The Strategic Importance, Causes and Consequences of Terrorism

How Terrorism Research Can Inform Policy Responses

Todd Stewart, Ph.D.
Major General, United States Air Force (Retired)
Director, Program for International and Homeland Security
The Ohio State University
Discussion Points

• Ohio State University’s Program for International and Homeland Security

• Conceptual Frameworks for Analyzing Terrorism: Its Motivations, Mechanisms and Consequences

• The National Academic Consortium for Homeland Security (NACHS)
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Program Description

• University-wide program established in April 2002 to support those government agencies and non-government organizations responsible for U.S. international and homeland security, by promoting and supporting related:
  – Academic Research
  – Technology development and transition - commercialization
  – Education
  – Training
  – Outreach and service
Program Objectives

• Increase our understanding of national security issues, especially the growth of extremism by nation states and trans-national groups, the strategic and tactical use of terrorism, and the proliferation of technologies which have the potential for use as weapons of mass destruction;

• Promote better-informed public policy, strategy, plans and programs, regarding national security issues;
Program Objectives

• Develop new technologies and transitioning those technologies into effective, practical and affordable solutions to (current and future) international and homeland security problems; and

• Prepare people to better understand and deal more effectively with the international and homeland challenges we face today and will face in the future.
Strategy

• Establish the program as a university-wide (multi-functional, multi-disciplinary) program: Do not establish a separate center/institute for homeland security (within a particular college or staff office) -- the university (as a whole) IS the “center”
Strategy

- A balanced, integrated, multi-functional program:
Focus Groups

To facilitate interdisciplinary research and study in this area, a number of focus groups have been established. These groups currently include:

- Agri-terrorism
- Bio-terrorism/Defense
- Border Security
- Business and Economic Issues
- Critical Infrastructure Protection
- Cyber-terrorism/Security
- Domestic Counter-terrorism
- Education and Training
- Emergency Preparedness and Response
- Government & Political Issues
- Homeland Security – General
- Information Sharing and Systems
- Intelligence and Warning
- International Issues
- Legal Issues
- Medical Care Delivery
- Public Health
- Science and Technology
- Sensors and Detection
- Social and Cultural issues
- Terrorism – General
- Transportation Security
- Weapons of Mass Destruction
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• **Conceptual Frameworks for Analyzing Terrorism: Its Motivations, Mechanisms and Consequences**

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Conceptual Frameworks

- Taxonomy of Terrorism
  - Strategic Model
  - The Risk of Terrorism: Policy Modeling
What is “terrorism?”

- No common definition or consistent usage
  - Terrorism versus (e.g.) unconventional warfare, asymmetric warfare, guerilla warfare, special operations, etc.

- **My working definition:** “Threats or acts of violence, generally intended to change the attitudes and behaviors of some individual or group, through fear.”
Taxonomy of Terrorism

• Why do individuals or groups employ terrorism as a strategy or tactic to achieve their goals?
  – Often perceived to be the only feasible alternative
  – It’s affordable – more affordable than other feasible alternatives
  – It works
Taxonomy of Terrorism

• Many different terrorism scenarios and variables: terrorism and terrorists are not homogeneous … they are multi-dimensional

• A general taxonomy can be helpful in dealing with the inherent complexity and diversity

• Some key descriptive characteristics:
  – Types of terrorists
  – Motivations for terrorism
  – Targets of terrorism
  – Modes of attack
Taxonomy of Terrorism

- **Types of terrorists (e.g.):**
  - Individuals, acting independently
  - Individuals, supported by a group or nation state
  - Non-state groups, acting independently
    - Intra-state groups
    - Trans-state groups
  - Non-state groups, supported by nation states
  - Nation states
Taxonomy of Terrorism

• **Motivations for terrorism (e.g.):**
  – Political
  – Religious
  – Ethnic and racial
  – Social and cultural
  – Economic
  – Many others, e.g.,: personal power, revenge, greed, etc.
Taxonomy of Terrorism

• **Targets of terrorism (e.g.):**
  – Specific (non-symbolic) people or institutions
  – Symbolic people, institutions, monuments, etc.
  – Concentrations of people
  – Critical infrastructure
  
  • Agriculture
  • Food
  • Water
  • Public Health
  • Emergency Services
  • Government
  • Defense Industrial Base
  
  • Information and Telecommunications
  • Energy
  • Transportation
  • Banking and Finance
  • Chemical Industry
  • Postal and Shipping
Taxonomy of Terrorism

• **Modes of attack:**

  – Technologies and weapons (e.g.):
    • Conventional weapons
    • Weapons of Mass Destruction or “WMD” (Chemical, Biological, Radiological, Nuclear and High-yield Explosives … “CBRNE” )
    • Cyber

  – **Methods of employment (e.g.):**
    • Suicide attacks
    • Non-suicide attacks
Taxonomy of Terrorism

**Terrorist Type:** Trans-state Groups

- Critical Infrastructure
- Population concentrations
- Non-symbolic
- Symbolic

- Political
- Religious
- Ethnic and racial
- Social and cultural
- Economic
- Greed
- Revenge
- Other

Suicide Non-suicide
Conceptual Frameworks

- Taxonomy of Terrorism
- **Strategic Model**
- The Risk of Terrorism: Policy Modeling
Strategic Model

Deterrence
Prediction
Prevention
Detection
Response
Attribution
Recovery and Reconstitution
Crisis Management
Mitigation

Terrorist Threats to the United States
Strategic Model

- Deterrence
- Prediction
- Prevention
- Detection
- Recovery and Reconstitution
- Crisis Management
- Mitigation
- Response

Target (e.g.):
- Citizens
- Infrastructure
- Economic Sector
- Symbolic
Strategic Model

Deterrence

Response

Prediction

Prevention

Detection

Mitigation

Attribution

Recovery and Reconstitution

Crisis Management

Biological Attack Against the Citizens of Ann Arbor
Currently, many more questions than answers: Need for related research and study
Strategic Model

• For each element of the process ...
  – Who is responsible?
  – What is the policy and strategy?
  – What capabilities are required to execute the policy and strategy?
  – What capabilities exist today?
  – What initiatives, authorities and resources are required to provide the required capabilities (if they don’t currently exist)?
Strategic Model

• Considering all of the elements in the process and all of the associated capability requirements, and assuming constrained resources, how should we invest our available resources to achieve the greatest overall improvement in our security … or reduction in risk? What should be our priorities?
  – Which threats?
  – Which targets and vulnerabilities?
  – Which additional capabilities?
  • Deterrence
  • Intelligence & Warning
  • Prevention
  • Detection
  • Mitigation
  • Crisis Management
  • Recovery & Reconstitution
  • Attribution
Conceptual Frameworks

- Taxonomy of Terrorism
- Strategic Model
- **The Risk of Terrorism: Policy Modeling**
Risk Modeling: Policy Modeling

- Dealing with terrorism is fundamentally an issue of risk management
- Zero risk is generally neither feasible nor affordable
Risk Modeling: Policy Modeling

• “Risk is relative”

• Keeping the risk of terrorism in perspective:
  – 9/11/01: ~ 3,000 fatalities (80 countries)
  – 2001 earthquake fatalities in India: ~ 20,000
  – Annual U.S. motor vehicle fatalities: ~ 42,000
  – Annual U.S. homicides: ~ 15,000
  – Annual U.S. deaths from obesity: ~ 400,000

  • “On the average,” beer and Twinkies are a much greater risk than terrorists
"Expected Impact" = Probability x Impact
A few critical (policy) questions:

- What is the current risk?
  - To what?
  - With what?
  - By whom?

- How much risk is acceptable?

- How much risk reduction can we afford?

- Who pays?

- What is the most cost-effective strategy to reduce risk to an acceptable level?
Risk Modeling: Policy Modeling

- A risk-analysis model of a terrorist incident can be useful in helping to:
  - Understand the inherent complexities, dynamics and uncertainties
  - Inform public-policies, strategies, programs, plans, resource-allocation priorities, etc.
  - Direct and focus future research
One useful and familiar general modeling technique is called “influence diagramming:”
Risk Modeling: Policy Modeling

• Influence diagram – describing the relationships:
  – Direct or inverse
  – Correlational or precedential/temporal (causal)
  – Discrete or continuous (linear, non-linear)
  – Domain and range of the relationships
  – Incremental costs
Risk Modeling: Policy Modeling

• The model assumes:
  – Rational decision making
  – Behavior is a function of the perceived value to the decision maker (individual or group) of the expected outcomes, relative to other alternatives
Risk Modeling: Policy Modeling

Risk to **Target X**
Of an attack by **Group Y**
By Attack **Mode Z**

![Diagram showing the relationship between risk, threat, vulnerability, and adverse consequences.](Image)
Risk Modeling: Policy Modeling

Risk

Threat

Capabilities

Access to Weapons
Funding & Support
People

"C3I" Effectiveness

Leadership, planning, communication, etc.
Risk Modeling: Policy Modeling

- **THREAT**
  - **CAPABILITIES**
    - ACCESS TO WEAPONS
    - FUNDING & SUPPORT
    - PEOPLE
  - INTENT TO ATTACK
  - “C3I” EFFECTIVENESS
  - PERCEIVED VALUE OF GROUP MEMBERSHIP TO INDIVIDUALS
Risk Modeling: Policy Modeling

- **Threat**: The intensity of the threat is determined by the group's perceived value of a successful attack, relative to alternatives, the probability of a successful attack, and the adverse consequences to the group of an attack.

  - **Capabilities**: The group's perceived value of a successful attack, relative to alternatives.
  - **Intent to Attack**: The group's perceived probability of a successful attack.
  - **Group's Perceived Adverse Consequences to the Group of an Attack**: The adverse consequences to the group of an attack.
Risk Modeling: Policy Modeling

- **VULNERABILITY**
  - +
  - +
  - +

- **THREAT**
  - +
  - +
  - +

- **ADVERSE CONSEQUENCES**
  - +
  - +
  - +

- **CAPABILITIES**
  - +
  - +

- **INTENT TO ATTACK**
  - +
  - +
  - +
  - -

- **GROUP’S PERCEIVED VALUE OF A SUCCESSFUL ATTACK, RELATIVE TO ALTERNATIVES**

- **GROUP’S PERCEIVED PROBABILITY OF A SUCCESSFUL ATTACK**

- **GROUP’S PERCEIVED ADVERSE CONSEQUENCES TO THE GROUP OF AN ATTACK**
Risk Modeling: Policy Modeling

Risk to **Target X**
Of an attack by **Group Y**
By Attack **Mode Z**

- **VULNERABILITY**
- **THREAT**
- **ADVERSE CONSEQUENCES**

- Target Protection Measures
- Capability to Prevent an Attack
- Consequence Mitigation Measures
Strategic Model

- Deterrence
  - Prediction: Intelligence & Warning
  - Prevention
  - Detection
- Risk Reduction Alternatives
- Attribution
- Recovery and Reconstitution
- Response
- Crisis Management
- Mitigation

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Risk Modeling: Policy Modeling

- Capability to Prevent an Attack
  - Information Sharing & Fusion Technologies & Authorities
  - Intelligence & Warning Effectiveness

+ Adverse Impacts On Personal Privacy and Civil Liberties
Risk Modeling: Policy Modeling

RISK OF ATTACK

Cost of Risk-Reduction

TOTAL COST

Economic Consequences of an Attack

Risk-Reduction Measures

- Threat reduction
- Target vulnerability
- Consequence mitigation
Risk Modeling: Policy Modeling

• What should be our national policy?
  – Maximize risk reduction within available resources
  – Meet established risk standards at the lowest cost

• **Bottom Line:** How much should we invest in terrorism risk-reduction (and how should we invest), versus investments in other national priorities?
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National Academic Consortium - NACHS

• National association of universities and colleges involved with homeland security (broadly defined) in some fashion

• Established in March of 2003

• Open to all academic institutions (membership is institutional, vice individual)
  – Public and private
  – Universities, colleges, community colleges, specialized institutes
Objectives:

– Promote awareness, communication and collaboration among academic institutions

– Establish and maintain a public, on-line, searchable data base of information describing the member institutions’ homeland security-related programs, activities and resources:

http://www.osu.edu/homelandsecurity/NACHS
Objectives (continued):

- Serve as a sounding board and advisory body, to assist both government agencies and non-government organizations responsible for homeland Security, at home and around the world.

- The goal is for the NACHS to become the primary academic strategic partner to the Department of Homeland Security and other agencies responsible for national security.
• Current NACHS membership includes 121 institutions, representing 39 states and the D.C.

• No cost to join; only obligations:
  – Identify a point of contact for the institution
  – Enter into the NACHS data base (on the web site) information describing the institution’s homeland security-related programs, activities and resources, e.g., centers/institutes, research initiatives, educational programs and courses, outreach/service projects, etc.
The way ahead:

- Expand membership to include appropriate academic societies
- Enhanced newsletter
- National conference
- Interest Groups
- Committee Structure
- Refereed Journal
Discussion Points - Summary

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