Unspecified mode of transportation</td>
</tr>
</tbody>
</table>

*Source: ATUS Interview Data Dictionary, 2003.*

### References


Whistle-blowers as Capable Guardians: The Decision to Report Wrongdoing as a (Boundedly) Rational Choice

Richard Wortley

Introduction

Routine activity approach represents one of the major advances in understanding crime to emerge in the second half of the 20th century. It describes the three essential ingredients – what Marcus Felson (2002) calls “the chemistry” – for crime. As we all know by heart, according to the “classic” routine activities approach a crime occurs when a likely offender meets a suitable target when there is an absence of a capable guardian. It is at the same time the simplest and most profound of theories. In fact, it is profound because it is simple, and those who criticize it on the grounds of its simplicity miss the point entirely. It is the ultimate in parsimony and a classic demonstration of Occam’s Razor, which, as rendered by Isaac Newton, commands that “we are to admit no more causes of natural things than such as are both true and sufficient to explain their appearances.” Against such advice, one tinkers with the routine activities approach with great caution. With this in mind, in this chapter, I offer some modest suggestions for extending the prevention applications that are suggested by the approach.

This chapter has had a long gestation. At the 2008 Environmental Criminology and Crime Analysis (ECCA) symposium in Anchorage, Alaska, I presented a paper entitled “What Makes Guardians Capable?” In the paper, I analysed data from a large, multi-method, national (Australian) research project, in which I was involved, on
whistle-blowing (cleverly entitled, we thought, “Whistle While They Work” – see Brown, 2008). In particular, I described the results of a survey of public sector employees in which participants were asked (among other things) about illegal behaviour that they had encountered within their organization, and whether or not (and why) they had reported that behaviour (Wortley et al., 2008). I argued that whistle-blowers can in many cases be considered a kind of guardian and that their role as crime preventers can therefore be understood within the routine activities approach. I noted that while the question of why individuals decide to blow the whistle was a central concern in whistle-blowing research, little consideration had been given in environmental criminology to the parallel question of why individuals choose to assume a guardianship role. I further noted that researchers have previously written on the compatibility of routine activity approach with the rational choice perspective (Clarke and Felson, 1993). Expanding on this compatibility, I proposed that the rational choice perspective might be applied to the decision-making of not just offenders but also of crime guardians (and now that I think about it, of victims as well). My research question was: do whistle-blowers make (boundedly) rational choices about whether or not to report an observed misconduct?

Marcus Felson was at that session, as was Ron Clarke, and I was keen to have their feedback. However, I doubt they – or indeed any of the delegates – will have the slightest recollection of the paper. About a third of the way through my 20-minute slot, a mother moose and her calf ambled past the seminar room. The audience as one rushed to the windows and let out a collective “ah.” Had we been on a boat we would have surely capsized. By the time order was restored, any hope of salvaging the presentation was lost. We went to lunch.

I consigned the paper to the bottom drawer and moved on. I was prompted to revisit the paper for this volume not just because it demonstrates the reach of the routine activities approach in general by showing its applicability to the relatively neglected area of white collar crime but also because since the first iteration of the paper there has been increasing theoretical and empirical interest in guardians in particular (Sampson et al., 2010; Reynald, 2010, 2011; Hollis-Peel et al., 2011; Leclerc, 2013). For example, Danielle Reynald (2010) has recently explored the factors affecting the actions of residents who observe antisocial behaviour in their neighbourhoods. She drew the distinction between the availability of guardians and the willingness of these potential guardians to intervene when necessary. While Reynald did not explicitly organize her findings within the rational choice perspective,
it is clear that the factors she identified suggest that potential guardians in her sample made a rudimentary cost-benefit analysis of the likely outcomes of intervention. For example, residents who observed misbehaviour were less likely to act against it if they judged that in doing so they put their personal safety at risk, and especially so if they were concerned about their own physical competence to intervene. On the other hand, residents were more likely to take action if the risks associated with interventions were mitigated; for example, if the residents had a background in security and policing, or if they possessed a weapon or some other form of protection.

It is timely, therefore, to dust off my whistle-blowing paper and hope that it creates more interest than it did on its initial outing.

**Whistle-blowers, guardians, and decision-making**

A whistle-blower is an employee who discloses the illegal or immoral behaviour of his/her employer or fellow employee(s) to a third party that may be able to take action to correct the wrongdoing and/or punish the perpetrator (Miceli & Near, 1984). There is now a considerable body of research that has examined the factors that influence the decision of employees to become whistle-blowers (Miceli & Near, 1988; Mesmer et al., 2005; Brown, 2008; Miceli et al., 2008; Cassematis & Wortley, 2013). The underlying assumptions about whistle-blowing that have guided much of this research closely parallel the assumptions in criminology that typically guide research on crime. That is, like crime, whistle-blowing has been frequently treated as a product of individual propensity. And also paralleling the situation in criminology, the hunt for stable psychological predictors of the behaviour has proved to be elusive. For example, intuitively we might suppose that whistle-blowers will have a particularly diligent attitude towards work that drives them to report observed wrongdoings; or, alternatively, with a less benign stereotype of whistle-blowing in mind, we may picture the average whistle-blower as a chronically dissatisfied malcontent. In any event, while there is scattered research showing weak effects for job-related attitudes on whistle-blowing propensity (for example, Mesmer-Magnus & Viswesvaran, 2005), most studies report no association (for example, Ellis & Ariel, 1999; Sims & Keenan, 1998). Overall, the most parsimonious conclusion to be drawn from the available research is that whistle-blowers do not differ markedly in their psychological characteristics from their non-whistle-blowing colleagues (Cassematis & Wortley, 2013).
Two other and more fruitful lines of research have been to examine whistle-blowing in terms of demographic and organizational factors. In this research, the explanation for why an individual does or does not report wrongdoing shifts from assumptions about dispositional drivers to the identification of factors that facilitate or inhibit reporting. While the researchers may not explicitly describe their research in these terms, they are essentially operating within a rational choice model of whistle-blowing. For example, looking at demographic factors, Miceli and Near (1988) found that males were more likely to blow the whistle than females. The reason for this, they suggested, was that males feel relatively more powerful within an organization and therefore feel less vulnerable to reprisal. Similarly, they found that whistle-blowing increased with the professional status and length of tenure within the organization of the reporter, findings they also explained in terms of the increased level of protection these reporters felt. In terms of organizational factors, Miceli and Near found that reporting was higher in large work groups than small work groups and in organizations with a reputation for being responsive to complaints. In small work groups, they argued, potential whistle-blowers are more likely to be pressured by colleagues not to disclose and also more likely to be identified if they do disclose. Working in an organization that has a reputation for responding to complaints gives the whistle-blower greater confidence that the disclosure will be taken seriously and handled professionally.

Miceli and Near described their organizational factors as “situational,” but they are not situational variables in the micro-sense that the concept is understood in situational crime prevention. The Whistle While They Work project, from which the current data are drawn, extended previous whistle-blowing research by examining specific features of the wrongdoing that the potential whistle-blower encountered. Variables included the conditions under which the wrongdoing was uncovered (including whether the wrongdoing was directed at the potential whistle-blower), the number of perpetrators involved, the relative seniority of the perpetrator(s) compared with the potential whistle-blower, the perceived seriousness of the wrongdoing, and the frequency of the wrongdoing. Like the demographic and organizational variables, these variables were assumed to factor into the potential whistle-blowers decision-making by providing information about the potential costs and benefits of reporting.

It is recognized in the current study that whistle-blowing and guardianship are not entirely analogous activities. The most fundamental distinction is that the act of blowing the whistle occurs after
wrongdoing has been performed, while ideally, the presence of the guardian prevents misconduct from occurring in the first place, leaving nothing to blow the whistle on. On this basis, whistle-blowing might be viewed not so much as a form of guardianship as a failure of guardianship. Nevertheless, the study of whistle-blowers can potentially provide important insights into the behaviour of guardians. Reynald (2010) has argued that the demonstrated preparedness to intervene if required is a crucial and neglected component of effective guardianship. The “mere presence” of someone who “serves as a gentle reminder that someone is looking” (Felson, 2002, p.22) is not always sufficient – the potential offender must assess that offending in the presence of a guardian will have consequences, including the reporting of his/her misbehaviour. Whistle-blowing is an objective and measurable form of intervention, albeit a post hoc one. It is the back-up plan when deterrence fails and entails similar potential costs (for example, retaliation by the offender) and benefits (for example, stopping crime). It seems reasonable also to assume that the contextual factors that govern the preparedness to report misconduct are similar to those that govern the preparedness to intervene directly.

If we accept whistle-blowing as a “kind of” guardianship, there remain some important distinctions. Whistle-blowing is both a broader and narrower concept than guardianship. On the one hand, not all whistle-blowers are guardians. In the routine activities approach, a guardian must be present when the wrongdoing occurs, while whistle-blowers might become aware of the wrongdoing indirectly and after the fact (for example, by coming across incriminating documents). In addition and unlike guardians, whistle-blowers can simultaneously be the victim of the wrongdoing that they report. On the other hand, not all reporters of misconduct in an organization are whistle-blowers but they may be guardians. While guardians can include formal representatives of law enforcement, someone who reports wrongdoing as a formal part of his/her role is by definition not a whistle-blower. The current study, therefore, reports the findings from a subset of the Whistle While They Work sample comprising only those participants who directly observed an act of wrongdoing and excluding participants for whom the wrongdoing was directed at them or who came across the wrongdoing after the fact.

The aim of the current study is to examine demographic, organizational, and situational factors that predict whether employees who observed wrongdoing within their organizations would report that wrongdoing. It is proposed that the decision of employees to report
observed misconduct will be interpretable within a model of bounded rationality; that is, potential reporters will base their decision-making on consideration of the perceived likely costs and benefits of reporting. There are three broad hypotheses.

1. Demographic and organizational factors that may offer employees a sense of security from retaliation will be associated with increased levels of reporting.

   Specifically, based on previous research (for example, Miceli & Near, 1998) and common-sense speculation, it is expected that there will be higher levels of reporting for males; older employees; more highly educated employees; long-term employees; union members; employees who work in large work groups; higher-paid employees; employees who speak English at home; employees who occupy a formal misconduct-reporting role in the organization; employees who are employed on a permanent, full-time basis; and employees who are aware of their organization’s formal whistle-blowing guidelines.

2. Situational aspects of the observed wrongdoing that increase the potential risks of reporting will be associated with lower levels of reporting, while aspects that increase the value of reporting will be associated with higher levels of reporting.

   It is expected that reporting will be lower (because there is a perceived higher risk) if there are multiple perpetrators and the perpetrators are more senior than the observer. Reporting is expected to be higher (because the potential return on intervention is greater) for wrongdoing that is judged to be serious and frequent.

3. Participants will explain their decision to report or not report in terms of the perceived costs and benefits of reporting.

   It is expected that reporters will emphasize the benefits of reporting (for example, having the problem fixed) and discount potential risks (for example, receiving support from management), while non-reporters will emphasize the potential risks and downplay the benefits of reporting.

**Method**

**Participants**

Twenty-three thousand public sector employees were invited to take part in the study. Potential participants were from 118 organizations spread across four Australian jurisdictions (New South Wales, Queensland, Western Australia, and the Australian Capital Territory), drawn from
three levels of government (local, state, and federal), and covering a diverse range of activities (including health, education, policing, defence, and utilities). There were 7,663 respondents who completed usable questionnaires, of whom 2,667 qualified for inclusion in the current study by fulfilling the criteria as a potential guardian (see Procedure). Forty-nine per cent were male and 51 per cent female; the average age was 41.78 years ($SD = 10.57$); and the average tenure in the current organization was 10.01 years ($SD = 9.11$).

**Measures**

Respondents completed a comprehensive questionnaire comprising a mix of standardized scales and items written specifically for the Whistle While They Work project. Only part of the questionnaire is relevant for the current study. Relevant demographic and organizational information included respondents’ gender; age; education; tenure in their current role; union membership; size of the immediate work unit; salary; language spoken at home; whether they occupied a formal misconduct-reporting role in the organization (“Is audit/fraud risk management/corruption prevention/investigation a normal part of your job duties?”); employment status (permanent/temporary, full time/part time); and whether, as far as they were aware, their organization had formal whistle-blowing guidelines. Respondents were then asked to select one misconduct category (from a list of 38; see Table 14.2) that best described the most serious incident of wrongdoing within their organization that they had personally observed. Referring to that incident, they were asked to indicate the number of perpetrators involved (just one person/a few people/a large number of people/widespread throughout the organization), the relative seniority of the perpetrator(s) (employees below my level/employees at my level/my immediate supervisor/high-level management/outside contractors or vendors), how serious they judged the wrongdoing to be (not at all serious/not very serious/somewhat serious/very serious/extremely serious), and how frequent the wrongdoing was (just this once/rarely/sometimes/frequently/all the time). Respondents were then asked whether or not they had formally reported that incident. Based on the response to this question, reporters were asked to rate how important (not at all important/somewhat important/very important/extremely important) various reasons for reporting were for them (see Table 14.3); non-reporters were asked to select reasons for not reporting from a provided list of 22 (multiple selections permitted; see Table 14.4). Finally, non-reporters were asked to rate proposed strategies for increasing reporting in future
(make no difference/somewhat increase likelihood/significantly increase likelihood/guarantee reporting; see Table 14.5).

**Procedure**

Questionnaires were mailed to a nominated contact person (for example, a human resources officer) in each organization who then distributed them to a predetermined number of employees. The sample size varied according to the size of the organization, ranging from 1–2 per cent for large organizations (more than 5,000 employees) to 50–100 per cent for small organizations (less than 150 employees). Where invited participation in an organization was less than 100 per cent, the selection of potential participants was randomized. All participation was anonymous and voluntary. Completed questionnaires were returned by respondents directly to the researchers in a prepaid envelope.

Respondents were included in the current study as potential guardians if they nominated an incident of wrongdoing (the most serious if more than one) within their organization that they had personally observed, whether or not they had reported the incident. They were excluded from the study if the misconduct was directed at them or if they found out about the misconduct after the fact by coming across evidence of it or having it officially reported to them.

**Results**

Overall, 758 (28 per cent) respondents nominated an observed incident of wrongdoing and reported it (reporters), while 1909 (72 per cent) nominated an observed incident but did not report it (non-reporters). Comparisons of reporters and non-reporters are presented in three sections – demographic and organizational factors; situational characteristics of the observed wrongdoing; and reasons for reporting or not reporting.

**Demographic and organizational factors**

There were significant differences between reporters and non-reporters with respect to age, gender, salary, language spoken at home, role in the organization, and awareness of whistle-blowing polices. Reporters were on average older than non-reporters (42.9 years vs. 41.3 years; \( F(1) = 11.03, \ p = .001 \)). In addition, as shown in Table 14.1, females were more likely to report than males; reporting generally increased with the observers’ salary; English-speakers were more likely to report
Table 14.1 Reporting rates by demographic, organizational, and situational factors

<table>
<thead>
<tr>
<th>Personal and situational factors</th>
<th>N</th>
<th>Report</th>
<th>$x^2$</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observer gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1,352</td>
<td>31%</td>
<td>9.20</td>
<td>1</td>
<td>0.002</td>
</tr>
<tr>
<td>Male</td>
<td>1,305</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observer salary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20k</td>
<td>42</td>
<td>38%</td>
<td>22.82</td>
<td>6</td>
<td>0.001</td>
</tr>
<tr>
<td>20–40K</td>
<td>266</td>
<td>24%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40–60K</td>
<td>1,120</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60–80K</td>
<td>752</td>
<td>29%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80–100K</td>
<td>313</td>
<td>34%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100–120K</td>
<td>86</td>
<td>37%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;120K</td>
<td>61</td>
<td>44%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observer speaks English at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>246</td>
<td>23%</td>
<td>4.37</td>
<td>1</td>
<td>0.037</td>
</tr>
<tr>
<td>Yes</td>
<td>2407</td>
<td>29%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observer role in organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal guardian</td>
<td>2,082</td>
<td>27%</td>
<td>18.39</td>
<td>1</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Formal guardian</td>
<td>562</td>
<td>36%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal whistle-blowing policies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>713</td>
<td>20%</td>
<td>31.27</td>
<td>1</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Yes</td>
<td>1,934</td>
<td>31%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of perpetrators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Just one</td>
<td>1,038</td>
<td>35%</td>
<td>36.19</td>
<td>3</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>A few people</td>
<td>1,346</td>
<td>25%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A large number of people</td>
<td>135</td>
<td>27%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widespread in organization</td>
<td>132</td>
<td>18%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpetrator below my level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>2,108</td>
<td>25%</td>
<td>48.64</td>
<td>1</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Yes</td>
<td>559</td>
<td>40%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpetrator my immediate supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>2,062</td>
<td>30%</td>
<td>6.03</td>
<td>1</td>
<td>0.014</td>
</tr>
<tr>
<td>Yes</td>
<td>605</td>
<td>25%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpetrator high-level management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1,720</td>
<td>33%</td>
<td>43.07</td>
<td>1</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Yes</td>
<td>947</td>
<td>21%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How serious</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all</td>
<td>36</td>
<td>3%</td>
<td>207.59</td>
<td>4</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Not very</td>
<td>296</td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat</td>
<td>1,009</td>
<td>21%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very</td>
<td>981</td>
<td>36%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extremely</td>
<td>342</td>
<td>49%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How frequent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Just this once</td>
<td>131</td>
<td>31%</td>
<td>11.15</td>
<td>4</td>
<td>0.025</td>
</tr>
<tr>
<td>Rarely</td>
<td>506</td>
<td>32%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>1,145</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequently</td>
<td>720</td>
<td>29%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All the time</td>
<td>141</td>
<td>36%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
than non-English speakers; observers who occupied formal misconduct-reporting roles (“formal guardians”) were more likely to report than those who did not occupy such roles (“informal guardians”); and respondents who believed that their organization had formal whistle-blowing policies were more likely to report than those who said that their organization had no such policies or that they were unaware of them if they did. There were no differences between reporters and non-reporters with respect to length of tenure in their current organization, educational level, union membership, size of their immediate work unit, or employment status.

In general, findings support the prediction that reporters occupy less vulnerable positions within the organization than non-reporters. Leaving aside the variables for which no significant differences were found, only the result for gender ran counter to predictions. The reason for this is unclear, although it is not an unprecedented finding (Mesmer-Magnus & Viswesvaran, 2005). One possible explanation is that women have an increased concern about misconduct compared to men, and this may in certain circumstances outweigh any increased sense of vulnerability they may have felt about reporting it.

**Situational (wrongdoing) variables**

The list of observed wrongdoings, along with respective reporting rates, is shown in Table 14.2. Excluding categories for which there are trivial numbers (covering up corruption, sexual assault, and hindering an investigation), reporting rates vary from 60 per cent (theft of money and stalking) to 11 per cent (reprisal against whistle-blowers).

It is difficult to discern clear trends in reporting rates based solely on the wrongdoing category, suggesting that contextual factors around the specific incident are important. Table 14.3 shows reporting rates in terms of underlying characteristics of the wrongdoing as perceived by the observers – number of perpetrators, seniority of the perpetrators, and the seriousness and frequency of the wrongdoing. Reporting generally decreased with the number of perpetrators involved and the relative seniority of the perpetrators and increased with the perceived seriousness of the wrongdoing. For frequency of wrongdoing, the relationship is broadly curvilinear – reporting is lowest for incidents that occurred “sometimes” and highest for incidents that occurred “all of the time” and “rarely.” The reason for this pattern is uncertain, but it may have something to do with the types of offences that tend to occur only occasionally. For example, post hoc analysis revealed that incidents that
Table 14.2  Types of misconduct observed, total number of incidents observed, and reporting rates

<table>
<thead>
<tr>
<th>Misconduct</th>
<th>N</th>
<th>Reporting rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covering up corruption</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>Sexual assault</td>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td>Theft of money</td>
<td>15</td>
<td>60%</td>
</tr>
<tr>
<td>Stalking (unwanted following/intrusion into personal life)</td>
<td>10</td>
<td>60%</td>
</tr>
<tr>
<td>Endangering public health or safety</td>
<td>42</td>
<td>50%</td>
</tr>
<tr>
<td>Unlawfully altering or destroying official records</td>
<td>2</td>
<td>50%</td>
</tr>
<tr>
<td>Failing to declare financial interest in an agency venture</td>
<td>2</td>
<td>50%</td>
</tr>
<tr>
<td>Failure to correct serious mistakes</td>
<td>20</td>
<td>50%</td>
</tr>
<tr>
<td>Acting against organizational policy/regulations/laws</td>
<td>38</td>
<td>47%</td>
</tr>
<tr>
<td>Misleading or false reporting of agency activity</td>
<td>7</td>
<td>43%</td>
</tr>
<tr>
<td>Allowing dangerous or harmful working conditions</td>
<td>65</td>
<td>42%</td>
</tr>
<tr>
<td>Producing or using unsafe products</td>
<td>5</td>
<td>40%</td>
</tr>
<tr>
<td>Improper involvement of family business</td>
<td>11</td>
<td>36%</td>
</tr>
<tr>
<td>Covering up poor performance</td>
<td>270</td>
<td>36%</td>
</tr>
<tr>
<td>Inadequate record keeping</td>
<td>69</td>
<td>35%</td>
</tr>
<tr>
<td>Making false or inflated claims for reimbursement</td>
<td>15</td>
<td>33%</td>
</tr>
<tr>
<td>Bribery or kickbacks</td>
<td>12</td>
<td>33%</td>
</tr>
<tr>
<td>Downloading pornography on work computer</td>
<td>24</td>
<td>33%</td>
</tr>
<tr>
<td>Altering or destroying records</td>
<td>3</td>
<td>33%</td>
</tr>
<tr>
<td>Bullying staff</td>
<td>322</td>
<td>32%</td>
</tr>
<tr>
<td>Racial discrimination against member of the public</td>
<td>34</td>
<td>32%</td>
</tr>
<tr>
<td>Fraudulently manipulating overtime or leave</td>
<td>178</td>
<td>32%</td>
</tr>
<tr>
<td>Being drunk/under the influence of illegal drugs at work</td>
<td>177</td>
<td>31%</td>
</tr>
<tr>
<td>Sexual harassment</td>
<td>43</td>
<td>30%</td>
</tr>
<tr>
<td>Incompetent or negligent decision-making</td>
<td>238</td>
<td>30%</td>
</tr>
<tr>
<td>Misuse of confidential information</td>
<td>41</td>
<td>29%</td>
</tr>
<tr>
<td>Racial discrimination against staff member</td>
<td>51</td>
<td>26%</td>
</tr>
<tr>
<td>Theft of property</td>
<td>56</td>
<td>25%</td>
</tr>
<tr>
<td>Intervening in a decision on behalf of friend or relative</td>
<td>19</td>
<td>21%</td>
</tr>
<tr>
<td>Giving unfair advantage to contractor/consultant/supplier</td>
<td>54</td>
<td>20%</td>
</tr>
<tr>
<td>Negligent purchases or leases</td>
<td>10</td>
<td>20%</td>
</tr>
<tr>
<td>Improper use of facilities/resources for private purposes</td>
<td>219</td>
<td>20%</td>
</tr>
<tr>
<td>Using official position for personal services or favours</td>
<td>48</td>
<td>17%</td>
</tr>
<tr>
<td>Favouritism in selection or promotion</td>
<td>287</td>
<td>16%</td>
</tr>
<tr>
<td>Failure to follow correct staff selection procedures</td>
<td>95</td>
<td>13%</td>
</tr>
<tr>
<td>Unfair dismissal</td>
<td>39</td>
<td>13%</td>
</tr>
<tr>
<td>Waste of work funds</td>
<td>88</td>
<td>13%</td>
</tr>
<tr>
<td>Reprisal against whistle-blowers</td>
<td>9</td>
<td>11%</td>
</tr>
<tr>
<td>Hindering an official investigation</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>48</td>
<td>46%</td>
</tr>
<tr>
<td><strong>Total incidents observed/overall reporting rate</strong></td>
<td>2,667</td>
<td>28%</td>
</tr>
</tbody>
</table>
were judged to occur “sometimes” also had the lowest seriousness rating. In any event, the chi-square just achieved significance, so the effect of frequency of occurrence was not particularly strong. There were no significant differences in reporting rates for wrongdoing in which the perpetrators were at the same level as the observer or were outside contractors. Overall, results supported the prediction that reporting would increase with the seriousness of the wrongdoing and decrease with the perceived potential risk to the reporter.

**Reasons for reporting/not reporting**

Table 14.3 shows the reasons reporters gave for reporting. All reasons, with the exception of having legal protection, were rated as extremely or very important by more than half of the reporters. Overall, results indicate the participants reported the observed incident because they judged the benefits to be worthwhile (for example, the problem would be fixed and the demands of their ethical standards would be satisfied) and the costs were low or at least manageable (for example, they would receive support from management and co-workers).

Reasons for non-reporting are shown in Table 14.4. The reasons for not reporting are, by and large, the obverse of the reasons for reporting. The most common reasons for not reporting were concerned with the perceived pointlessness of doing so (nothing would be done, there wasn’t enough evidence, it wasn’t important enough, or it had already been reported). A range of potential risks associated with reporting was also identified as important (for example, the wrongdoer would retaliate, it would be too stressful). Also of note was the finding that 11 per cent

---

**Table 14.3  Reasons for reporting (how important)**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Extremely/Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>I saw it as my ethical responsibility</td>
<td>84%</td>
</tr>
<tr>
<td>I had evidence to support my report</td>
<td>80%</td>
</tr>
<tr>
<td>I believed my report would help correct the problem</td>
<td>78%</td>
</tr>
<tr>
<td>The wrongdoing was serious enough</td>
<td>76%</td>
</tr>
<tr>
<td>I trusted the person I should report to</td>
<td>74%</td>
</tr>
<tr>
<td>I knew who I should report to</td>
<td>72%</td>
</tr>
<tr>
<td>I believed that I would be supported by management</td>
<td>70%</td>
</tr>
<tr>
<td>I thought that I would be supported by my co-workers</td>
<td>60%</td>
</tr>
<tr>
<td>I believed that I was under a legal responsibility to report</td>
<td>54%</td>
</tr>
<tr>
<td>I believed that I would have legal protection if I reported</td>
<td>45%</td>
</tr>
</tbody>
</table>
Table 14.4 Reasons for not reporting (agree/disagree)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I didn’t think anything would be done about it</td>
<td>38%</td>
</tr>
<tr>
<td>I didn’t have enough evidence to report</td>
<td>23%</td>
</tr>
<tr>
<td>It wasn’t important enough to report</td>
<td>18%</td>
</tr>
<tr>
<td>I was afraid the wrongdoer would take action against me</td>
<td>17%</td>
</tr>
<tr>
<td>Someone else had already reported it</td>
<td>15%</td>
</tr>
<tr>
<td>It would have been too stressful to report it</td>
<td>15%</td>
</tr>
<tr>
<td>I didn’t trust the person I had to report to</td>
<td>14%</td>
</tr>
<tr>
<td>I didn’t think my identity would be kept secret</td>
<td>13%</td>
</tr>
<tr>
<td>I didn’t think it was my responsibility to report it</td>
<td>13%</td>
</tr>
<tr>
<td>I didn’t want to get anyone into trouble</td>
<td>12%</td>
</tr>
<tr>
<td>I didn’t think the organization would protect me</td>
<td>11%</td>
</tr>
<tr>
<td>I dealt with the matter myself informally</td>
<td>11%</td>
</tr>
<tr>
<td>I was afraid the organization would take action against me</td>
<td>8%</td>
</tr>
<tr>
<td>I didn’t know my legal protection if I reported it</td>
<td>8%</td>
</tr>
<tr>
<td>I was afraid my co-workers would take action against me</td>
<td>8%</td>
</tr>
<tr>
<td>I was aware of others who had bad experiences reporting wrongdoing</td>
<td>7%</td>
</tr>
<tr>
<td>I didn’t know who to report it to</td>
<td>6%</td>
</tr>
<tr>
<td>I had a previous bad experience reporting wrongdoing</td>
<td>6%</td>
</tr>
<tr>
<td>I dealt with the matter formally as a part of my role</td>
<td>3%</td>
</tr>
<tr>
<td>Other people advised me not to report it</td>
<td>3%</td>
</tr>
<tr>
<td>I didn’t want to embarrass my organization</td>
<td>2%</td>
</tr>
</tbody>
</table>

of non-reporters claimed to have resolved the matter by taking some other form of action. While there is no further information about what action was taken, it is likely to have included direct intervention with the perpetrator.

There are also clues to the reasons for non-reporting found in the level of endorsement by non-reporters of strategies that might have increased the likelihood of them reporting (Table 14.5). Managing the potential risks associated with reporting received the strongest endorsement (for example, management and co-worker support), followed by more effective reporting processes (for example, clearer policies, training). Perhaps surprisingly, having the opportunity to report anonymously received relatively low (though non-trivial) endorsement.

Discussion

It has been argued in this chapter that research on whistle-blowers can help throw light on the factors that govern the willingness of guardians to intervene in observed wrongdoing that their mere presence failed
to deter. As predicted, the reporting of misconduct observed in the workplace was found to be related to the perceived costs and benefits associated with reporting, and these in turn varied according to demographic, organizational, and situational factors. Demographic and organizational factors that seemed to offer employees a sense of security from retaliation – such as their seniority in the organization – were associated with increased levels of reporting. Situational aspects of the observed wrongdoing that increased the potential risks of reporting – such as there being more than one perpetrator – were associated with lower levels of reporting; while the higher the value (more serious) of the wrongdoing, the more likely it was to be reported. When asked why they did or did not report and what could be done to encourage reporting, participants endorsed reasons that were consistent with the predictions of the rational choice perspective.

The ultimate purpose of the rational choice perspective when it is applied to offenders is to provide guidance on situational strategies that reduce offending. Likewise, the ultimate purpose of applying the rational choice perspective to the decisions of guardians ought to be to provide guidance on situational strategies that increase intervention. On the face of it, the under-reporting of misconduct appears to be

Table 14.5  Steps that would increase likelihood of reporting

<table>
<thead>
<tr>
<th>Reason</th>
<th>Significantly increase/guarantee reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being assured that, if my name was disclosed, I would be supported by management</td>
<td>41%</td>
</tr>
<tr>
<td>Knowing that I would have support from my co-workers</td>
<td>39%</td>
</tr>
<tr>
<td>Training for managers on how to deal effectively with reports of wrongdoing</td>
<td>37%</td>
</tr>
<tr>
<td>My organization having clear policies on the protection of whistle-blowers from reprisals</td>
<td>34%</td>
</tr>
<tr>
<td>My organization having an active support programme for whistle-blowers</td>
<td>32%</td>
</tr>
<tr>
<td>Training for staff on how to deal with reporting wrongdoing</td>
<td>31%</td>
</tr>
<tr>
<td>Having the opportunity to report the activity without giving my name</td>
<td>30%</td>
</tr>
<tr>
<td>My organization having clear policies on reporting wrongdoing</td>
<td>28%</td>
</tr>
<tr>
<td>Being assured that, if I gave my name, it would be kept secret</td>
<td>27%</td>
</tr>
</tbody>
</table>
a serious problem within the organizations examined in this study. Of course, without an objective basis for comparison, it is difficult to say what a good level of reporting is, while some of the non-reporting can be accounted for by the trivial nature of the misconduct observed. However, if we focus only on those acts of wrongdoing judged by observers as “extremely serious,” more than half (51 per cent) went unreported. And if we examine the behaviour of formal guardians – those in the organization with “assigned responsibility” to report misconduct (Felson, 1995) – overall reporting rates were just 36 per cent. These results suggest that a taxonomy of strategies for encouraging intervention by potential guardians that parallels the situational crime prevention taxonomy is a worthwhile venture.

The first task in creating such a taxonomy is to break down the costs and benefits of intervention into categories similar to those used in situational crime prevention; that is, increasing risk, increasing the effort, reducing the reward, reducing provocations, and removing excuses (Cornish & Clarke, 2003). Since we now want to encourage rather than deter behaviour, this process requires some modification of the original strategies. It is suggested that the new labels should be reducing the risk, reducing the effort, increasing the rewards, increasing motivation, and removing excuses (unchanged). Brief descriptions of these categories are given below with illustrative techniques suggested for increasing the reporting of misconduct in the workplace, building on those outlined in Table 14.5. While the suggestions below are concerned with whistle-blowing, the intention is to provide a template for organizing techniques to increase guardianship more generally in other settings.

**Reducing the risk:** Perhaps, the greatest disincentive for reporting misconduct is the fear of being identified and subjected to reprisal from the perpetrator, management, and/or co-workers. Techniques for protecting reporters include provisions for anonymous reporting, procedures for maintaining confidentiality where anonymous reporting is not possible, clear policies on the protection of whistle-blowers from reprisals, active support programmes for whistle-blowers, and training for managers on how to deal effectively with whistle-blowers.

**Reducing the effort:** Not knowing how to report misconduct or to whom increases the effort of reporting. Simplified reporting procedures (for example, helplines, hotlines) accompanied by training for staff on how to deal with reporting wrongdoing are possible strategies for reducing the perceived effort.

**Increasing the rewards:** Against the potential risks of reporting, employees may see little positive incentive to report. Rather than fear reprisal,
reporters ought to be able to expect commendation from management for reporting wrongdoing. Some organizations now run active incentive schemes to encourage whistle-blowing. One example is the New York State’s False Claims Act that returns to the whistle-blower a bounty for successful claims involving fraud against the state government based on the amount of money saved (Callahan & Dworkin, 2000).

**Increasing motivation:** Simply translating reducing provocations to increasing provocations makes little sense when applied to the reporting of misconduct. Instead, increasing motivation is used here to describe the process encouraging reporting among those who might otherwise not have considered reporting. This strategy involves using prompts and social forces to achieve prosocial ends. Managers and supervisors can encourage the imitation of ethical standards and foster a culture in which the reporting of misconduct is accepted practice by leading by example.

**Remove excuses:** The most common reason reporters gave for reporting was that they saw it as their ethical responsibility, while included among the reasons non-reporters gave was that they did not think it was their responsibility to report. Clear “rule setting” by management should set out in unambiguous terms expected standards of conduct generally and expectations around the reporting of observed misconduct in particular.

**Conclusion**

Just as offenders make decisions about whether or not to offend based on their assessment of the costs and benefits of offending, so too guardians make decisions about whether or not to intervene based on their assessment of the costs and benefits of intervention. Situation crime prevention can usefully involve both deterring potential offenders and encouraging potential guardians. While the logic of the rational choice perspective has been translated into explicit guidelines (Cornish and Clarke’s, 2003, 25 techniques) for how to achieve the former task, there are no parallel guidelines for how to achieve the latter task. A modest step towards developing a framework for encouraging intervention has been suggested in this chapter, without, I hope, disturbing the essential elegance of the routine activities approach.

**Note**

1. Throughout this chapter, for the sake of simplicity and elegance of expression, I will use the terms guardian and guardianship as employed in Cohen and
Felson’s (1979) original description of the routine activities approach. Since then, of course, the concept of guardianship has been elaborated upon, with three types of crime controller now recognized (Felson, 1995). First, Felson (1986) introduced the concept of an intimate handler to describe an individual, such as a parent or teacher, who might play a supervisory role with respect to the potential offender. Then Eck (1994) distinguished place managers, who supervise a particular crime setting, from guardians, who supervise potential crime targets. According to Felson (2008, p.74), “A crime occurs when the offender escapes handlers, finds targets free from guardians in settings not watched by managers.” While I acknowledge these various types of crime controllers, the distinction among them is not central to my current argument.

2. In most subsequent analyses, missing values mean that totals do not equal 2667. In all cases, valid percentages, that is, excluding missing values, are reported.

3. In fact, affecting motivation is closer to the broader concept of controlling precipitators (Wortley, 2001) from which the strategy of reducing provocations was derived (Cornish and Clarke, 2003). Precipitators were defined as events that “supply or intensify the motivation for individuals to commit crime” (Wortley, 2008, p.49).

References


Burglary in a Segregated City: Race of Offenders and Community of Offending

George Rengert, Brian Lockwood, and Elizabeth R. Groff

Introduction

Marcus Felson’s intellectual mind is much like a shotgun blast. The pellets are all aimed in a general direction, most of them are on target and a few are dead-on in hitting the bull’s eye. The most important of those that hit their mark are his development of Routine Activities Theory (Cohen & Felson, 1979) and his integration of this theory with that of the reasoning criminal (Clarke & Felson, 1993). Routine Activity Theory postulates that a crime will take place when a motivated offender encounters a suitable target in the absence of a capable guardian (Cohen & Felson, 1979). In this chapter, we focus on the second and third component of this theory, a suitable target and capable guardians. We examine the patterns of crime committed by residential burglars in Philadelphia, who differ by race. We are concerned with whether a suitable target and guardianship are the same or different depending on the race of the offender and the dominate race of the community within which the offence occurs (Reiss, 1981).

The interaction between the race of an offender and the racial composition of a community is explained in a general sense by Felson (1994, p.54):

Ethnic homogeneity in many urban neighborhoods contributes to localism. For example, if most people in a given neighborhood speak Italian and look Italian, someone not Italian will be recognized as an outsider. Although prejudices might have been strong among many groups, within each group there is a sense of responsibility for the local area. Together these factors contribute a… sense of belonging.
In this chapter, we are interested in whether homogeneity of the community translates into different patterns (spatial structure) of crime if the race of the offender is different from the dominant race of the community. We begin with a discussion of determinates of the spatial structure of property crime.

Determinants of the spatial structure of property crime

Whether to offend and where to offend are questions that define the spatial structure of property crime. Whether to offend determines the rate of offending while where to offend is measured by the location of the offence. These two factors can be considered together to examine the rate of offending at a specific location. In the present study, we are interested in how the suitability of targets and the capability of guardians vary over space, depending on the race of the offender and the racial composition of communities. We proceed with a discussion of how segregated communities arise in North American cities.

Segregation in a city

The spatial structure of cities in the United States generally results in the poor living in inner-city communities and the wealthy living in outlying areas. This spatial structure provides a variety of choices to new residents who can match their income to a housing area. One scenario holds that if they are poor and just starting a career, new residents to the city may choose to live in relatively cheap inner-city housing until their income grows. At that time, they may move outward to more expensive housing that would better serve their needs, leaving the cheap inner-city homes for a new couple just establishing themselves economically. This has been described as “filter theory,” where cheap housing in the inner city is filtered down to the poor who have limited resources (Hoover & Vernon, 1959).

This scenario serves everyone’s needs well as long as there is income mobility and people have free choice as to where they can live. But what happens when free choice breaks down such that some cannot live in a community they can afford due to racial tensions? Over a 100 years ago, Du Bois (1899/1973, p.3) recognized how racial segregation is juxtaposed on the natural economic spatial order of the city when he wrote: “All this segregation by color is largely independent of that natural clustering by social grades common to all communities.” As a result of inter-racial animosity, segregated societies within urban areas have developed in American cities (Denton, 1994; Wilkes & Iceland, 2004). Specifically,
blacks and whites are less likely to mix in their residential communities than any other racial group (Peterson & Krivo, 2010; Quillian, 2002; Wilkes & Iceland, 2004), leading Massey and Denton (1993) to coin the phrase “American apartheid.” Recent research (Logan, 2011; Logan & Stults, 2011), based on 2010 Census data, illustrated how racial segregation has become more pronounced in many cities than in the preceding decades. Philadelphia, in particular, exhibits high levels of inequality that is manifested in the form of poverty, education, and isolation, due to the intensifying ethnic enclaves that it contains (Logan, 2011).

Morrill (1965, 1972) and Rose (1972) demonstrate how the edges of segregated communities act as barriers that restrict movement across them. Indeed, the recent case of Trayvon Martin in Florida (Hightower, 2013) and the earlier incident involving Yusuf Hawkins in New York (De Santis, 1991, Pinderhughes, 1993; Sachs, 1999) dramatically illustrate the extreme consequences that can result from wandering into a community dominated by another race. Ignoring the social barrier around a segregated community can result in serious injury or death, suggesting that the role racial segregation plays in contemporary society deserves careful analysis beyond newspaper headlines. Especially important is the impact of residential segregation on the criminal use of space, which has been shown to exacerbate rates of several types of criminal offences (Peterson & Krivo, 2010).

Property crime such as residential burglary has not been carefully analysed from a racial perspective (for exceptions, see Carter & Hill, 1979; Peterson & Krivo, 2010; Rengert et al., 2012). Most research on racial and interracial crime focuses on violence and hate crimes (Peterson & Krivo, 2010), which represent confrontational crimes that can result from the perceived protection of a community from outsiders (Hightower, 2013). Residential burglary, on the other hand, is a crime where confrontation between the perpetrator and victim is often avoided (Rengert & Groff, 2011). Therefore, it is interesting to speculate on whether the edges and interiors of racial communities result in changed patterns of crime when perpetrators attempt to avoid recognition.

Racial segregation and crime: research questions

The question addressed in the present analysis is whether racially segregated communities influence the rate of offending by residential burglars. We are interested in whether criminals of particular racial groups are less likely to offend within others’ communities and concentrate
their criminal activity within their own community (Ratcliffe, 2001). For example, much has been written about “black on black” crime (Carter & Hill, 1979; Washington, 2009; Webb, 2003). The implication is that blacks seek out other blacks to victimize or that blacks fear victimizing whites and, as such, concentrate their crime on fellow blacks (Carter & Hill, 1979; Reppetto, 1974; Rengert & Wasilchick, 2000). On the other hand, it could be that blacks victimize blacks and whites victimize whites due to racial segregation; these are the opportunities readily available to them (Krivo et al., 2009; Steffensmeier et al., 2011). In the present analysis, we will determine whether blacks offend within black communities and whites offend within white communities more or less than one would expect, given the degree of racial segregation.

The analysis begins at a very general level where we describe the spatial association between residential burglary and the opportunities for this crime described by Routine Activities Theory. This is followed by the first research question, which asks whether racial segregation impacts the criminal use of space. Specifically, we are interested in whether black and white criminals commit fewer crimes than would be expected in the others’ communities. The other side of the coin asks whether criminals of a specific race commit more crimes than expected in their own community. In other words, do criminals of a specific race commit crimes disproportionately within communities of the same race?

The second research question focuses on whether racial segregation is associated with the pattern of crime within and between racially segregated communities. When the race of the criminal is considered, do the couple of city blocks that define the edge of the others’ community act as a barrier to the selection of a target so that crime decreases as the edge of the community is crossed? It will be interesting to note whether the offences of criminals who are not members of the race represented in the community will commit fewer and fewer crimes as the community is approached, while criminals who are of the same race as represented in the community will have their crimes decrease monotonically as distance from the community increases (McIver, 1981). Finally, if the edge of a community does act as a barrier to criminal activity, is there a way we can measure the magnitude of this barrier effect?

Theoretical reasoning

The two primary theoretical frameworks upon which we rely to explain how and why residential burglars consider race when deciding where to offend are Routine Activities Theory and Rational Choice Theory.
Although they represent distinct criminological perspectives, Clarke and Felson (1993, p.1) note that these two theories, “though differing in scope and purpose, are compatible, and, indeed, mutually supportive.” Rational choice theory posits that potential offenders consider the likely advantages and disadvantages of committing a particular type of offence in a particular time and place, which further suggests that offenders commit their offences where and when they will be most likely to be successful (Clarke & Cornish, 1985; Cornish & Clarke, 2008).

The routine activity approach developed by Cohen and Felson (1979), in its consideration of the convergence in time and space of motivated offenders and suitable targets, places a similarly large emphasis on the situational factors of crime in order to predict the context in which offences will occur (Elffers et al., 2008). Together, these two explanations of crime are called upon to justify why we expect to find that residential burglars will be more likely to commit offences within communities that contain higher proportions of residents of their own race. Rational choice theory suggests that potential residential burglars will avoid offending within unfamiliar communities and those in which their presence may invite increased scrutiny. Instead, they will simply make the decision to remain within their own community or in those similar to their own (Mattson and Rengert, 1995). Routine Activities Theory makes a similar claim regarding the influence of community racial composition on residential burglary by positing that potential residential burglars will perceive fewer suitable targets and higher levels of capable guardianship within racially dissimilar communities.

Crime pattern theory also provides insight into the likely influences of social barriers of crime based on race. Brantingham and Brantingham (2008) borrowed the concepts of nodes, paths, and edges from Lynch (1960) to construct this theory. Brantingham and Brantingham (1993a, p.17) define edges as “places where there is enough distinctiveness from one part to another that the change is noticeable,” and they argue that such places may experience higher rates of crime as the informal social control (guardianship) of resident populations is unable to extend into edge areas of heterogeneous racial mix (Brantingham & Brantingham, 1993b). This notion has been confirmed by recent research concluding that edges between communities, defined by economic and ethnic differences, influence the spatial distribution of crime (De Poot et al., 2005; Rengert, 2002; Reynald et al., 2008). Therefore, we believe that both black and white criminals will have their offences cluster on the edges of all racial communities (Brantingham & Brantingham, 1993b). On the other hand, if edges act as barriers to criminal activity, then
crimes committed by a racial group not represented in the community should cluster along the edge of the others’ communities (Pettiway, 1982). Crimes committed by members of the racial group represented in the community would not necessarily cluster along the edges of their own communities.

The following analysis is guided by these theories: the suitable target and capable guardianship component of Routine Activities Theory, the economic component of Rational Choice Theory, and the concept of edges within Crime Pattern Theory. The analysis begins by defining racial communities and their edges. This is followed by an analysis that defines suitable targets (which community contains the most expensive homes) and capable guardians (which communities are most socially disadvantaged). Following these descriptions of the communities, we will determine within which type of community the crime of residential burglary is most prevalent. This analysis is followed by computing the proportion of each race residing in each segregated community and comparing the crime one would expect from this racial concentration with the actual crime by race of the offender. Finally, the edges of each racial community are defined and crime on their edges is compared with crime within the interior of each community to determine if the edge of the community acts as an attractor due to the lack of capable guardians associated with low levels of informal social control, or as a barrier to the criminal use of space by race of the offender (crime pattern theory).

Methodology

Data

This analysis focuses on residential burglary in the city of Philadelphia, Pennsylvania. Data on the racial characteristics of residential burglars and the locations of their offences for the years 2005–2010 were obtained from the Philadelphia Police Department (PPD). We did not have information on the home address of the individuals arrested for burglary. Of the 63,288 residential burglaries that occurred in Philadelphia between 2005 and 2010, 9,300 were cleared through arrest. Data pertaining to the arrestee(s) for each residential burglary were available for 7,585 of these offences. The majority of the additional 1,715 residential burglaries without offender data lack this information because the PPD only links arrest data for the most serious offence committed by each arrestee – indicating that a sizable proportion of residential burglars committed multiple offences, of which one or more
were deemed more serious. A comparison of the cleared incidents with and without arrestee data indicates that both groups of incidents are spatially distributed in similar patterns across the city, suggesting that the removal of the 1,715 offences without arrestee data does not bias the subsequent dataset to be analysed. Finally, of the 7,585 incidents of residential burglary with offender and address information, 7,552 of those events were successfully mapped, resulting in a geocoding rate greater than 99 per cent.

One limitation of arrest data obtained from the police is the generally low clearance rate. Nationwide, the Federal Bureau of Investigation estimates that only 12.7 per cent of burglaries were cleared by arrest in 2011 (FBI, 2012), while the clearance rate for residential burglary in Philadelphia between 2005 and 2010 was slightly higher at 14.7 per cent. Consequently, the race of the burglar is unknown for the overwhelming majority of burglaries. Our data show that approximately the same clearance rates are present in both black and white communities. While we have no empirical reason to believe black burglars are arrested at a higher rate than white ones, we cannot rule that possibility out using our data.

It has been argued that another limitation of arrest data is that they are not an accurate indicator of criminal activity, as arrests are typically more common in areas where police concentrate their efforts. We argue this is not the case for residential burglary. First, police are very unlikely to encounter a burglary in progress on random patrol (Rengert & Groff, 2011). Felson (1994, p.11) explains why this may be the case; in Los Angles, Felson computed that the result of random police patrol is that “each location within the city can expect daily coverage of approximately 29 seconds.” This is hardly enough time to detect, deter, or apprehend residential burglars using police patrol (Coupe & Blake, 2005).

If police officers on random patrol are not likely to detect a burglary in progress, the question turns on how burglars are identified and arrested. A high proportion of those arrested are done so due to citizens identifying in-progress offences, rather than any police activity such as directed patrol (Rengert & Groff, 2011). About 15–17 per cent of all residential burglaries are discovered while they are “in progress” (Coupe, 2010). Recent research in the United Kingdom indicates that it is these burglaries that offer the greatest potential for police intervention (that is, catching burglars in the act) (Coupe, 2010). Therefore, in the case of residential burglary, police are less important than citizens in determining whether an arrest is made and police priorities are less likely to
effect the spatial arrangement of arrest rates than are the concentration of offences which are spotted by citizens.

Data describing the racial characteristics of block groups in the city of Philadelphia were gathered from the 5-Year 2005–2009 American Community Survey (ACS), collected by the US Census Bureau (US Census Bureau, 2010). Using the criteria of Morrill (1965) and Rose (1970), block groups that contain 70 per cent or more black residents were designated as black block groups (n = 722), and those containing 70 per cent or more white residents were designated as white block groups (n = 511). The remaining 583 block groups were labelled as mixed. Communities were defined as five or more contiguous block groups containing 70 per cent or more of a single race. To eliminate enclaves and block groups that protrude from a community, a smoothing routine was used wherein a census block group was included in a community that surrounds it on at least two sides. Figure 15.1 depicts Census block groups within Philadelphia with the white and black communities identified by this analysis overlaid over the block groups. Of the 142.5 square miles that make up Philadelphia, the white communities comprise 54.67 square miles, or 38.4 per cent of the total area of the city. The four black communities cover 30.02 square miles of area, which represents 21.1 per cent of the area in the city. The remaining 40.7 per cent of the city comprises mixed communities.

**Analytic strategy**

The analysis begins by describing the constructed racial communities in terms of the presence of guardians and the suitability of targets for residential burglary that they contain. Several measures from the 5-Year 2005–2009 ACS that have been tied to the suitable target and capable guardianship components of Routine Activities Theory (Clarke & Felson, 1993) are examined, including block group-level proportions of vacant dwellings, poverty, female-headed households with children, residents with a high school education, residential mobility, and public assistance. Rational choice theory is examined by noting the mean home values of the communities. It is expected that a rational burglar will attempt to maximize their take by choosing the most valuable homes to burglarize.

The race of the offender is considered next to determine if there is a difference in their criminal use of space. The actual proportion of burglaries by race in a community is determined by the proportion of all burglaries committed by members of a specific race who are committed in that racial community. The expected proportion of burglaries of each
race in each geographic area is determined by the proportion of the population of a given race that lives in that community. Then, the expected burglaries by race are subtracted from the actual to determine the deviation of the actual burglaries from the expected in each geographic area by race.
We look at two main types of geographic areas: communities (defined above) and edges of communities. The edge of the community is defined as two city blocks inward and two city blocks outward from the block group boundaries that compose a racial community. We chose two blocks because that is the distance that offenders are theorized to expand their routine activity spaces in search of targets (Brantingham & Brantingham, 1993b). In the city of Philadelphia, the average city block is about 400 feet in length. As such, two buffers of 400 feet each were created inward from the boundary of each community and two buffers of 400 feet each were created outward from the community boundary. These four buffers form the edge of a racial community. The buffers drawn around a racial community are illustrated in Figure 15.2.

To examine whether the geographic concentration of burglary arrests changes with proximity to the edges of racially segregated communities, the density of burglary locations per square mile in the interior of each community is compared with those at its edges. The number and density of burglaries in each buffer are then examined separately by race of the offender to determine whether burglaries increase or decrease as one moves outward from the core of a racially segregated community. This provides us with an understanding of the spatial arrangement of burglary arrests on the edges of racial communities.

Figure 15.2 The buffers/edges surrounding racial communities in Philadelphia
Results

Residential burglary: capable guardianship and target suitability

To begin, we describe each community by its socio-economic characteristics and burglary rates per 1,000 occupied housing units. As can be observed in Table 15.1, the white communities contain the best targets for residential burglary as measured in terms of median home values (Becker, 1968). This is a measure of rational choice and the first component (value) of Felson and Clarke’s (1998) acronym VIVA that influences a target’s risk of being victimized. Value refers to the worth of the target; high-value homes are more likely to contain more valuable items.

The black communities have the lowest home values. Notice that the medium value of homes does not translate directly into residential burglary rates. In fact, there is a significant inverse relationship with white communities having very low burglary rates, relative to the other communities. On the other hand, there is a direct relationship between most of the variables that are associated with low levels of capable guardianship and the rates of residential burglary. The typical guardian is a neighbour, friend, bystander, or the owner of property who is willing to intervene when a crime is taking place (Clarke & Felson, 1993). The more socially disorganized a community, the less likely these guardians will be effective. Our data find this to be the case. The only exceptions to the direct relationship between these variables and rates of residential burglary are that mixed communities have a lower level of residential mobility than white communities and a lower proportion of residents who have graduated from high school than the black communities.

Table 15.1  Community characteristics and burglaries

<table>
<thead>
<tr>
<th>Communities (number of block groups)</th>
<th>White (511)</th>
<th>Mixed (583)</th>
<th>Black (722)</th>
<th>All (1,816)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Vacant dwellings</td>
<td>9</td>
<td>14</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>% HS education</td>
<td>85</td>
<td>67</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td>% in poverty</td>
<td>13</td>
<td>30</td>
<td>31</td>
<td>26</td>
</tr>
<tr>
<td>% Public assistance</td>
<td>4</td>
<td>10</td>
<td>10</td>
<td>0.8</td>
</tr>
<tr>
<td>% FHHs</td>
<td>9</td>
<td>23</td>
<td>27</td>
<td>21</td>
</tr>
<tr>
<td>% Residential mobility</td>
<td>48</td>
<td>38</td>
<td>55</td>
<td>48</td>
</tr>
<tr>
<td>Median home value</td>
<td>226,820.16</td>
<td>111,056.78</td>
<td>77,389.89</td>
<td>130,245.98</td>
</tr>
<tr>
<td>Burglaries per 1,000 occupied housing units</td>
<td>40</td>
<td>15.72</td>
<td>16.17</td>
<td>9.98</td>
</tr>
</tbody>
</table>
In general, black communities rank lower than white or mixed communities on variables associated with capable guardianship and highest in the rate of burglary per housing unit. This may be due to the fact that more offenders live in impoverished areas in Philadelphia, as documented by Rengert (1989). The question now turns to where burglaries are committed by race of the offender and the racial concentration within the community where the crime is committed.

**Actual and expected number of burglary arrests by community**

Since the size of communities and the number of arrests for burglary of each race are not equal, the racial groups must be compared by rates and densities, rather than by absolute numbers. Furthermore, even though some members of a minority race commit crimes in a community dominated by another racial group, this does not mean that they travel from outside of that community. Some black offenders live in white communities and vice versa, although in highly segregated cities such as Philadelphia, this is less common (Logan & Stults, 2011). Recall that the racial communities are defined as a contiguous collection of block groups with a proportion of either white or black residents greater than 70 percent. Therefore, up to 30 percent of the residents of these communities could be of another race.

In order to compare the criminal activity of criminals of different races, it is imperative to have a base of expected values with which to compare the actual criminal activity. One such basis of expected values is obtained from the racial mix chance-encounter hypothesis. The racial mix chance-encounter hypothesis is that crime committed by criminals of a specific race will occur in proportion to the numbers of that race within a given community. No large community is composed one hundred percent of a single race. Reiss and Roth (1993, p.93) illustrate the racial mix chance-encounter hypothesis for the entire United States as follows:

For violent crimes that involve blacks and whites, one can construct a “chance-encounter” race mix by assuming that each individual’s chances of violent offending and victimization are independent of race, so that the probability of any offender-victim race combination depends only on the prevalence of each race in the U.S. population. In these hypothetical circumstances, 78 percent of all violent events would involve a white offender and victim, 2.1 percent would cross racial lines and only 1 percent would involve a black offender and victim.
What actually was the case differed quite markedly from this hypothetical situation. Reiss and Roth (1993) found that in single-offender victimizations, whites assault whites at about the chance-encounter rate, blacks assault whites at about 72 per cent of the chance-encounter rate, and whites assault blacks at about 56 per cent of that rate. Remarkably, blacks assaulted blacks at about 800 per cent of the chance-encounter rate. Part of the explanation for these values is that the population is not randomly distributed, but, rather, is segregated so that the race with the highest violence rate is only likely to encounter members of the same race on a regular basis. The chance-encounter racial mix hypothesis provides a basis to compare what actually happens in a segregated community with what one would expect, given the prevalence of each race within each segregated community.

Based on the above reasoning, it is clear that the relative proportion of each racial group living within a community is the value of greatest importance. One would expect a high proportion of burglaries committed in a given community to be by black offenders if a high proportion of black residents live in that community. Therefore, the expected proportion of burglaries committed by members of one racial group within a racial community is calculated as the proportion of the racial group that resides in that community. Since our data only pertain to burglaries for which an arrest was made, any reference to burglaries is to burglary arrests.

This expected value is then compared with the actual value. The actual value of burglaries per racial group is calculated as the proportion of crimes committed by a racial group that are committed in that community. This is obtained by dividing the total number of burglary arrests for individuals of a particular racial group in the community by the total number of burglary arrests by that racial group. The resulting value represents the actual percentage of burglary arrests committed by members of a specific racial group that were committed in a racial community. If we subtract the expected from the actual proportions of burglary arrests, we obtain some idea of whether there are more or less burglaries than expected by that racial group, given the proportion of that racial group that resides in a specific community.

Earlier, we noted that it is a well-established pattern to have black-on-black and white-on-white crimes. Here, we also find that percentage of black burglary arrests in black communities (59 per cent) is much higher than black arrests in white communities (10 per cent) (see Table 15.2). Likewise, the actual value of white arrests in white communities (53.1 per cent of white burglaries) is much higher than the
Table 15.2  Actual versus expected burglaries by race of the community and arrested perpetrator

<table>
<thead>
<tr>
<th>Community</th>
<th>Actual</th>
<th>Expected</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arrests of black burglars</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>10.0%</td>
<td>4.6%</td>
<td>+5.4%</td>
</tr>
<tr>
<td>Black</td>
<td>59.0%</td>
<td>70.4%</td>
<td>−11.4%</td>
</tr>
<tr>
<td>Mixed</td>
<td>31.0%</td>
<td>25.0%</td>
<td>+6.0%</td>
</tr>
<tr>
<td><strong>Arrests of white burglars</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>53.1%</td>
<td>67.6%</td>
<td>−14.5%</td>
</tr>
<tr>
<td>Black</td>
<td>5.8%</td>
<td>4.8%</td>
<td>+1.0%</td>
</tr>
<tr>
<td>Mixed</td>
<td>41.1%</td>
<td>27.5%</td>
<td>+13.6%</td>
</tr>
</tbody>
</table>

corresponding value of white arrests in black communities (5.8 per cent of white burglaries). In short, black offenders victimize black communities and white offenders victimize white communities much more than crossing racial lines between race of offender and the dominant race of the community they offend in. But is this more or less than one would expect, given the racial segregation of Philadelphia? After all, one would expect a black offender to choose a black victim if most of the nearby neighbours were black. And, the same for white offenders in white communities. In the following, we compare what one would expect due to racial segregation with the actual pattern of offending.

Consider first the arrests of black burglars. A comparison of actual and expected burglary rates by racial group in Table 15.2 indicates that black burglars are overwhelmingly arrested for burglaries committed in black communities (59.0 per cent) but at a lower rate (−11.4 per cent) than the racial segregation of black residents within black communities would suggest. Interestingly, black burglars appear to target mixed (+6.0 per cent) and white (+5.4 per cent) communities at a higher rate than would be expected, compared to black communities. On the whole, black burglars are arrested less often than expected in black communities and more often than expected in mixed and white communities. In other words, racial segregation would lead one to expect that the concentration of black offences in black communities should be even higher that it actually is.

White burglars, exhibit a similar pattern. When one considers the proportions of each race living in each community, white burglars are less likely than expected to offend in white communities and more likely than expected to offend in black and mixed communities. In white communities, the difference between actual and expected rates
of offending is −14.5 per cent; in black communities, it is 1.0 per cent; and in mixed communities, it is 13.6 per cent from expected, given the relative proportion of white residents living in each community type. White burglars offend in black communities at nearly the expected rate (1.0 per cent). These figures suggest that although numerically both black and white burglars are overrepresented in their own communities when we use absolute figures and when we change these figures from numerical to percentages and then subtract from what one would expect from the racial composition hypothesis, then both whites and blacks commit fewer-than-expected burglaries in their own communities. Given the racial segregation of Philadelphia, we would expect an even higher concentration of crime committed by burglars of the same race in each racial community than is evident by the absolute numbers. Racial segregation leads us to expect the extreme concentration of crime by race in each racial community.

This finding is not in agreement with previous research, which finds that racial groups tend to offend disproportionally within their own communities (Carter & Hill, 1979; Rengert & Groff, 2011). Racial segregation examines how disproportionally the race of the arrested burglar matches the dominant race of the community in which the burglary was committed. Of course, the answer depends on how this “disproportion” is measured. In absolute numbers, it seems burglars do offend disproportionally in communities of the same race as them, but when we consider segregation and what is expected by the proportion of a race living in a community that they dominate, it is not entirely true. Particularly for whites, this finding is not in line with research finding that racial groups offend disproportionately in their own communities, but it is in line with the results of Rengert et al. (2012), which finds whites less likely than expected to victimize their own communities. Our attention now turns to the spatial arrangement of arrests within each racial community and the edges of these communities to determine whether the expectations derived from the integration of Routine Activity Theory with Rational Choice Theory, which characterizes targets on the edge of communities as being the easiest to exploit through ineffective guardianship, leads one to expect that offences will cluster at the edge of each community for both black and white offenders in each of the identified racial communities. On the other hand, it could be that Crime Pattern Theory is the most salient theoretical framework with which to explain why offenders of a race not represented as a majority in a community are clustered at the edge of that community as the edge acts as a barrier on their criminal mobility.
Spatial arrangement of arrests: Interior vs. edge of the community

Table 15.3 contains the density of burglaries, for which an arrest was made, committed by each racial group in the different geographic areas. Some very interesting differences between the densities of white and black burglaries in each community type are observed. White burglars are slightly more likely to commit their crime on the edge, rather than in the interior of black communities, but there is little difference between their offending pattern between the edges and the interiors of white communities. In contrast, black residential burglars are more likely to commit their offences on the edges of white communities, while they seem to prefer to offend within black communities, rather than on its edges. It seems that the predictions of crime pattern theory hold. This implies that the barrier effect to the criminal activity of a race of offenders may be more important than the attraction of a heterogeneous population associated with less guardianship. It seems that both white and black communities tend to deflect offences committed by members of the other race towards its edges.

The analysis now moves to a more detailed examination of edge effects to determine the relative strength of the edges of segregated communities to resist crime from offenders of races dissimilar from the majority of community residents. Recall that the edge of a community is defined as four buffers, each about a city block wide; two buffers inward and two buffers outward from the boundary of each racial community. Our concern is whether the location of the offences clusters as far as possible from a relatively homogeneous community by race of the offender.

Table 15.4 lists the frequencies and proportions of burglaries committed in the buffers within and around each community type by race of the offender. Turning first to the black burglars, there is a clear and steady decrease in the number and percentage of burglaries committed

<table>
<thead>
<tr>
<th>Community type</th>
<th>White arrest density (per sq/mi)</th>
<th>Black arrest density (per sq/mi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White community</td>
<td>25.65</td>
<td>8.76</td>
</tr>
<tr>
<td>White edges</td>
<td>25.67</td>
<td>17.28</td>
</tr>
<tr>
<td>Black community</td>
<td>5.10</td>
<td>94.54</td>
</tr>
<tr>
<td>Black edges</td>
<td>7.41</td>
<td>70.19</td>
</tr>
</tbody>
</table>
Table 15.4 Race of burglar for burglaries committed at the edge of the community

<table>
<thead>
<tr>
<th>Black burglaries (n = 4811)</th>
<th>Ethnic boundary buffers</th>
<th>White burglaries (n = 2640)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>% of Total</td>
<td>White community buffers (ft)</td>
</tr>
<tr>
<td>88</td>
<td>19.7%</td>
<td>–800 to –400</td>
</tr>
<tr>
<td>114</td>
<td>25.5%</td>
<td>–400 to 0</td>
</tr>
<tr>
<td>113</td>
<td>28.3%</td>
<td>0 to 400</td>
</tr>
<tr>
<td>132</td>
<td>29.5%</td>
<td>400 to 800</td>
</tr>
<tr>
<td>447</td>
<td>100.0%</td>
<td>Total</td>
</tr>
</tbody>
</table>

| Count | % of Total | Black community buffers (ft) | Count | % of Total |
| 434 | 33.7% | –800 to –400 | 24 | 17.6% |
| 413 | 32.1% | –400 to 0 | 26 | 19.1% |
| 253 | 19.6% | 0 to 400 | 35 | 25.7% |
| 188 | 14.6% | 400 to 800 | 51 | 37.5% |
| 1,288 | 100.0% | Total | 136 | 100.0% |

around white neighbourhoods from 800 feet outside a white community to 800 feet within a white community. The majority of black burglaries (29.5 per cent) occurring within or near white communities are located in the 400–800 foot exterior buffer, with the corresponding value decreasing monotonically as the distance to the heart of the white community along the white community edge decreases. This finding provides evidence that black offenders tend to avoid white communities, leading one to expect that black offending rates in white communities would be even higher than expected if not for the edge effect.

The spatial patterns of white burglaries surrounding black racial communities are also consistent with the expectations derived from crime pattern theory. White offenders in and around black communities are more likely to commit their offences in the outer two buffers that are on the outside the edge of the black community, while the inner two buffers have much lower percentages of white offences.

There is an additional method of interpreting these figures by examining the two buffers on each side of a racial community boundary and observing the crime locations of the racial group of residential burglars that is different from the community it surrounds. Table 15.4
lists these values. We first consider the number of black residential burglars offending in the buffers surrounding the white racial communities. The two outer buffers contain 113 and 132 burglaries, for a total of 245 burglaries by black offenders in the two buffers farthest from the white community boundaries. The two inner buffers contain 88 and 114, for a total of 202 burglaries by black offenders. When the number of burglaries in the inner buffers (202) is subtracted from those in the outer buffers (245), the difference of 43 burglaries is found. Finally, the proportion of this difference to the total number of black burglaries within the edges of white communities (447) is calculated to show that this difference represents 10 per cent of all black burglaries around white communities (43/447 = 10 per cent). One way of looking at the impact of the edges around white communities is that they reduced black burglaries (offending) by 10 per cent as the core of white community is approached. Another way of looking at these figures is to observe that of the 447 burglaries by black offenders around white communities, 55 per cent were in the outer two buffers (245/447 = 55 per cent) while only 45 per cent (202/447 = 45 per cent) occurred in the two buffers within the white community. When these two numbers are subtracted (55 − 45 = 10 per cent), the difference is 10 per cent, which is the effect of the boundary around the white community on black residential burglaries.

Regarding the effects of the edge around the black communities on white residential burglars, using the same formulas, it is observed that the edge has the effect of reducing white burglary arrests by 26 per cent. From these values, one can observe that the impact of the boundaries around white communities is to reduce black offending by 10 per cent while the boundaries around black communities reduces white offending by 26 per cent. Clearly, white offenders are more affected by the edges of black communities than black offenders are by the edges of white communities in Philadelphia.

**Discussion**

**Theoretical implications**

This study examined the effect of racial segregation on the spatial arrangement of residential burglaries in Philadelphia and represents the first test of the impact of social barriers on residential burglars in a major urban city in the United States. Furthermore, it is one of the first studies of the impact of racial boundaries on the spatial arrangement of residential burglaries by the race of the offender. Routine activities and
rational choice theories formed the basis of this analysis, with rational choice associated with suitable targets measured in terms of the economic value of housing and potential guardians measured in terms of community-level context. Crime pattern theory also was used to conceptualize the edges of the communities. Finally, the chance-encounter racial mix hypothesis provided the base with which to compare actual with expected burglary activity by race of the offender.

This analysis demonstrated that residential burglars are more highly concentrated in areas that are perceived to lack capable guardianship than they are in areas that contain expensive houses that provide the economic opportunity to maximize the value of a burglary. In terms of the racial composition of the communities, this translated into a concentration of crime in black communities that are more socio-economically disadvantaged than the white communities. Perhaps segregation conceals the true pattern of offences (Greenberg et al., 1982).

Using the chance-encounter racial mix hypothesis, whether or not there were more residential burglaries by race of the offender than expected in the segregated communities can be tested. When the actual pattern of residential burglary arrests was compared with what one would expect from the racial mix chance-encounter hypothesis, it was discovered that both black and white offenders committed fewer crimes than expected within their own communities. The segregated communities seemed to have an impact on the use of space that is more complex than first anticipated. Black offenders are slightly over-represented and white offenders are under-represented in white communities. Burglaries by both white and black burglars are greater than expected in mixed communities. Most important, both black and white burglars committed far fewer than the expected number of burglaries within their own communities, although absolute numbers show a concentration of crime by the race of the offender.

Crime pattern theory suggests the potential importance of the edges of segregated communities. The result is a concentration of crime at the edge of a segregated community. When buffers were created around each segregated community and the density of offences by race of the offender was compared with the heart of each racial community, it was discovered that black offenders have a greater concentration of crime on the edge of the white community than within the heart of that community as expected from crime pattern theory. When the black community is examined, it is discovered that white burglars have a greater concentration of crime on the edge than the heart of the black community. It is interesting to note that white offenders had a nearly
equal concentration of crime on the edge and in the heart of the white community while black offenders are more likely to offend within the heart of the black community than on its edge.

Most important, when the concentration of burglary by the race of the offender is compared for each community, both black and white burglars are more likely to offend on the edge than in the heart of dissimilar communities. A different pattern holds for the heart of each community: white and black offenders are nearly equally as likely to offend within the others’ communities (5.1 and 8.7 per sq/mi). Finally, when the impact of the edge of each racial community is compared with the race of the offender, the barrier effect of the edge of the community can be determined for each race of offender. Concerning the edge around the white community, the barrier effect on black offenders reduces the concentration of crime as the edge is crossed by 10 per cent. When the edge of the black community is examined, its barrier effect on white offenders is to reduce white offending by 26 per cent. Clearly, the edge of the black community is much stronger in reducing white offending than the edge of the white community is on black offending. This is contrary to previous research focused on illegal drug dealers that demonstrated that black offenders are affected more acutely by the edge of white communities than white by black communities (Rengert et al., 2012). Perhaps, the difference is that burglary is a sneak crime while illegal drug dealing is more open.

Some argue that geographic profiling can be an effective tool for police agencies (Canter, Coffey, Huntley & Missen, 2000; Rossmo, 2000). In this case, the attempt is to locate the probable location of an anchor point of the criminal (most often the home) from the spatial pattern of the offences. However, the present analysis illustrates that the predicted location of this anchor point will have to be shifted towards the racial boundary since the crimes that normally would have been committed across the boundary will be reduced by the barrier effects of the boundary.

The limited literature on social barriers to crime supports the finding of the current analysis, which is that the effect of social barriers depends on the race of the burglar and the dominant race of the community. The findings concerning the barrier effects of segregated communities are in line with earlier studies in the Netherlands (Bernasco & Nieuwbeerta, 2005; de Poot et al., 2005; Reynald et al., 2008). However, our analysis does not agree with these studies regarding the dominant race; we find that whites are more strongly impacted by the edges of black communities than blacks by the edges of white communities. This is in
contrast to a work in Australia, which found that social barriers affected non-dominant racial groups more strongly than dominant groups (Clare et al., 2009), and work by Rengert et al. (2012), which found that black drug dealers are more acutely affected by ethnic barriers than are white drug dealers.

Brantingham and Brantingham (1975) found a slightly different pattern of border blocks having more residential burglary than interior blocks of a community. Their research did not examine the race of the offender but simply whether edges of neighbourhoods were more susceptible to crime. Our findings provide more nuanced evidence that crime pattern theory explains why crimes committed by burglars of the non-majority race are more likely to occur on the edge where this theory leads us to expect that crime is reflected onto, while crimes committed by the majority members of a racial community are not necessarily reflected onto its edges as the guardianship component of Routine Activities Theory as measured by a heterogeneous population would lead us to expect.

Our analysis suggests that different types of crime control practices may be required in different communities. Also, a different focus may be required in the heart of a community as opposed to the edge of the community. Hunter (1985) described three approaches to crime control: private citizens, parochial community agencies, and public police. At the edge of a community where there is a transition from one racial group to another, the neighbourhoods may not have the cohesion required for parochial means of crime control. In this instance, more emphasis may be required from the police and other providers of public safety. Also, a difference exists between the white and black communities. Clearly, effort should be expended on creating a sense of community focused on crime control in black communities where burglary rates are higher, perhaps using parochial efforts emanating from churches, boys clubs, and neighbourhood organizations (Kennedy, 2011). White communities that are relatively crime free and typically more advantaged may rely more on private means of crime control such as alarm systems.

Future research
This analysis is a descriptive study. We agree with Sampson (2009, p.263) when he states: “I believe modern science has denigrated descriptive…work that is every bit as important as seemingly more advanced causal models. After all, pattern recognition is a fundamental goal of science.” Clearly, the segregation of the races in our cities and
the corresponding patterns of crime is a problem that deserves more attention. Peterson & Krivo (2010) provide an excellent analysis of segregation and crime. They point out that the mechanisms that support segregation limit the potential of blacks to escape the most challenging environments that increase violence while furthering the ability of whites, as a privileged group, to locate in the most advantaged communities where violent crime is held relatively at bay (Krivo et al., 2009). This study finds that the same holds for property crime. These studies create a foundation for further careful analysis, focusing on property and violent crime. Such analyses could extend beyond the current descriptive analysis to include causal examinations of the influences of social barriers on offenders.

The spatial aspects of segregation deserve careful scrutiny, especially a careful comparison of the edges and hearts of the segregated communities. For example, the nature of the barriers surrounding segregated communities is not well understood. We are not sure why and indeed whether barriers surrounding one racial community are of a different nature from those surrounding another. Segregation and crime is a fruitful focus for future research to pursue.

Our analysis took up where Brantingham and Brantingham (1975) left off by explicitly examining the effect of the race of the burglar on the areas in which residential burglary is committed. What is needed at this point is further analysis in other American and international cities to determine if the same patterns exist. Especially important is research focused on other racial groups besides blacks and whites. Hipp et al. (2009) examined intergroup rates of robbery and assault between blacks and Latinos in a section of Los Angeles. Similar analyses in other cities, such as Miami, Houston, and San Diego, which focus on black and Latino intergroup crimes would also advance this line of inquiry. Studies examining Southeast Asian and black and or white intergroup crime also are needed. Finally, research focused on the interracial nature of other crimes such as street robbery and auto theft would broaden our perspective beyond violent crimes and burglary. Auto theft may be a particularly interesting crime since it is more likely to occur late at night when offenders are less visible (Rengert, 1997).

Our analysis offers direction for ethnographic research. Insight from active criminals concerning how an offender’s race and the racial characteristics of potential areas of offending are thought about and acted on by both criminals and control agents would be fruitful. Does travelling into another racial community affect an offender’s decision about where to burgle? Since most offenders do not burgle wealthy white homes, do
they choose the wealthiest homes in black communities or are there other criteria? Rengert and Groff (2011) discussed stopping rules in house-hunting models that could possibly describe how burglars in socially disorganized communities choose homes to burgle. One of these stopping rules is “first opportunity.” It would be informative to determine if burglars in areas with diminished levels of capable guardianship choose the first opportunity that is available to them rather than postponing a choice until a wealthier home or one that is easier to enter can be identified. We know relatively little about the house-hunting of residential burglars. Ethnographic research on the house-hunting model described by Rengert and Groff (2011) would be informative.

This research has demonstrated the importance of jointly examining the race of residential burglars, the dominant race of the area in which the burglary is committed, and the specific location of the burgled residence relative to edges of racially segregated areas, in order to further understand why offenders select particular locations at which to commit burglaries. We have outlined several avenues for future research and leave these to future scholars to explore.

References


Letters to Marcus Felson

Marcus Felson’s academic career began as a sociologist graduating from the University of Chicago and the University of Michigan. He began working at the University of Illinois, moving to the University of Southern California, Rutgers University, and is now at Texas State University, San Marcos. Included in his scores of publications are his well-known books *Crime and Nature* and the best-selling *Crime and Everyday Life*, now in its fourth edition. Marcus is best known for the development and application of Routine Activity Theory. In fact, one could argue that his first publication on Routine Activity Theory in 1979 is one of the most significant publications of the 20th century in social science. Here we present letters addressed to Marcus, written by many of the contributors to this volume, that are a testament to his humanity as much as to his professional acumen.

* * *

Dear Marcus,

I became aware of your work about 15 years ago while spending time with some unnamed criminologists. Your ideas just made sense. In fact, I found your ideas to make so much sense that once I heard them they were intuitive. It boggles the mind that there has been any debate. I used your ideas (and the ideas of others within environmental criminology) in my own research for about 6 years and then received an email from you. I remember it vividly because I had just received an email from an academic rock star who liked my work…the equivalent of getting a call from Stevie Ray Vaughan telling he liked my guitar riff. The emails went back and forth
resulting in our collaboration that continues to this day. While this
was occurring I was in constant contact with an old (criminology)
friend about our correspondence. To an outsider listening, we must
have sounded like the equivalent of teenagers jumping up and down
screaming after having our picture taken with someone famous. But
to you, this was just about an exchange of ideas and the beginning of
a collaboration. You had no ego, you always wanted to put me first,
and (I believe) you often gave me too much credit. This is the plea-
sure of working with you. You are a great colleague and friend. I look
forward to our future work together. In fact, if all goes well the data
for our next paper should be ready before this book comes to print!

Sincerely,
Martin

*  *  *

Dear Marcus,

Like you I am a sociologist. I like sociology. I also think much of it
is bonkers. You stand for sane and sensible sociology. You embrace
the sociological imagination at its best. You are a giant standing on
the shoulders of giants. Your witty take on Marx’s famous aphorism,
“Man makes history but not in conditions of their own choosing”,
with instead, “People choose, but they cannot choose the choices
available to them”, is masterly. You take seriously the precept that
simple is best – in text, tables and statistics. Finally, you are generous
with advice and encouragement. I try to emulate you and to persuade
my students to do the same. Many thanks.

Nick

*  *  *

A note for Marcus from Shane and Kate:

In our house Marcus you’re a household name,
To adults and children just the same.
The kids remember the friendly chatter,
And we remember the scholarly matter.
Over dinner we discuss the RAT,
And guardians, and crime trends across the day.
We wonder about Mary’s plants and flowers,
And imagine they are doing better than ours.
We’d just like to say that when all is done,
It’s great to have colleagues and friends rolled into one.

∗ ∗ ∗

When I was a young lad in grad school,
I met a professor who was no fool,
His advice opened my eyes,
And I soon realized,
His brilliance could fill a swimming pool.

AM Lemieux

∗ ∗ ∗

Marcus Felson has formed a vibrant part of our intellectual life for more than three decades. As we were working to define the borders of a criminology focused on understanding how human–environment interactions (rather than an imperative human criminality) shaped crime patterns, he published a series of brilliant studies showing how social played out across urban space–time and changed the when and where of crimes. As he has recounted elsewhere, Simon Fraser University provided us with a small grant that allowed us to bring to campus, one at a time, a number of the international scholars and practitioners who were busy shaping the field that has become environmental criminology. Among them we were able to include C. Ray Jeffery, Ronald Clarke, Antony Bottoms (he was not yet Sir Tony), Patricia Mayhew, Irwin Altman, and Marcus Felson.

Marcus was a revelation! Describing himself as a “fact grubber” and challenging our graduate students’ variously expressed, and dearly held beliefs about the “causes” of crime with the terrible words “prove it” he set a tone for a life-long friendship. He is, of course, much more than a “fact grubber” – one of the most important theoreticians in modern criminology.

Over the years we have had many shared experiences, always intellectually exciting. We have visited with Marcus in California, in New Jersey, and in Texas, and he has visited with us in Vancouver and Ottawa as our careers have taken us to different places. We have discussed and cordially argued theoretical issues and empirical matters in Montreal and Oslo and Santiago.
One of Paul’s fondest memories is of sitting with Marcus at a panel at the American Society and seeing his reaction to a young researcher state that “routine activities would be the conventional explanation” for the findings in the author’s paper. In that instant, Marcus had moved from “young Turk” status to “mainstream criminologist.” He almost fell out of his chair!

Pat fondly remembers sitting with Marcus in easy chairs in our living room in Deep Cove, looking up Indian Arm, and having some of the most intellectually exciting discussions she has ever had.

Marcus you are a great friend. We salute you.

Pat and Paul Brantingham

Dear Marcus,

Without question, you are an intellectual rock star. Fun, engaging, generous, provocative, and wise, you are without a doubt, the only person capable of uncovering the fractal patterns of crime.

Your ability to distill the essence of an argument, from even the most convoluted model, does more to advance our field than can be measured in citation counts or impact ratings. Not only are these ruminations insightful, but they are crafted with such simple elegance that they become accessible, and indispensable, to all.

I have always wondered why you are so good at developing explanations for crime. Does this incredible talent bespeak a criminal mind, so devious, that is unparalleled in the field? After all, as Ron pointed out many years ago, the spell check for Microsoft Word always wants to replace Felson, with Felon.

Your ever faithful fan,

Gisela

Long before I met Marcus, I had heard rumors of his coming. Writings in sacred peer-reviewed journals prophesized his impending appearance. Increasingly, wanderers from afar told tales of his mesmerizing presentations to the learned. There were even rumors that academics, once addled, had been struck sensible by his voice. Still, I was not a believer. How could anyone who had studied among the sociologites be useful?
I think I first caught a glimpse of him from the back of a room at a conference where he and Richard Block were talking about crime victimization differences among occupational groups (though from my distant place, he could have been talking about cheese makers). It was the Brantinghams, who first formally introduced me to Marcus, or maybe it was Ronald Clarke, or maybe Marcus introduced himself. Maybe it was at an American Society of Criminology conference, or perhaps it was at an ECCA meeting. I do not recall anything about the meeting, but in his presence, I became an acolyte, instantly.

What has consistently impressed me about Marcus, is his way of thinking about crime problems. Mixing metaphors, he can cut out the bovine excrement and go right to the simple heart of the mater. Inevitably, his synthesized ideas would reveal important aspects of crime that had the potential for useful action. His willingness to incorporate ideas from a wide variety of disciplines contributed to his abilities. But his sharp mind was also responsible for realizing what ideas should be left out.

Marcus approach to his ideas has been like open source programing. Instead of clinging to the rights to be the god of his own creation, Marcus has encouraged others, including me, to elaborate upon, expand, and extend Routine Activity Theory. Instead of viewing Routine Activity Theory as a conjecture that he must defend against other theories of criminal events, Marcus has shown how Routine Activity Theory works with the ideas of others. When I sent Marcus my dissertation, he instantly understood and embraced the central message of my research: those who own property have control over crime on their property.

And Marcus has encouraged the application of his ideas. What began as a typically academic exercise using large-scale social forces to explain aggregate changes in crime turned out to have important practical implications at the most micro-levels. Many police understand and can effectively apply the central ideas of Routine Activity Theory, even if they do not realize they are using this theory.

Marcus has produced a legacy of useful ideas and inspired colleagues. His life should be taught and his praises sung through the halls of academia.

John E. Eck

* * *

Letters to Marcus Felson
Dear Marcus,

Being able to submit a chapter for a book praising the input of worldwide magnitude that you have contributed to the sphere of criminology is indeed an honour. Your work without question has been the genesis of an uncountable array of criminological publications and surely has prompted an even greater amount of critical thoughts.

While I regret not yet having had the pleasure of meeting you in person, I feel like I know you well. From the first of my criminology student days, I have had the opportunity to be introduced to your works, and rightfully so – as the subject would otherwise be missing its substance. Indeed, it has always seemed that the overwhelming number of theories and hypotheses making up the sphere of crime studies are often intertwined and permeated by your ideas, further exemplifying the importance of your work and adding the necessary element of common sense. Hence I can say that even though I lack personal familiarity; my perception of crime, similarly to the majority of scholars in the discipline, has most certainly been shaped by your influence. I am highly grateful for that.

Regards,
Dainis Ignatans

Hi Marcus,

In my first studies in the early 1980s I drew heavily on Routine Activity Theory, having already realized how little conventional criminology had to offer. Here, however, was something useful, opening new avenues of thought.

As a young researcher, one is often apprehensive when meeting for the first time those important and influential academics familiar only through their publications. My nerves were unfounded: you were friendly and inviting from the very beginning. Then, when you were a visiting professor in Stockholm, we found out we had important common interests like good food, jazz music and crime prevention. We became friends and I have often stayed in your home with you and Mary, and I remember well the interesting conversations we have had over the years. You are always so full of ideas you want to discuss and test.
First conceived in the 1970s and 1980s, strong and influential ideas like situational crime prevention and problem oriented policing have in recent years increasingly come to be accepted and – more importantly – put into practice. Routine Activity Theory has been a vital ingredient in these developments. Thank you for that!

Best

Johannes

Dear Marcus,

We first met when Graham Farrell sent me to fetch you from the Cincinnati airport. We were hosting the 2003 ECCA conference, and I was a first-year doctoral student. I was incredibly nervous about entertaining a van full of road-weary criminologists, but you took the lead, providing our group with a private history lesson on our Queen City. Though I'm fairly certain that our international colleagues were fast asleep within minutes, you made this my only memorable trip of many into Cincinnati from northern Kentucky.

John and I claim in our paper that you create useful frameworks that can be easily manipulated or extended for various purposes. When thinking about your impact on my own work, I realized that you have been an incredible source of really good ideas. Here, I attempt to demonstrate both the versatility of your work and the value of your mentorship. You argue, “Opportunity makes the thief.” I use your ten principles to argue, “Good ideas are made by Marcus.”

1. Opportunities play a role in generating all good ideas.
   – We are fortunate that Marcus studied crime events at a time when previous theories failed to explain observable trends.

2. Good ideas are highly useful.
   – Rare is a successful crime prevention program that does not involve an idea offered by Marcus.

3. Good ideas are concentrated in space and time.
   – For example, see Volume 44 of the 1979 American Sociological Review (pages 588–608) or Crime and Nature (Sage Publications).

4. Good ideas depend on everyday movements of activity.
   – Convergence with Marcus is particularly advantageous for the career trajectories of both young and established crime scientists.
5. One good idea produces opportunities for another.

6. Some ideas offer more tempting research opportunities than others.
   – On behalf of many who enjoy a research agenda that does not involve testing and retesting an ambiguous sociological theory, we thank you, Marcus.

7. Social and technological changes help to proliferate good ideas.
   – Marcus + email = an inbox full of new research possibilities.

8. Bad ideas can be prevented by introducing good ideas.
   – Having Marcus as a panel discussant helps to steer questionable research in a more useful direction.

9. The introduction of good ideas does not usually displace bad ideas to others.
   – Although Marcus recounts the difficulties of publishing his first routine activities paper, I cannot find evidence to suggest that his persistence increased the number of bad ideas generated elsewhere.

10. Focused crime science research can produce wider declines in bad ideas.
    – The benefits of Marcus’ ideas continue to accumulate as more practitioners and academics adopt the crime science perspective.

Thank you for being so generous with your time and your magnificent ideas.

Tamara D. Madensen

Dear Marcus,

When I first arrived at Rutgers-Newark for a tour in 1995, it was after being warned by Tom Gabor, one of my professors at University of Ottawa, of the dangers of the place. He said he had just been to Newark for a conference and described how the participants had been advised to never go outside alone, but to move in large groups from building to building. Another person told me to make sure my hepatitis shots were current, because you could easily be punctured by...
discarded hypodermic needles while riding on the bus. Perhaps it is a Canadian thing – we always suspect that the United States is in the process of going to hell in a hand basket, and that its cities are teeming with crime and other maladies. Rather than the cesspool and war zone I’d been expecting, I instead saw a beautiful city and met a very nice bunch of people. In particular, I remember being very excited to meet Marcus. It was my first celebrity criminologist sighting, and I was struck by how friendly and down-to-earth he was. I left Newark on Easter Monday knowing I would return in August to begin my PhD studies and rushed back to Ottawa with my brother because the Murrah Building in Oklahoma City had just been bombed and we wanted to get home to watch CNN.

I took every class I could with Marcus. His clear way of thinking and wide-ranging knowledge made things interesting. He was the sort of professor who was around and always had time to talk to students. Between classes with Marcus and with Ron Clarke, and casual contacts with them in the library during coffee breaks with Phyllis, it was total immersion in environmental criminology. I loved it. It was a great time to be at the Rutgers School of Criminal Justice.

Marcus often had clever and amusing computer-drawn stick figures on his office door. One stands out, a stooped-over figure leaning on a cane with the caption “50 years of excellence.” Sometimes there were notes on his door, such as the one I like so much I’ve copied it for my office door – “You don’t have to be bad to do bad.”

When I asked Marcus, repeatedly, to be my dissertation advisor, he encouraged me to work with Ron Clarke instead, citing Ron’s superior ability to supervise students and move them through in good time. My response was the same, “That’s no doubt true, but I’d much rather work with you, Dr. Felson.” After the third request, he was finally convinced. During the dissertation process, which was shaky at first because I couldn’t pick a topic (first it was cargo theft in the trucking industry, then it was the grey market for stolen auto parts, until a comment from Marcus about diffusion of innovation led me to the winning topic on diffusion of crime mapping in municipal police departments), I picked up a few useful tips from Marcus that have continued to serve me well. He would often say to me, “you’re a bit indecisive. You just need to make a decision.” He also promoted the idea of “chunking” – breaking a large task like writing a dissertation down into manageable pieces. With respect to writing, Marcus said that people often get hung up because they wrote some particularly
wonderful prose that just doesn’t fit, but they can’t bring themselves to delete it. He suggested creating an additional file where one can save these brilliant musings for posterity. I practise this regularly; in addition to this letter, there is another file titled “Marcus snips” containing multiple humorous and somewhat embarrassing anecdotes about Marcus that I cut from this page.

I am particularly thankful to Marcus and Mary for letting me house sit for them. It was wonderful to leave my third-floor flat with no air conditioning to stay in their home in the leafy-green suburbs. I got to use their car and their washer and dryer. After years of riding the bus (and surprisingly, not being stuck by a random hypodermic needle) and schlepping my dirty clothes to the Laundromat, this was like heaven. Amazingly, they let me stay several times, despite me accidentally breaking a window in their back door and letting the roses run wild. Marcus had told me to be sure to deadhead the roses. Never having tended to a rose bush before, I feigned comprehension, while wondering what the Grateful Dead had to do with gardening. Another time while house sitting, I developed a severe ear infection. It was the sickest I’ve ever been. The side of my face was swelled up so much I resembled an angry red chipmunk. When they returned, Marcus drove me to a doctor and made me stay at their house until I began to recover.

It’s been 11 years since Marcus hooded me at graduation (while almost strangling me in the process), and as all former students must eventually do, I’ve “cut the apron strings” and developed my own research agenda. If we are fortunate students, we encounter teachers who profoundly shape us as scholars and as professionals, and I am forever grateful to have had the rare opportunity to have been Marcus student. He continues to contribute to my intellectual development and remains a significant influence in my life.

Sharon Chamard

* * *

The year was I think, 1985. I had only recently got to know Marcus, and had been shocked by how young he was. Giants of the discipline should have the good grace to be much older than the rest of us, and I resented Marcus for his glossy black hair and unlined face. He stayed at our home and thereby acquired three lifelong fans. If you didn’t know Marcus’ work, you wouldn’t be reading this, so I won’t
mention (for example) my belief that *Crime and Everyday Life* is the most accessible introduction to the study of crime ever written.

At the heart of Marcus’ charm and charisma was and remains his belief that everyone and everything is interesting if you look in the right way. Family and visitors were all engaged with equal attention, their views taken seriously and expanded upon under the benign influence of Marcus’ unfeigned interest. When we had time, we sat on a bench in my garden talking about anything and everything. One day, my 15-year-old daughter came into the garden to tell me something. At that stage, she was at the height of adolescent Sturm und Drang, and had a gaze that turned most people into pillars of salt. Marcus talked and listened to her, her stare softened from hatred through disdain to interest. Before I knew what had happened, they were discussing her life and career choices. Now a mid-career mental health lawyer, she remembers Marcus fondly.

During our conversations in the garden, Marcus reinforced in me the willingness to say whatever came to mind, on the basis that 10% of the time it would be worthwhile. At the time, he was interested in chaos theory, and he threw out ideas incessantly, to be winnowed later. In his time in Manchester, he taught me more about the history of Ashkenazy Jews in the city than my local Jewish friends ever did. His sense of fun was ever-present. In recent years, it has been manifest in our email exchanges being written as doggerel. In reply to my versified pessimism about criminology, he wrote

Professors are sometimes pretentious
And other times they are dementious
But somehow eventually despite it all
Academe gave something to us all.
It takes exposure to crap and drivel
To make our minds adjust and swivel.
In time it sharpens the cerebrum
So we can cut through all the tedium.

It’s therefore fitting that I conclude this in bad verse.

Marcus’ fans are far from rare
In fact they’re found most everywhere
This book is sourced in admiration
From oiks like me in every nation
His prose is simple, vision clear  
His clarion call o’er many a year  
‘From scofflaws all, avert your scrutiny  
The answer lies in opportunity’

Ken Pease

* * *

My earliest memory of Marcus Felson was when he was teaching at the University of Illinois. The University of Illinois had excellent Geography and Regional Science departments and some of their discipline must have rubbed off onto Marcus. Instead of studying why one person was a criminal and another not like most other criminologists at the time, Marcus developed an interest in place – why crime occurs at one place rather than another. This was a rather unusual notion at the time which is why Marcus liked it. He has always pushed the envelope beyond the reach of many of his colleagues. I have vivid memories of Marcus arguing with a whole room of critics at American Society of Criminology meetings where he was introducing his new theory of Routine Activities. He always seemed to be doing it alone, although he had a co-author. I have often wondered whether or not Marcus would have been disappointed if the critics had accepted his theory without these prolonged arguments. A few years later I became convinced that he had lost his mind: he left the University of Illinois for Southern California.

I could not imagine why anyone would want to move to Southern California if not for the surf or the sand. I would be willing to bet that Marcus has never been on a surf board (but I would probably lose this bet). I assumed it was the sun and the sand. Now I realize it was neither since he did not stay long. After several visits to the East Coast, he joined Ron Clarke at Rutgers University. Thus began a very prolific collaboration. He also could live in Brooklyn while teaching at Rutgers Newark. I always thought of Marcus as a city person, so I thought this was permanent. That is what happens when someone tries to “pigeon hole” Marcus – he will surprise you again. His latest surprise was to move to Texas. No one saw that coming.

Marcus has made diverse and sometimes surprising choices as to where to live – Midwest to West Coast to East Coast to Texas. When you stop to think about it, his contributions to the field of criminology have been just as diverse and when first introduced, just as surprising. Marcus is continually thinking outside the box making
surprising contributions to the field that are now accepted by his
early critics. Marcus, I am proud to have you as a friend.

George Rengert

* * *

A letter to Marcus Felson in the form of a crosstab

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<tr>
<td>Kim</td>
<td>Marcus – You’ve described Routine Activity Theory as a thinking tool.</td>
<td>We first met 25 years ago at the ASC conference in Reno. Over the years, we got to know each other at ASC, ECCA, ACJS, WSC, and various other alphabet soup meetings, and had many talks in various cities of North and South America, Europe, Africa, and Australia. But it wasn’t until you moved to Austin that we really had a chance to develop our friendship. You and Mary enrich the lives of everyone you meet. As for the future, we hope you (and your mother) enjoy this festschrift. Hopefully, no more reenactments of Noah and the ark will be necessary. And we look forward to many future interesting conversations. But please – no more theory discussions at 2 am!</td>
</tr>
<tr>
<td>Lucia</td>
<td>It is not often one finds a world-renowned criminologist who is so interested in the work of others (from undergraduate students to fellow senior scholars), and who is so keen to collaborate with them, regularly offering contributions with no strings attached. That is you, Marcus; day in, day out. I think the people who don’t return your e-mails think the offer you’re making is too good to be true, very much like those lottery scams . . .</td>
<td>Marcus – I respect and admire you because of your work; but I respect and admire you even more for the person you are. I love to hear you speak Spanish and tell stories about your mum. Your poetry is so ingenious (we treasure the piece you wrote for us when we got married, “Electronic and electrifying wedding poem”). And you can speak to animals! Thank you for being such a beautiful person. We feel so lucky to have you and Mary as our friends.</td>
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Chi-square test indicates the relationship is significant.

* * *
Dear Marcus

What a pleasure and a privilege it has been to know you over the years, and it is an honour to be invited to contribute to this book that celebrates your academic achievements.

Your consummate skill is your ability to see problems and their solutions in novel and insightful ways that elude the rest of us. In others this might also be associated with dense theorizing and needless prolix, but you combine intellectual depth and encyclopaedic knowledge with theoretical parsimony and clarity of expression. You show that the quality of the idea is not measured by how impenetrable it is – in fact, the reverse is often the case – but how well it does the job, and that the best idea is of no use if no-one understands it. Despite – because of – its “simplicity,” Routine Activities Approach is one of the major criminological advances of the twentieth century and there is no doubt in my mind that it will stand the test of time where other currently popular approaches will fall away. And whenever I receive a thesis draft full of pretentious and convoluted prose, I tell the student to come back to me after he or she has read Crime and Everyday Life to see what good writing is.

On top of all of that, you are top bloke (as we would say in Australia); generous, gregarious, stimulating, and entertaining (but you can be a bit argumentative).

I hope you enjoy this book; it is a testament to the esteem and affection with which your colleagues hold you.

Richard Wortley

* * *

I first met Mark in 1950. He was much smaller and less articulate than the other people I encountered.

I attended his first lecture. It was at the breakfast table when he was six and I was three. I didn’t know what the hell he was talking about and fell asleep face-first in my oatmeal. Over time he started to make more sense.

As a child Mark was precocious and intellectual. He interacted more easily with adults than with other kids. He didn’t get drunk or smoke pot in high school or college, although he told me that one of his housemates at the University of Michigan put LSD in his food. Try to imagine my brother on a psychedelic trip.
Mark was also independent. As a young teenager he took the bus by himself to Mexico. Of course, this may say more about our parents than about Mark.

I learned philosophy because of my brother’s influence. I would tease him and then lock myself in the bathroom to avoid retribution. On the wall were quotations by Epictetus, Thoreau, and Socrates. While I waited for my parents to return, sometimes several hours, I memorized this material. I can still recite what I learned under siege.

Mark has always had an interest in politics and current events. His way of seeing the world was different and creative, even at a young age. Many of his opinions came from his own fertile mind rather than from newspapers and magazines. He was enthusiastic about JFK as an adolescent. When JFK was running for president Mark interviewed him for our school paper. When JFK suggested that Americans take 25 mile walks for fitness, Mark accepted the challenge. He set out on his own, but did not make it too far. Mark was not athletic, quitting tennis after a sound beating by his little brother.

In high school, Mark was President of Student Council. He created a scandal when he invited four visiting scientists from the USSR to speak at school. As far as I know, he was not a fellow-traveler. What few know is that in elementary school he was president of the Dirty Words Club. He told me that the dirtiest word in the English language was “magazine” and I gleefully repeated the word to anyone who would listen. I now know not to believe everything Mark says.

Some scholars have mistakenly attributed the origins of the routine activity approach to Mark’s 1979 paper with Larry Cohen. In fact he understood the basic principles in the 1950s, following an incident in which I was involved:

I was a sweet and innocent lad,
But my brother treated me very bad.
One day when our parents were out of town,
And capable guardians were not around.
He and Bobby Richfield chose a tree,
And tied me to it so I couldn’t get free.
I knew their intentions could not be good,
When they started collecting firewood.
They were going to roast me like meat on skewers,  
A vulnerable victim of evil doers.  
I don’t think the point can be overstated:  
These offenders were highly motivated.  
But then Mrs. Rothenberg, on her walk routine,  
The most capable guardian you’ve ever seen.  
This little old lady from down the street  
Bawled them out and forced a retreat.  
Little did she know that her firm reproach  
Inspired the routine activity approach.

I summarized the routine activity approach for the family in my toast  
at Mark and Mary’s wedding. I now use it in class:

**Crimestopper**

Of old ideas Mark was leery.  
So he developed his own theory.  
The Left says attack crime at its root.  
Mark says that’s a trivial pursuit.  
Doesn’t matter if kids are coddled.  
Doesn’t matter if they’re role modeled.  
Forget about increased detention.  
That won’t lead to crime prevention.  
Forget about ideology  
The problem is the city’s ecology.  
To cut back crime in your community,  
You must reduce the opportunity.  
If everyone would listen to Mark,  
It’d be safe to go out after dark.

Finally, I should confess that I knew I wasn’t going to be burned at the  
stalk. (They weren’t allowed to play with matches.) I actually enjoyed  
hanging out with my older brother and his friend. And today, I enjoy  
the company of my brother and his ECCA friends, and am happy to  
participate in their tribute to him.

Rich Felson*

*I thank Sharon Felson (my wife) and Steve Felson (another brother) for  
editorial assistance.
Graham sent this adapted version of Clement Clarke Moore’s 1823 classic (there are no copyright restrictions) to this book’s chapter authors in December 2013, to encourage them to complete their contributions to schedule:

**A Visit from St. Marcus**

‘Twas the night before Hanukkah, when all through the house
Not a creature was stirring, not even a mouse;
The first draft was written for the Festschrift with care

In hopes that St. Marcus book’s soon prepared;
The chapter authors were nestled all snug in their beds,
While routine activities danced in their heads

And editors Martin in his ‘kerchief, and Graham in his cap,
Had just settled their brains for a long winter’s nap –
When out on the campus there arose such a clatter,
We sprang from our desks to see what was the matter.

Away to the window we flew like a flash,
Tore open the shutters, and threw up the sash,
To see potential offenders in new fallen snow,
Interacting with suitable targets below;

When, what to our wondering eyes should appear,
But a miniature sleigh, and eight tiny reindeer

With a fulsome old driver, so lively and raucous,
We knew in a moment it must be St. Marcus.
More rapid than eagles his coursers they came,
And he whistled, and shouted, and called them by name:
Now, Eck!, now, Clarke!,
now Knutsson and Boba!
On, Rengert! On, Pease! On, Bichler and Wortley!
To the top of the porch! To the top of the wall!
Now draft chapters! Draft chapters! Draft chapters all!

As dry leaves that before the wild hurricane fly,
When they meet with an obstacle, mount to the sky;
Right up to the deadline into chapters they threw,  
A snowdrift of wisdom – and St. Marcus too:

And then in a twinkling, we heard on the roof  
The prancing and pawing of each little hoof.  
As we drew in our heads, and were turning around,  
Down the chimney St. Marcus came with a bound:

He was dressed all in fur, from his head to his foot,  
And his glasses all tarnished with ashes and soot;

A bundle of toys was flung on his back,  
But he looked like a criminologist opening his ASC pack:

His eyes – how they twinkled! His dimples: how merry,  
His cheeks were like roses, his nose like a cherry;  
His droll little mouth produced an insightful quip  
On our notable absence of guardianship

The stump of strain theory held tight in his teeth,  
Rational choice encircled his head like a wreath.  
He had a broad evidence-base, and a little round belly  
That shook when he laughed, like a bowl full of jelly:

He was chubby and plump, a right jolly old elf,  
And we laughed when we saw him in spite of ourselves;  
A wink to ecology and a twist of his head  
Soon gave us to know we had nothing to dread.

He spoke several a word, but went straight to his work,  
And filled all the stockings; then turned with a jerk,  
And laying his finger aside of his nose  
And giving a nod, up the chimney he rose

He sprung to his sleigh, to his team gave a whistle,  
And away they all flew, like the down of a thistle:  
But we heard him exclaim, ere he drove out of sight –  
Happy Hanukkah to all, and to all a good night
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