

Here Today, Gone Tomorrow: The Temporal Stability of Crime Hot Spots and the Criminology of Place

Ph.D. Dissertation

Department of Criminology and Criminal Justice
University of Missouri St. Louis

Michael J. Deckard

Abstract

It is widely recognized that the distribution of crime in urban areas is not randomly distributed, but is highly concentrated in small pockets of space known as crime “hot spots”. While the empirical evidence supporting the law of crime concentration is strong, most studies that have examined the stability of crime hot spots over time have aggregated crime across years. This dissertation seeks to expand our understanding of the temporal stability of micro-geographic crime hot spots by addressing three research questions: (1) How are high-crime micro-places distributed at the monthly level? How much variation exists in the distribution of crime across micro-places when crimes are aggregated on a monthly rather than an annual basis?; (2) Do structural characteristics associated with micro-geographic crime hot spots differ compared to low-crime and crime-free places?; and (3) Are structural characteristics of micro-geographic hot spots associated with hot spot periodicity? Can the likelihood that a place will experience multiple high-crime months be determined by its structural characteristics? To address these questions, the dissertation examines data from the St. Louis Metropolitan Police Department (SLMPD), the American Communities Survey (ACS), the decennial Census of the United States, and the St. Louis Open Data Portal. In response to the first question, this dissertation explores monthly crime concentrations at the micro-geographic level using street segments in St. Louis, Missouri. Logistic and negative binomial regression models are estimated to address the second research question regarding the structural attributes of violent and property crime hot spots. Finally, the structural characteristics of temporary and violent crime hot spots are compared using a Cox regression model commonly used in survival analyses. Results from these analyses produced several substantively interesting findings, including: (1) there is significant within-year variation in the distribution of crime hot spots, including differences in the temporal stability of high-crime street segments depending on the type of crime studied; (2) violent and property crime hot spots can be distinguished based on their specific sets of structural attributes, with some characteristics of place exhibit inverse relationships between crime types; and (3) the attributes of micro-geographic places may influence the temporal stability of crime hot spots. Implications of these findings for criminal justice policy and directions for future research are discussed.