

Vladimir Putin and the Psychology of Nuclear Brinkmanship: Examining Challenges to Rational Decision Making Involving Nuclear Weapons

Paul Slovic

Decision Research, University of Oregon, and Oregon
Research institute

Rose McDermott
Brown University

SMA
September 28, 2023

The Path of this Talk

- Part I Slovic: The Science of Decision Making

Background

Structuring a good decision

Where decisions fail: Severely Bounded Rationality

Segue to the Putin paper and more

Part II McDermott: Psychology: Leaders and New Deterrence Dilemmas

Weapons of Peace?

- An optimistic view about the success of deterrence
- “Nuclear weapons serve as a deterrent against major war, a hedge against an uncertain future, a guarantee of our security commitments to our allies and friends, and a disincentive to those who would contemplate developing or otherwise acquiring their own nuclear weapons. They are primarily weapons of *war prevention*, as opposed to *war fighting*”.

Richard Mies, “Strategic Deterrence in the 21st Century,” *Undersea Warfare*, Spring 2012 (2012): 12–19, 12.

- The psychology of risk and decision making raises some concerns.
- Maybe 75 years without a nuclear war occurred because nuclear superpowers did not face an existential threat from an adversary.

Historical Background: The Science of Risk and Decision Making

- Early thinking by philosophers, mathematicians, and economists
- Psychologists and other behavioral scientists (e.g. Herbert Simon) began empirical research about 1955, challenging economic assumptions of rationality
- Funding from Office of Naval Research, ARPA, and now NSF
- Thousands of research articles and three Nobel Prizes followed (Simon, Kahneman (for research with Tversky), and Thaler leading to new theoretical frameworks (eg, bounded rationality). a new field of behavioral economics; International Society for Risk Analysis founded in 1980 and a leading journal, **Risk Analysis**
- Research and applications in dozens in dozens of academic disciplines and practical domains (business and finance, engineering, transportation safety, public health and medicine, environmental protection, etc.
- Surprisingly little integration with the military community. Why?

Decision Making is Difficult and Needs Respect

- No human decision is more fraught than one involving the use of nuclear weapons—a decision on which may ride the lives of millions of people and potentially the fate of civilization.
- Decision Science has followed two paths

Normative; What are the best procedures to follow to ensure wise decisions? This involves procedures to ensure quality consideration of options, objectives, consequences, values.

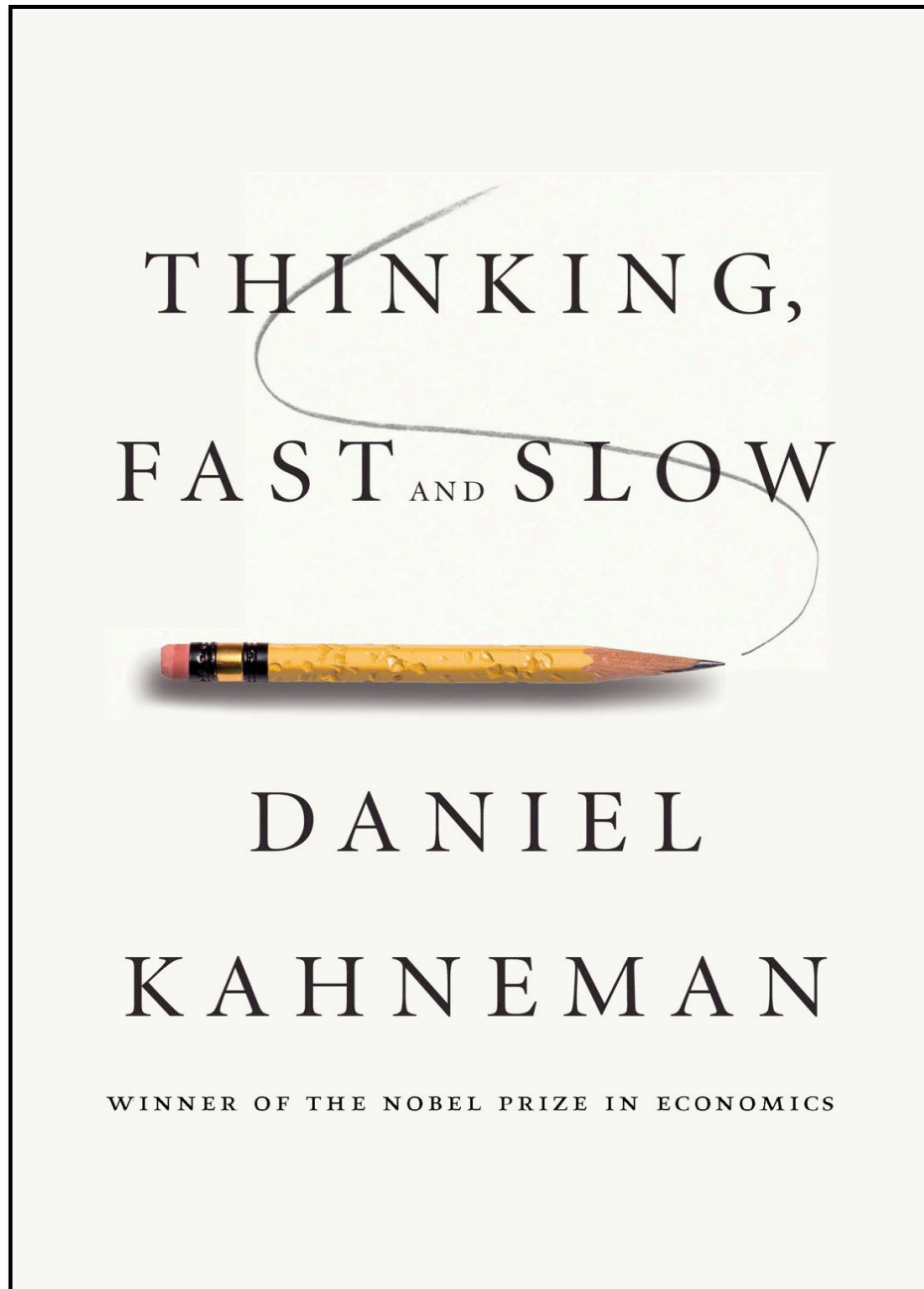
Descriptive: How do people usually make decisions and where do decisions go wrong?

Questions: Are decisions about nuclear weapons at the top level of command respected as a skill that needs to be taught and practiced. Is up to date normative and descriptive decision science and risk science brought to bear on optimizing decision quality?

Should the president get such education and training in decision making?

Should the decision-making process be structured to minimize known ways that decisions go wrong?

Theoretical
background



2011
Overview
of judgment and
decision making
research and applications.

Two Modes of Thinking

Fast Feeling Based

Experiential (System 1)

Intuitive

Images, associations

Feelings (**affect**)

Stories/narratives

Often non-conscious

Slow

Analytical (System 2)

Deliberative

Logical

Reasoned

Uses symbols, numbers

Conscious appraisals

Slowly constructs feelings

Fast thinking, centered on our feelings, is our default mode

- It is easy
- It feels right
- It usually works
- But our feelings are innumerate and thus can cause serious mistakes when decision consequences are large and unfamiliar

Our feelings Often Deceive Us When We Value Lives

- We are incoherent in our valuation of human (and even nonhuman) lives
- We value individual lives greatly (the singularity effect)
- But those lives lose their value when they become part of a larger crisis (psychic numbing)
- As a result we do too little to protect human lives and the environment in the face of catastrophic threats.

Three Powerful Psychological Biases To Be Concerned About

- **Psychic Numbing** and the **Prominence Effect** deceive us in the face of
COVID-19
Climate Change
Genocide
and possibly nuclear war and its deterrence
- **Virtuous Violence**: Most Violence is believed by the perpetrators to be virtuous
The victims are perceived blameworthy and thus deserve to be harmed
The perpetrators' cause is perceived virtuous, no matter how harmful



Alan Page Fiske
Tage Shakti Rai

With a foreword by **Steven Pinker**

Most perpetrators of violence believe they are doing the right thing; defending something of value and blaming the victims.

Fiske & Rai (2014)

The (Deadly) Arithmetic of Compassion

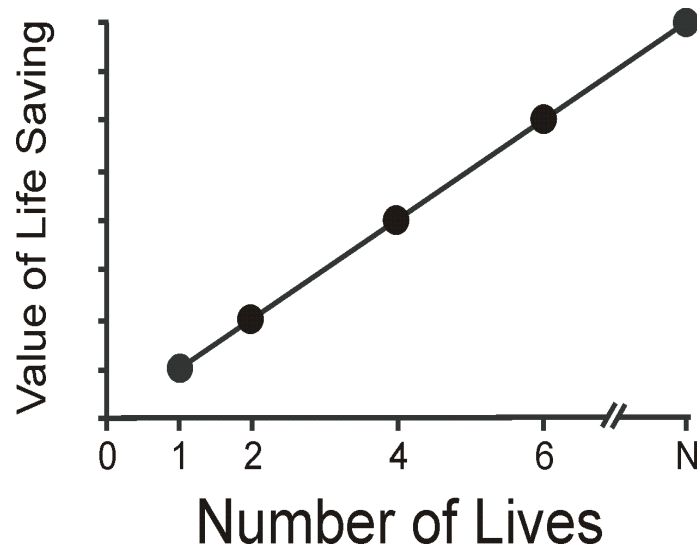
Psychic numbing is a psychological phenomenon that causes us to feel indifferent to the suffering and death of large numbers of people.

“The more who die, the less we care”!

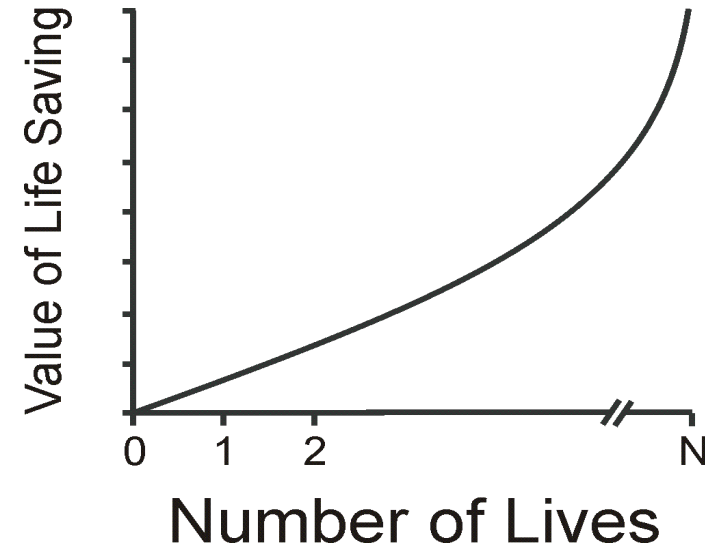
The **prominence effect** is a cognitive method of simplifying decision making whereby people often resolve conflict among conflicting objectives by choosing the option that is better on a single prominent attribute and paying little attention to other considerations, no matter how intrinsically important we say they are. Our decisions contradict our stated values.

Eg, Single issue voting despite massive negatives... or launching a nuclear bomb to win a war despite immense and incalculable harmful consequences.

How **Should** We Value the Saving of Human Lives?



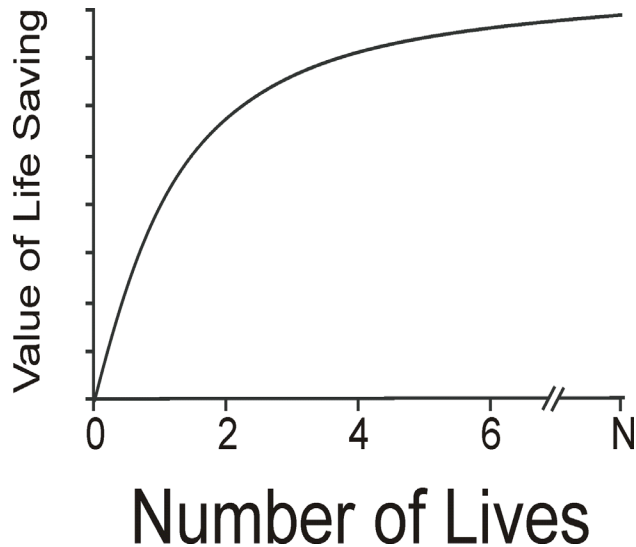
A normative model:
Every human life is
of equal value



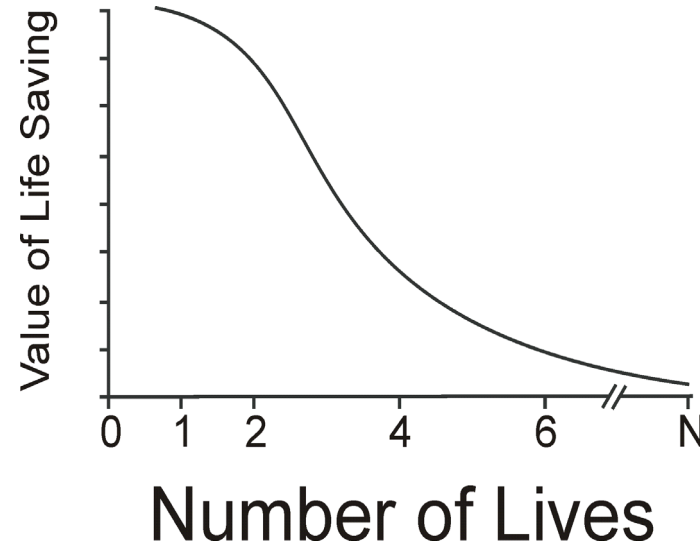
Another normative
model: Large losses
threaten the viability of
the group or society

Numbing

How Do We Value the Saving of Human Lives?



A descriptive model of diminished sensitivity as N grows large. All lives are not valued equally. (**psychic numbing**)



Another descriptive model: **Psychic numbing and the collapse of compassion**. Our capacity to feel (good or bad) is limited. Lack of feeling (value) leads to inaction when large losses of life occur.

The Prominence Effect

- Our actions sometimes contradict our expressed values

The Prominence Effect

- Choices or decisions value prominent dimensions extremely highly because of the need to **justify or defend** such actions.

- Expressed (stated) values do not require such justification.

- As a result there may be a disconnect between our stated values and the values revealed by our actions.

Security Prominence

For governments national security is the most prominent (ie, defensible) value in today's world

- Strongly held humanitarian values (ie, **stated preferences**) tend to decline or even collapse when they are pitted in decision making against security objectives (**revealed preferences**).
- This has implications for the use of nuclear weapons

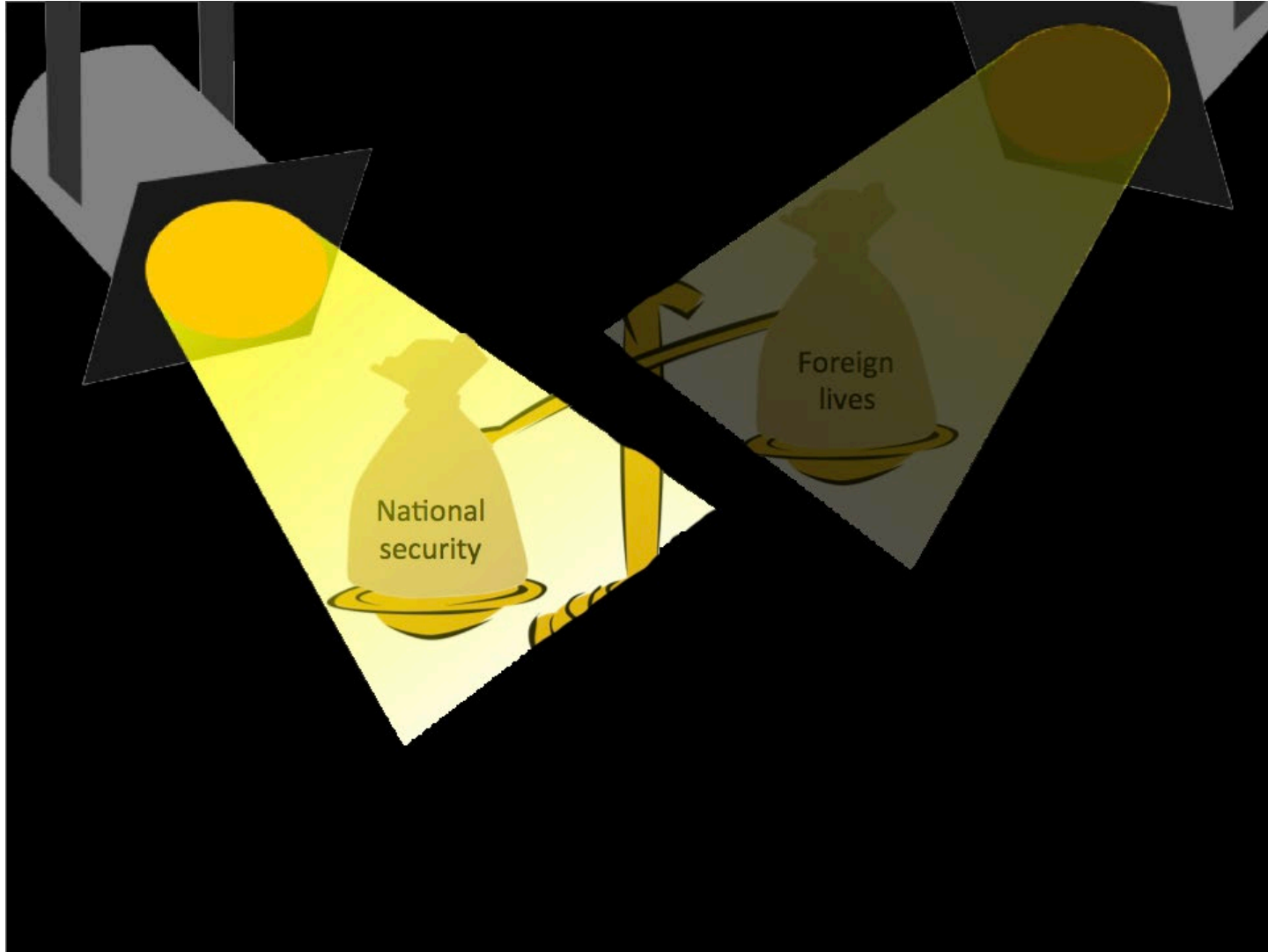
Attention is a Limited Resource

- We simplify complex tradeoffs by focusing on prominent objectives and choosing to obtain them
- Prominence is like an attentional spotlight
- Non-prominent aspects are neglected. Out of sight, out of mind.



Weighing Conflicting Objectives

When security is prominent the weighing is **noncompensatory**



Attention is scarce.

Prominence is

like an attentional

Spotlight. Lives not

in the spotlight

are ignored no

matter their number!



Fred Hiatt
Editorial Page Editor

Obama's turn inward poses risk for U.S. interests abroad

While acknowledging “very real and legitimate” humanitarian interests in Syria—some 80,000 people have been killed (**500,000 later**), and millions have lost their homes—Obama recently said his “bottom line” has to be “what’s in the best interest of America's security.”

Challenges to Rational Decision Making Involving Nuclear Weapons

- “No human decision is more fraught than one involving the use of nuclear weapons—a decision on which may ride the lives of millions of people and potentially the fate of civilization”
- Yet we do not appreciate that decision making is a skill that must be trained and practiced or that some decisions may be too difficult to make rationally. Presidents get no training.
- The rationality of decision making at the top military and presidential levels is challenged by psychic numbing, security prominence, and social and political biases.

Paper is available

CISAC Center for International
Security and Cooperation



HOOVER
INSTITUTION



The
Stanley
Foundation

The Caveman and the Bomb in the Digital Age

Paul Slovic, Decision Research and University of Oregon

Herb Lin, Hoover Institution & CISAC

“The unleashed power of the atom has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe.”

–Albert Einstein

“I am deeply moved if I see one man suffering and would risk my life for him. Then I talk impersonally about the possible pulverization of our big cities, with a hundred million dead. I am unable to multiply one man’s suffering by a hundred million.”

–Albert Szent-Györgyi

The Essence of the Caveman Paper

- Decisions to use nuclear weapons cannot be rational as they will unleash immense consequences that we are unable to comprehend. How can we rationally weigh the benefits vs the costs if we cannot comprehend the costs?

Controlled Laboratory Experiments Demonstrate
Psychic Numbing, the Prominence of Winning a
War and Saving American Lives Despite Immense
Killing of Enemy Civilians, and a Belief that this
Harm to Civilians is Justified and Virtuous

eg numbing begins with 2 victims!

Online Survey Experiments can be very informative about psychic numbing, the prominence effect and virtuous politicized violence in nuclear weapons decisions.



Revisiting Hiroshima in Iran: What Americans Really Think about Using Nuclear Weapons and Killing Noncombatants

Scott D. Sagan and Benjamin A. Valentino (2017)

Americans prioritize protecting U.S. troops and achieving American war aims, **even when doing so would result in the deliberate killing of millions of foreign noncombatants.**

Proceedings of the National Academy of Sciences, August 2020

Virtuous Violence from the War Room to Death Row

Paul Slovic, CK Mertz, David Markowitz, Andrew Quist, Daniel Vastfjall

How likely is it that someone would approve of using a nuclear weapon to kill millions of enemy civilians in the hope of ending a ground war that threatens thousands of American troops? Ask them how they feel about prosecuting immigrants, banning abortion, supporting the death penalty, and protecting gun rights and you'll know.

President Considering Nuclear Attack on Iranian City to End War

Joint Chiefs' Report Estimates 20,000 More American Military Deaths if Ground War Continues

The Associated Press

U.S. troops continue to suffer heavy losses as they move inland from the Iranian coast, facing stiff resistance from Iranian military forces. The war began three months ago, in response to increased American economic sanctions imposed after UN inspectors discovered evidence of a covert Iranian nuclear weapons facility, in violation of Iran's agreement to dismantle its nuclear weapons program. Iranian Air Force jets launched a surprise attack on the USS Theodore Roosevelt in international waters in the Persian Gulf, sinking the U.S. aircraft carrier, killing 2,403 sailors and injuring 1,178. After the United States Senate and House of Representatives voted unanimously to declare war on Iran, U.S. forces retaliated

airstrikes that destroyed all of Iran's nuclear infrastructure, air defenses, and all Iranian Air Force bases and planes. When Iran rejected the United States' demand for the "immediate and unconditional surrender" of the Iranian government, the President ordered a ground invasion by U.S. Marines and Army forces designed to destroy the Iranian military and replace the government of Iran.

An estimated 100,000 Iranian civilians would be killed in the nuclear strike

Since U.S. troops first landed on Iranian beaches three months ago, the American advance has slowed considerably. Over 10,000 American troops have been killed in the fighting thus far, including almost 4,000 in just two weeks of intense urban fighting in the city of Shiraz, the bloodiest battle for the U.S. military since World War II.

public statements that "the United States will accept nothing less than the unconditional surrender of the Iranian regime." In response, Ayatollah Khamenei, the supreme leader of Iran, has regularly told cheering crowds in Tehran that "the Iranian nation will never surrender to anyone."

The President has been considering options for ending the war as soon as possible. Yesterday, the Chairman of the Joint Chiefs of Staff delivered a report to the President including an option called the "shock strategy," which would authorize a major expansion of air strikes against Iran. The report was leaked to the Associated Press by a high-ranking administration official.

Until now, the United States has restricted its air strikes to conventional weapons against military targets in Iran. The "shock strategy," however, would target a single U.S. nuclear weapon directly on Mashhad, the second largest city in Iran, in the effort to undermine civilian

the Iranian government to surrender. Much of the city is expected to be destroyed. The report estimates that the nuclear strike would kill approximately 100,000 Iranian civilians living in the city, including both immediate deaths and long-term fatalities from the strike. Since Iran's air defenses were destroyed in the first days of the war, no American military deaths are anticipated in the air strike.

20,000 more American military deaths expected if Iran does not surrender

According to the Joint Chiefs' report, if the United States continues the ground war, it will eventually defeat Iran, but doing so would require heavy fighting to reach and capture the heavily defended capital, Tehran, and would likely result in an additional 20,000 American military deaths.

The report does not recommend

Two Separate Surveys Differing only in the Estimated Civilian

Fatalities

100,000

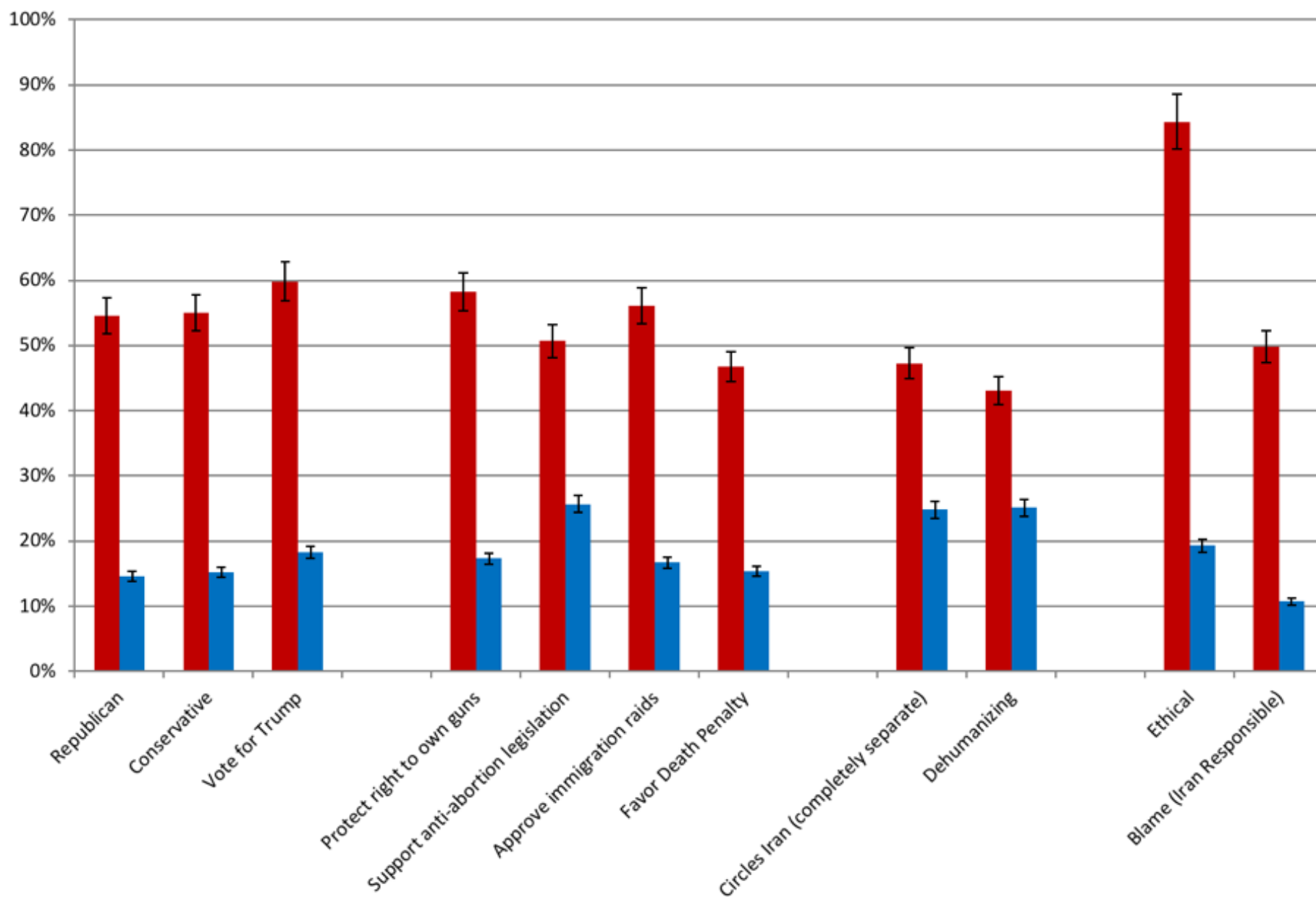
Or 2 million

Gist of the Hypothetical Scenario Seen by 444 American Online Survey Respondents

- US sanctioned Iran economically to punish violations of a nuclear treaty
- Iran attacks US
- Difficult ground war ensues
- **20,000 US troops in serious jeopardy if the war continues**
- The US is considering dropping a nuclear bomb on an Iranian city to end the war and protect the 20,000 US troops
- 100,000 (Condition 1) or 2,000,000 (Condition 2) Iranian civilians are expected to die if nuclear bomb is used

Predicting Approval of a Nuclear Weapons Strike

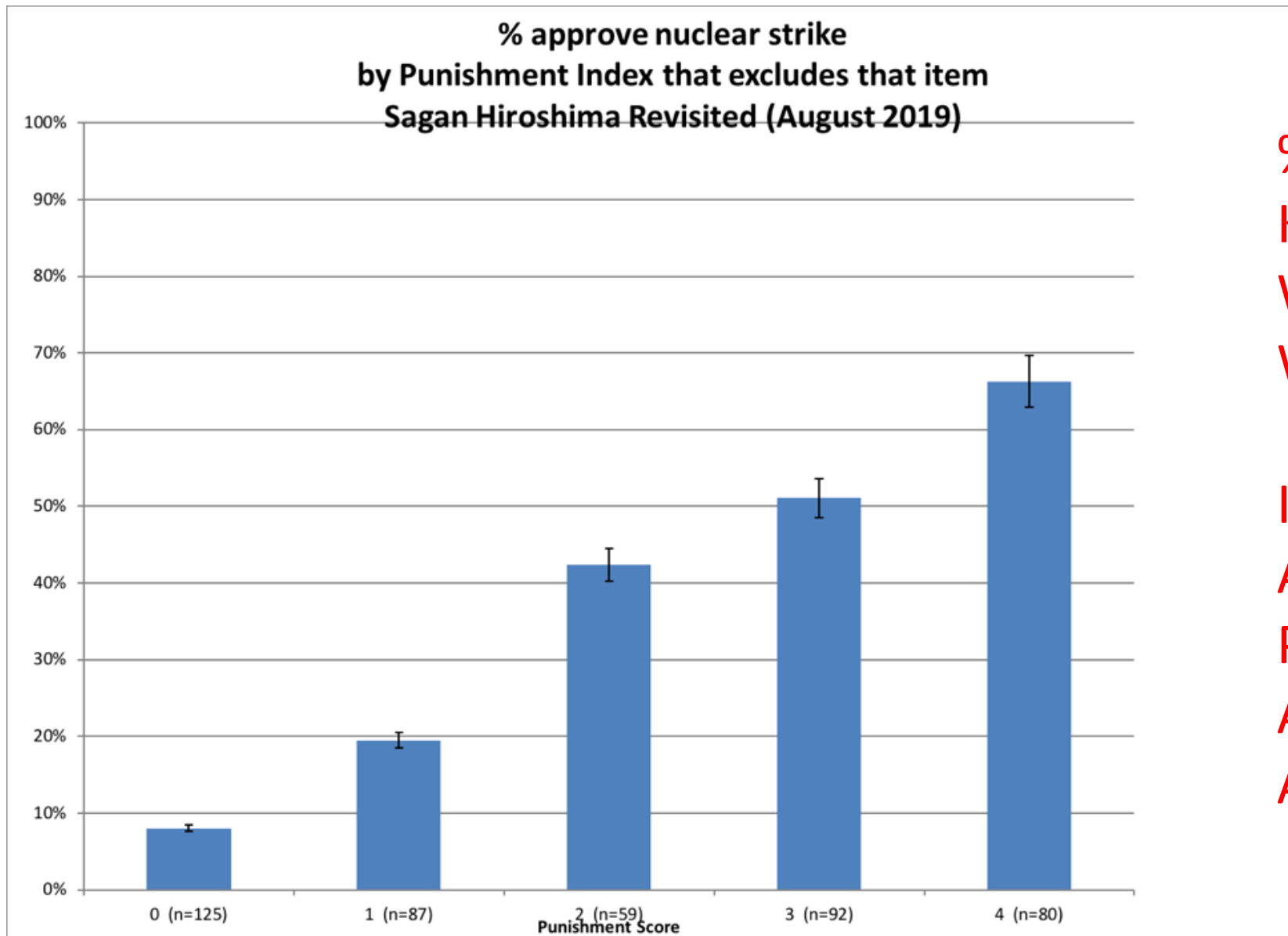
Sagan Hiroshima Revisited Study, August 2019



Percent Approval
of a
Nuclear Strike

Hi % associated
with some political
identities and
some attitudes
towards domestic
policies

■ Yes
■ No



**% Approval of
Killing Civilians
With Nuclear
Weapons**

**Items are:
Anti abortion
Pro death penalty
Anti immigrants
Anti gun control**

**Agreement with Punitive Domestic Policies Predicts Approval of Nuclear Strike
Against Iranian Civilians**

New study with the Iran scenario: Expanding the nuclear bombing option leads more people to support bombing!

- Suppose the military said there were two bombing targets: City A 100,000 estimated civilian deaths and City b 2 million estimated civilian deaths?
- Support for a bombing (either A or B) vs continuing ground war, increases more than 40%!
- It appears that some who might have preferred the ground war over a bombing a single city now switch to bombing 100,000 civilians because it protects the troops and is much better than bombing 2 million. Is this a strange form of virtuous violence? Would this happen in the 'real world'? What might it mean for rational deterrence?
- Study still in progress

Implications for further study of nuclear weapons decision making:

Deterrence of nuclear war assumes rationality.

Psychic numbing and security prominence can lead to nonrational decisions. So can virtuous violence.

How can we ensure that cognitive biases and irrelevant punishing attitudes, if held by a president and supported by millions of Americans, do not influence vital military decisions? How can we determine the presence and import of these dangerous forms of thinking in foreign leaders?

Thank You!

Over to Rose