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Micro-Place Homicide Patterns in Chicago 1965 – 2017



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1965 - 2017

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Summary

This Springer brief examines 36,263 homicides in Chicago over a 53-year study period, 1965 through 2017, at micro-place grid cells of 150 m by 150 m. This study shows not only long-term historical patterns of homicides in Chicago, but also identifies the historical context of homicide in reference to the dramatic spikes in homicides in 2016–2017. We use several different inequality metrics as well as kernel density estimation maps to demonstrate that homicides were more clustered in the 1960s compared to later periods. We use zero inflated group-based trajectory models to demonstrate the long-term temporal stability of homicides at micro-places. Decreasing homicide trajectories show clear spatial clusters, one of which is heavily concentrated around places of former high-rise public housing.

Keywords Micro-places · Micro-level · Group-based trajectory models · Homicide · Hot spots · Gun violence · Chicago

Contents

| | | |
|----------|--|----|
| 1 | Introduction | 1 |
| | References | 3 |
| 2 | Literature Review | 5 |
| | Chicago School and Crime | 5 |
| | Micro Places and Crime Trajectories over Time | 8 |
| | Crime Pattern Theory at Micro Places | 10 |
| | Research on Crime Clustering | 12 |
| | Measuring Clustering When Crime Is Rare | 13 |
| | Is the Clustering Random? | 15 |
| | Decomposing Clustering to the Appropriate Spatial Resolution | 16 |
| | Identifying Specific Spatial Clusters | 18 |
| | References | 19 |
| 3 | Understanding the Data | 25 |
| | References | 29 |
| 4 | Research Questions and Methods | 31 |
| | References | 34 |
| 5 | Analysis and Results | 35 |
| | Gini Crime Clustering | 35 |
| | Theil Decomposition of Within vs Between Neighborhood Clustering | 38 |
| | Transition Probabilities to Examine Homicide Patterns over Time | 40 |
| | Group-Based Trajectory Analysis of Homicides over Time | 45 |
| | Hot Spot Clusters via Kernel Density and Highest Density Regions | 52 |
| | Space-Time Clusters via SatScan | 55 |
| | References | 58 |
| 6 | Conclusion | 59 |
| | References | 64 |
| | References | 67 |
| | Index | 73 |

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Chapter 1

Introduction



Abstract This brief chapter introduces the city of Chicago, including the crime of homicide over the past 53 years, and defines the framework for the remainder of the book. The authors outline the benefits and issues of longitudinal spatial analysis, including how this work contributes to the wealth of previous crime research that has been conducted in Chicago.

Keywords Chicago · Homicide · Crime clustering · Micro places · Spatiotemporal

Chicago is likely one of the most researched urban areas for its crime trends in space and time (Bernasco and Block 2010; Block 1977; Block 1979; 1987; Bursik and Webb 1982; Griffiths and Chavez 2004; Morenoff and Sampson 1997; Morenoff et al. 2001; Papachristos 2013; Papachristos et al. 2011; Sampson 2011; Sampson et al. 1997; Shaw and McKay 1969; Smith 2014; Stults 2010; Wilson 1990). This work expands on prior analysis of crime trends in Chicago at larger neighborhood levels by examining temporal homicide trends at micro places (Schnell et al. 2016).

Such analysis was in part spurred by the recent uptick of homicide in 2016. Were places that dramatically increased in homicide always historically high crime areas? Or did the homicide increase result in expanded areas of risk? To answer these questions, one needs to examine homicide from a historical lens and identify areas of historical high risk to identify changes from those typical patterns.

While crime and space has focused on neighborhood trends over much of the twentieth century, recent emphasis on crime at micro places has provided unique insight into what causes crime at particular places. Similar to the original work of Shaw and McKay (1969) on social disorganization, crime consistently concentrating at micro places over long periods of time signals that crime and place are tightly coupled (Weisburd et al. 2012). This can in turn promote new theories and explanations for spatial crime patterns that have not been examined by prior work.

Examining homicides at micro places over a very long period of time can additionally provide further evidence for the temporal stability of crime at micro places. The majority of prior studies replicating consistent patterns have focused on either all calls for service or all reported crimes (Curman et al. 2015; Weisburd et al. 2004; Wheeler et al. 2016). While some work has focused on crime-specific outcomes