

# Modelling the spatial decision making of terrorists: The discrete choice approach

Zoe Marchment and Paul Gill



## Theory

Collectively, rational choice perspectives, routine activity theory and crime pattern theory suggest offenders actively select areas and targets in a way that minimises effort and risks and maximises rewards. Research suggests that a multistage hierarchical process in decision making occurs, whereby offenders select an area that is deemed suitable for the offence, before selecting the specific target. It is assumed the offender chooses the alternative that offers the best perceived utility, based on expected rewards, risks and effort.

## Method

The discrete choice approach models target selection by considering multiple factors at the same time and enables an impedance measure of distance to be treated as an explanatory variable. As well as the location that was selected for an attack, the model also allows for areas that were not chosen to be examined simultaneously, as well as also considering the origin of offender, and other defined factors that may affect decision making. This study used the discrete choice approach to analyse 150 attacks by 127 members of the Provisional Irish Republican Army (PIRA), living in the city of Belfast, Northern Ireland, in the period 1969–1989.

## Findings

The findings provide further support that terrorists behave similarly to ‘traditional’ criminals in terms of spatial decision making when selecting targets. The results demonstrate the characteristics of target areas as well as the properties of their likely journey to the target influenced the location of PIRA attacks.

The model indicated that three of the variables affected the likelihood of an area being chosen as a target.

- An increase in distance from the home location decreased the likelihood that the SA would be chosen.
- The presence of a major road increased the likelihood that an area would be selected.
- The presence of a military base or police station increased the likelihood that an area would be selected.

The results provide support that decisions made by terrorists are guided by rationality, are similar to those made by traditional criminals, and are affected by associated risks and rewards.