

Testing Ecological Theories of Offender Spatial Decision Making Using a Discrete Choice Model

The following research brief describes a scholarly article that examines the spatially concentrated nature of crime. A model is presented that uses the concept of discrete choice to help understand this phenomenon. This research focuses on theft from vehicles, a crime that often occurs in a retail setting on the property of a store. This type of retail crime is extremely costly not only due to the events themselves, but to the unrest and fear that customers experience as a result of negotiating store parking lots knowing that a crime event may occur. One of the authors on this work will speak at the IMPACT conference in 2015.

Background:

- Research has shown that crime is spatially concentrated. It occurs in clusters.
- Studies have sought to better understand why this occurs.
- Policing efforts, traffic patterns, public transit routes, SES, and demographics are all factors that may influence the clustering of crime.
- The current research examines the relationship between where offenders reside and spatial crime clustering.
- Proximity of offender's homes effect on decision making and theft from vehicle (TFV) events is examined using a discrete choice model.
- Two theoretical frameworks are tested: Crime Pattern Theory and Social Disorganization Theory

Findings:

- Offenders favor areas that are low in social cohesion
 - Both population turnover and socioeconomic heterogeneity are significant predictors
- Offender favor targets that are close in proximity to their home
 - Finding is statistically significant for both adult and juvenile offenders
 - Juvenile and adult offenders differ on preference for proximity to schools and train stations
- Accessibility via street network is also a decision factor in adult offenders
 - Effect is not significant for juvenile offenders

Implications:

- Evidence was found that supports both examined theoretical perspectives.
- These findings allow us to better understand the dynamics that underlie an offender's decision to commit a crime.
- Efforts should be made to better collect, store, and utilize data on where offenders reside relative to where they committed their crime, including the factors that proved statistically significant in this research, in order to better predict and prevent future crimes.
- In particular, visualization of this information is often very helpful. Plotting homes on a geo-spatial map with temporal markers, along with notable objects such as train and bus stations, major highways, speed limits, traffic flow, etc, can greatly enhance understanding of the factors that come together to influence crime events.