

# A Generative Model For Predicting Terrorist Incidents



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## Motivation

Working Hypothesis: We can create mathematical models of societies and use them to advise in coalition operations about terrorist incidents

- Model different groups that exist within the societies
- Analyze different scenarios to determine probability of terrorist incidents

## Generic Model

- **Geophysical Aspects:** Distribution of individuals over a geographical area
- **Individual Model:** four attributes describing individual properties
- **Group Model:** Distribution of attributes among members in the group

## Scenario I: Region in Anarchy

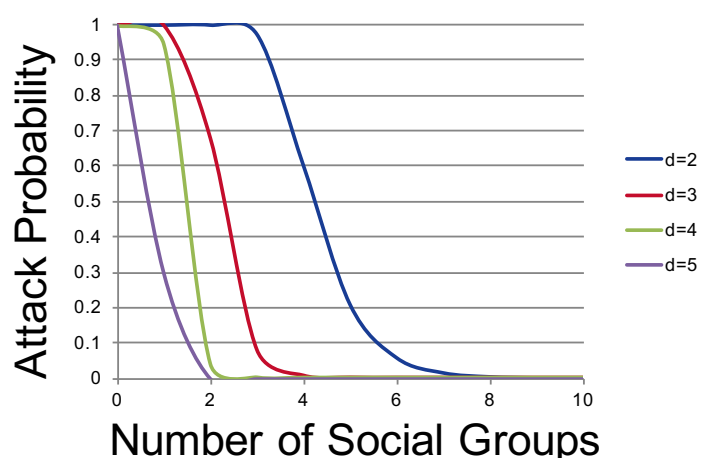


Figure 1: Probability of Terrorist Attack as function of Independent Social Groups

**Implication:** likelihood of terrorist incidences inversely related to the average number of independent large social groups to which an individual belongs, and directly related to the correlations among large social groups to which an individual belongs.

## Scenario II: Police State

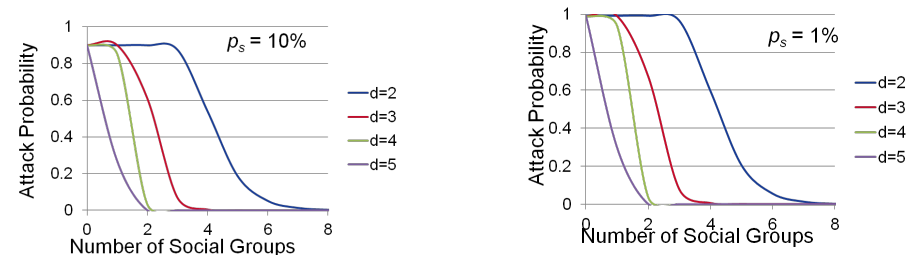


Figure 2: Probability of Terrorist Attack as function of Independent Social Groups for two degrees of policing effectiveness

**Implication:** State policing less effective for reducing terrorism versus promoting formation of new large social groups

## Scenario III: Barrier Model

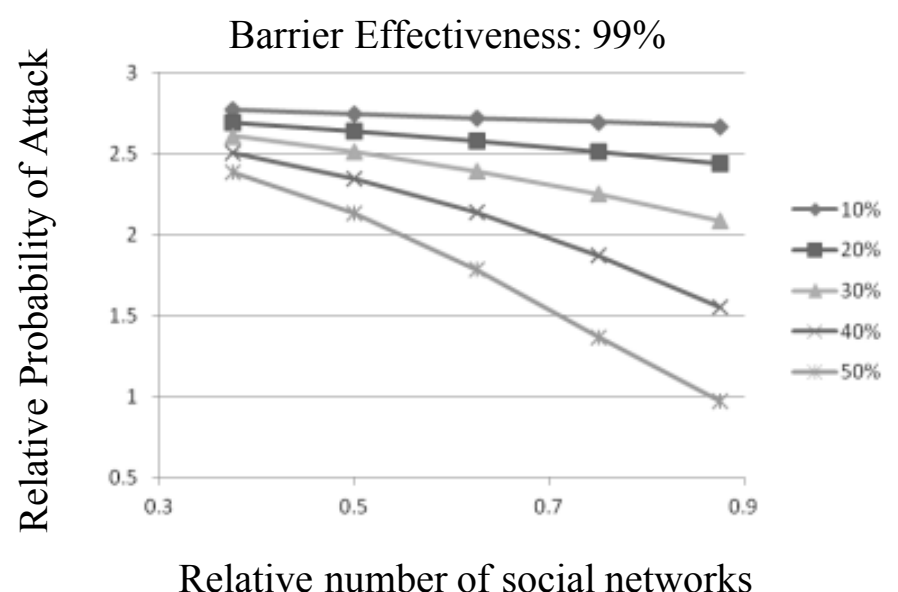


Figure 3: Probability of Terrorist Attack as function of Independent Social Groups

**Implication:** Separation of population with barrier relatively ineffective approach to reduce terrorism compared to promoting the formation of new social networks among individuals

## Future Research

Additional scenarios; and models for evolution of social groups over time