

Criminology Theories and Neighborhoods

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Social disorganization theory

- Origins dated to the 1920s and 1930s during growing urbanization, industrialization and immigration in Chicago
- Rooted in sociology and later used in criminology starting in the 1940s
- Focuses specifically on crime in neighborhoods
- Uses environmental factors as attributes that propagate crime; argues against theories which argue biological determinism; social disorganization is a symptom of neighborhoods, not individuals
- Social disorganization in a nutshell:
 - Impoverished conditions (e.g. lack of jobs, infrastructure, revenue, etc.)
 - Transient populations
 - Lack of social bonds (sense of community)
 - Lack of social controls
 - Can persist after multiple and complete residential turnover
- More recent research initiatives:
 - More intricate (surgical) understanding of social bonds, less mass representation
 - More concisely defining social capital
 - Collective efficacy (governance over subcultures and communities)
 - Increase in empirical examination
 - External effects (e.g. policing policies, political policies, economic policies)
 - Importance of subcultures and how the existence of many may lead to more crime

Takeaways:

- Relevancy of rational choice theory and its sub theories (such as routine activity theory); how decisions are made to commit a crime on a target
- Origins (social disorganization theory) vs commitment (rational choice theory)?
- Social psychology is a driving factor of stimulating more apparent research initiatives of social disorganization theory

Crime Mapping Techniques

Mar 21, 18

Point mapping

- Most common
- Pins represent crime events on a map
- Event metadata can consist of: type, date, time, conditions
- Difficulty in interpreting larger datasets

Spatial ellipses

- Hierarchical clustering
 - Uses nearest neighbor analysis technique
- K-means clustering
 - Groups crime point clusters
 - Identifies areas that need closer inspection
 - Not particularly strong for identifying hotspots
 - Requires multiple, user-defined parameters; produces different interpretations based on analyst input
- Note: crime and crime hotspots do not occur in ellipses

Thematic mapping of geographic boundaries

- Boundaries are formed based on borders created by beats, census blocks, polling districts, wards, borough boundaries, etc.
- Relies on defining distribution methods and layers to depict what the audience wants to see
- Can mislead in identifying where the spatial cluster of crime may exist, hence also missing where hotspots exists
- Suited for advising managerial actions associated with administrative and political purposes

Quadrat thematic mapping

- Ignores political/administrative boundaries and utilizes uniform grids laid over the interested area
- Can count crimes per grid square or density of grid squares
- Doesn't completely eliminate the issue of creating borders
- Can be victim to inaccurate interpretation
- Representation restricted by grid size

Interpolation and continuous surface smoothing methods

- Interpolation
 - Uses a search radius of aggregated points
- Quartic kernel density estimation
 - Grid placed over interested area
 - Points are weighted depending upon how the radius search performs; points closer to the center of the radius search are weighed more heavily
 - Grid cell size and bandwidth (search radius) must be set to perform this method
 - Bandwidth relates to the mean nearest neighbor distance

Takeaways:

- Neighborhoods, crime mapping
- Criminology theories associated

Crime Mapping

Mar 7, 18

Kernel density estimation

- Platform: CrimeStat III, National Institute of Justice, Free
- Highest PAI
- Second lowest RRI
- Geospatial supplement needed

Risk terrain modeling

- Platform: Risk Terrain Modeling, Rutgers University, Proprietary/Commercial
- Highest RRI
- Second highest PAI
- Geospatial supplement needed

Predictive accuracy index

- Accuracy of forecasting future events

Recapture rate index

- Precision over a period of time

Takeaways:

- Layering overlays, crime mapping
- Clustering methods