**PURPOSE**: Crime analysts and researchers of crime patterns know intuitively, and empirically, that 'context matters'. That is, crime patterns are caused by a multitude of factors, and these are not easily disentangled from one another. Conjunctive Analysis of Case Configurations (CACC) is a data analysis technique that specifically looks at the composite profile of a particular unit of analysis (that is, a person or a place). The technique is used to understand the complex causal relationships that emerge when combinations of variables are present or absent when examining a particular outcome such as crime. CACC can be used to explore patterns in data or in support of more formal tests of research hypotheses.

**METHOD**: One data file is needed for the analysis, where rows of data represent each unit of

**PURPOSE:** Crime analysts and researchers of crime patterns know intuitively, and empirically, that 'context matters'. That is, crime patterns are caused by a multitude of factors, and these are not easily disentangled from one another. For instance, research often looks to determine correlates of offending behavior at the individual (offender) level, or at the place level to make sense of crime patterns.

Traditional data analysis techniques such as regression or correlation analysis are concerned with single predictors (variables) of crime, or the effects of associations between pairs of variables. What these quantitative approaches cannot do is consider the complex causal relationships of combinations of variables.

Conjunctive Analysis of Case Configurations (CACC) is a data analysis technique that overcomes

The general idea behind CACC is to aggregate individual

**APPLICATION**: CACC can be used to for describing, exploring, or testing hypothesis related to observed patterns of case configurations. Here, two examples are provided which demonstrate how the technique is applied in exploratory analysis and research.

Using data from the U.S. National Crime Victimization Survey (NCVS), researchers produced a CACC truth table so that they could describe the situational contexts for self-defensive gun use. In this study, the normative boundaries were defined as case configurations that fell within ±1 standard deviation (SD) of the average values for all situations combined. By rank ordering situational contexts of self-defensive gun use according to their overall frequency, and their relative distribution of helping and hurting consequences, these researchers were able to identify 1) the particular situational factors that were important for understanding when gun use by victims is most common; and 2) under which circumstances it was used most effectively.

| ID | Type of Crime | Offender Armed w/Gun | Private Home | At Night | Offender On Drugs or Alcohol (known) | Mean | N |
|---|---|---|---|---|---|---|---|
| 1 | Rape/SA | Yes | Yes | No | Yes | 0.17 | 6 |
| 2 | Robbery | Yes | Yes | No | | | |

## GENERAL RESOURCES

Research brief on 'Establishing Situational Context in Risk Terrains' (employing CACC) – available at http://rutgerscps.weebly.com/uploads/2/7/3/7/27370595/conjunctiveanalysis_insightsbrief.pdf

## A SELECTION OF ACADEMIC PAPERS AND BOOK CHAPTERS

Bryant, W., Townsley, M., & Leclerc, B. (2013). Preventing maritime pirate attacks: A