Connections UK

Ten (Not Entirely Randomly-Generated) Reflections on the Social Science of Wargaming

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SIMULATIONS ◆ CONFLICT, PEACEBUILDING AND DEVELOPMENT ◆ TRAINING AND EDUCATION

wargaming

- Wargaming is both art and science:
  - ART: narrative, aesthetics, engagement, empathy
  - SCIENCE: methodology, player and group psychology, data and models
- This presentation will highlight ten sets of findings from social science that are relevant for wargaming design and implementation.

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ISSUE BRIEF

Exploring US Engagement in the Middle East: A Crisis Simulation

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Preface by Bilal Y. Saab

The next US president will inherit an array of major foreign policy challenges from nearly every corner of the globe. However, none seems more complex and perhaps consequential, I think, than identifying America's role in the Middle East now and into the future.

Critics of President Barack Obama's handling of the Middle East see a relationship between the scaling down of US involvement in the region and the drastic deterioration of security conditions, and more specifically, the ascendency of the very powers—state and nonstate—that US policy has long sought to counter or contain, including Russia, Iran, and the band of terrorists linked to Al-Qaeda and the Islamic State of Iraq and al-Sham (ISIS). These critics also believe that Washington's aversion to military intervention in the Syrian conflict and its nuclear agreement with Iran (which did not address its bellicose regional agenda) have made the United States' traditional regional partners wary of its intentions.

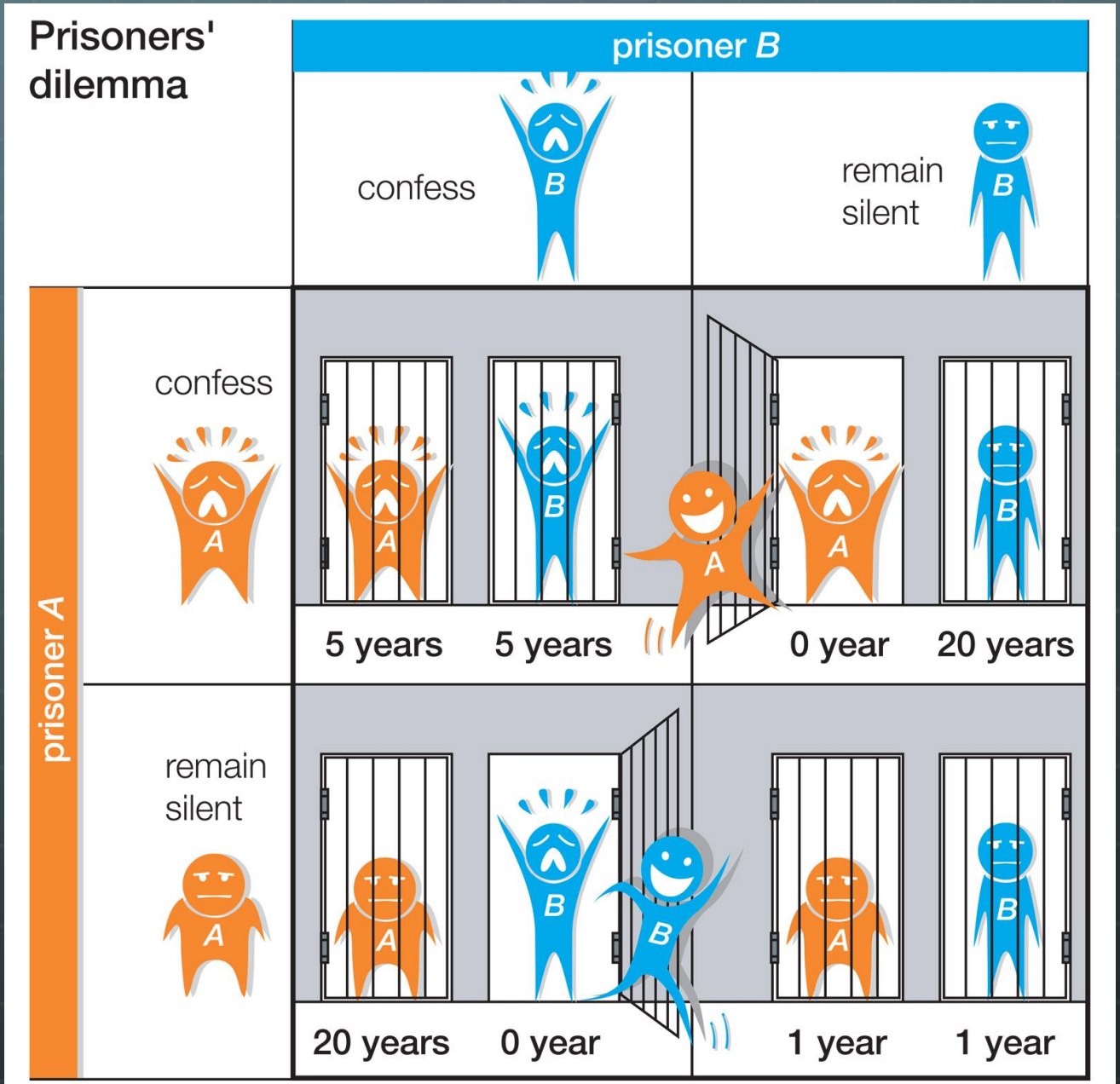
Proponents of Obama's Middle East policy argue that much of the region's increased instability has little to do with US designs, changed or not, and should be attributed instead to preexisting and local problems. Furthermore, it was over-involvement during the George W. Bush presidency, they contend, that partly led to the present travails. Had the United States not gone to war against Iraq in 2003 and disbanded the Iraqi army, for example, ISIS would not have come to the fore. Had the United States not promoted free elections with little regard for institution-building, illiberal Islamists would not have hijacked politics in several countries in the region. Finally, it is seen as a net gain for all sides, and for regional security, that regional partners are reducing their security dependency on the United States and further investing in self-defense capabilities.

It is very difficult to tell whether reduced or increased US engagement in the Middle East would make a dramatic difference for regional

Established in 2012 as a core practice area of the Brent Scowcroft Center on International Security at the Atlantic Council, the **Middle East Peace and Security Initiative** brings together thought leaders and experts from the policy, business, and civil society communities to design innovative strategies to tackle present and future challenges in the region.

#1: framing matters

- How players engage in a game is not solely determined by material pay-offs.
- Rather, the framing of the game—that is, what participants think the game is about, and the extent to which they feel engaged in that narrative—can have substantial effects on choices and behaviour.
- Peter Perla and ED McGrady (2011) on the importance of constructed, immersive narrative on wargame design.



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#1: framing matters

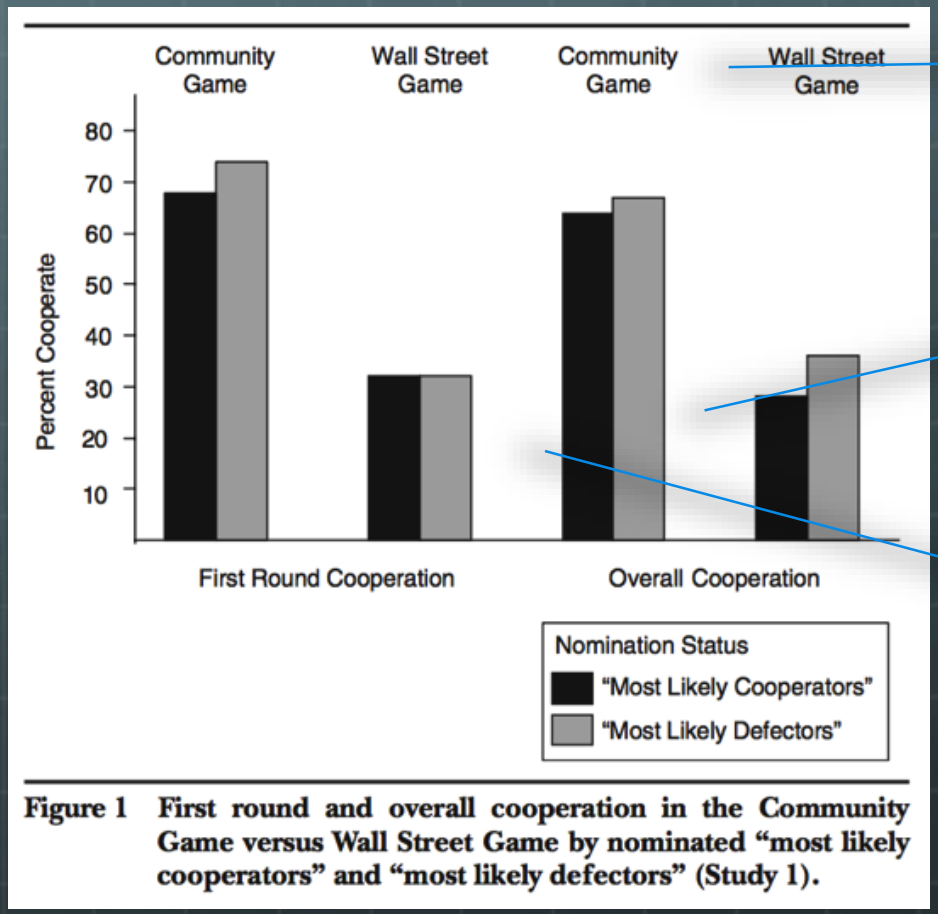


Figure 1 First round and overall cooperation in the Community Game versus Wall Street Game by nominated "most likely cooperators" and "most likely defectors" (Study 1).

(Liberman, Samuels, and Ross 2004)

Both versions were identical games of "prisoner's dilemma" with identical payoffs.

Reframing the game doubled the rate of cooperative behaviours (with no other changes).

Framing of game had more effect than anticipated player style.

#2: greed and grievance

- The Ultimatum Game:
- Find partner, decide who is Player A and who is Player B:
  - Player A has £100, and decides how to share that amount with Player B.
  - Player B may either:
    - AGREE, and the two players receive their allotted share, or
    - VETO, and both players receive <u>nothing</u>.

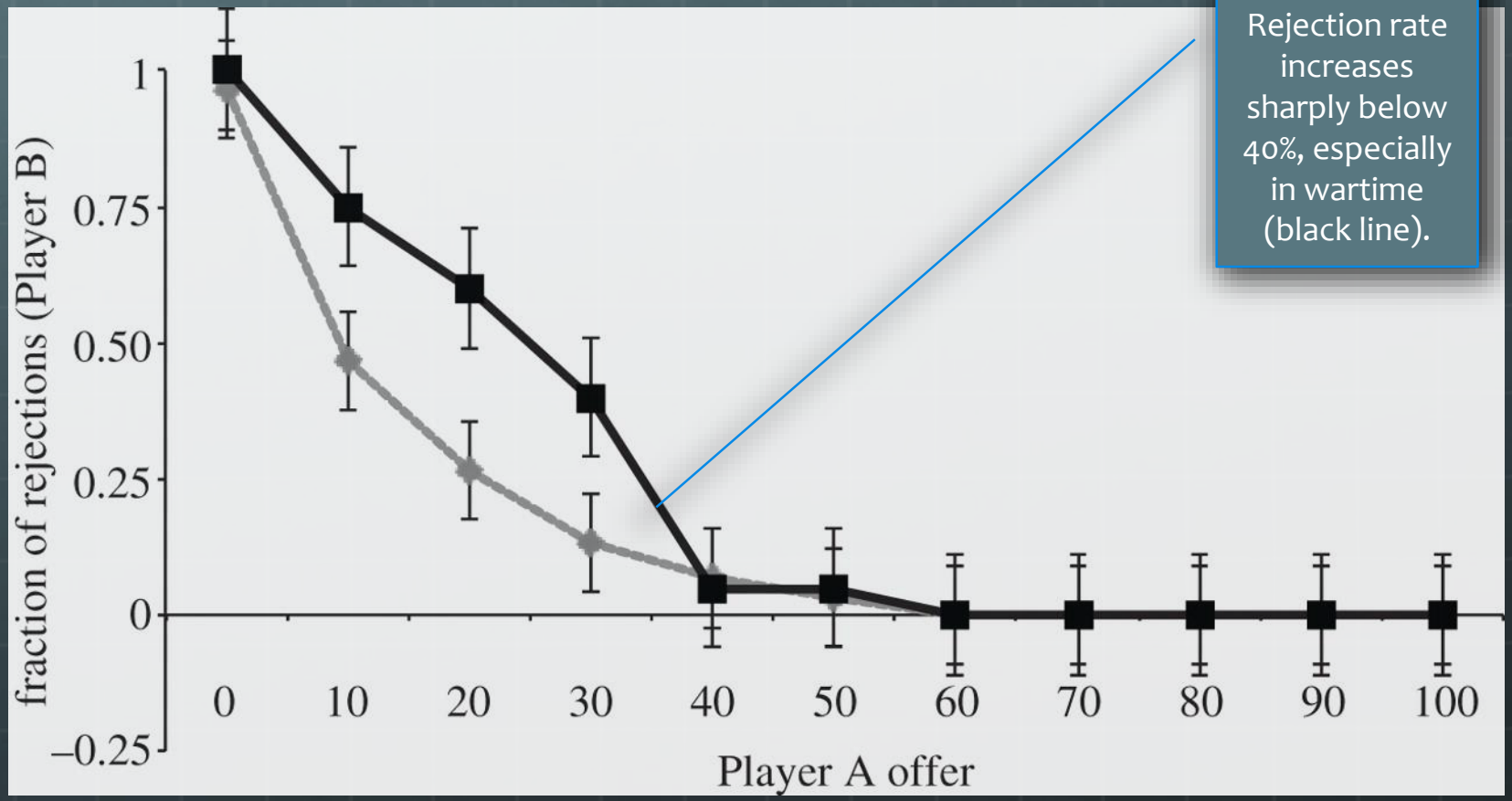
#2: greed and grievance

- Material incentives may not always have the anticipated effects.
  - Rational utility maximization would predict offers of 99/1 (and acceptance of such offers). However…

#2: greed and grievance

Oosterbeek, Sloof, van de Kuilen (2004).

#2: greed and grievance

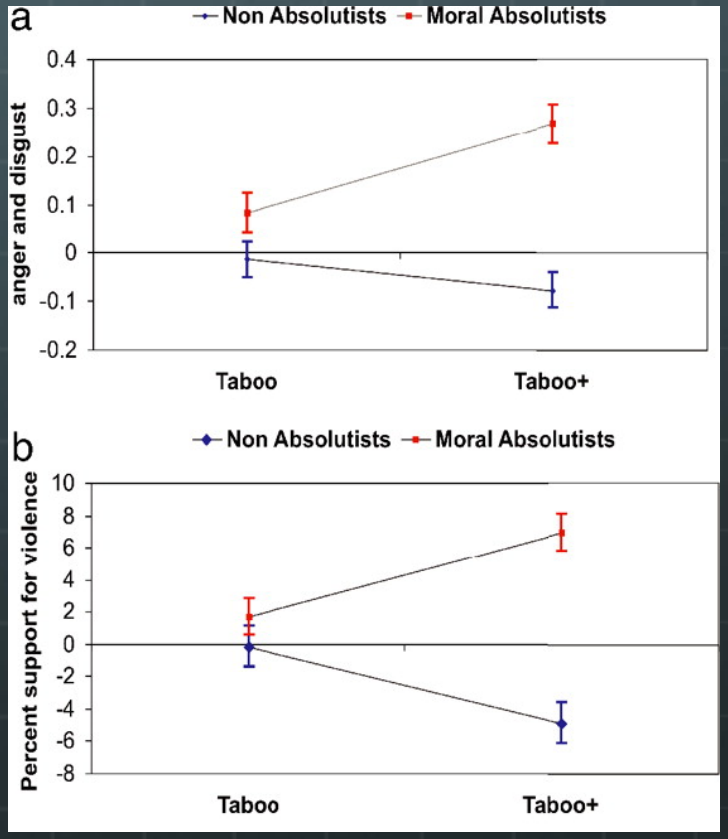


Rejection rate increases sharply below 40%, especially in wartime (black line).

Gneezy and Fessler (2011).

#2: greed and grievance

- Individuals will place context-specific constraints on assessments so as to preserve key normative values (Tetlock et al 2000).
- Increasing material incentives can actually strengthen opposition among those attached to a "sacred value" (Ginges et al 2007).
- Conversely, symbolic non-material concessions may increase the scope for compromise and agreement (Atran and Axelrod 2008).



#3: intrinsic/extrinsic motivation

- While the researchers have yet to fully agree (Hecker 2011), it is clear that, under some conditions:
  - intrinsic motivations may better promote engagement and learning
  - intrinsic motivators better correlate with quality, while extrinsic motivators better correlate with quantity (Cerasoli, Nickin and Ford, 2014)
  - extrinsic motivators can “crowd out” intrinsic motivators

#4: culture matters*

- The normative value placed on principles and objects varies across cultures.
  - Israeli and Palestinian views of Jerusalem
  - American views of guns and healthcare
  - British views of Europe

#4: culture matters*

- Some variation across cultures in "style" of game interaction—for example, more individualist vs more collective cultures (Hemesath and Pomponio 1998; see also Parks and Vu 1994).

TABLE 2
Breakdown of Defection and Cooperation Choices: American-Chinese Sample

	Defect (%)	*Cooperate (%)*	*Total*
China	31 (46.3)	36 (53.7)	67
United States	41 (74.5)	14 (25.5)	55
Total	72 (59)	50 (41)	122

#4: culture matters*

- …BUT such "national" cultural effects are often quite limited and ambiguous…

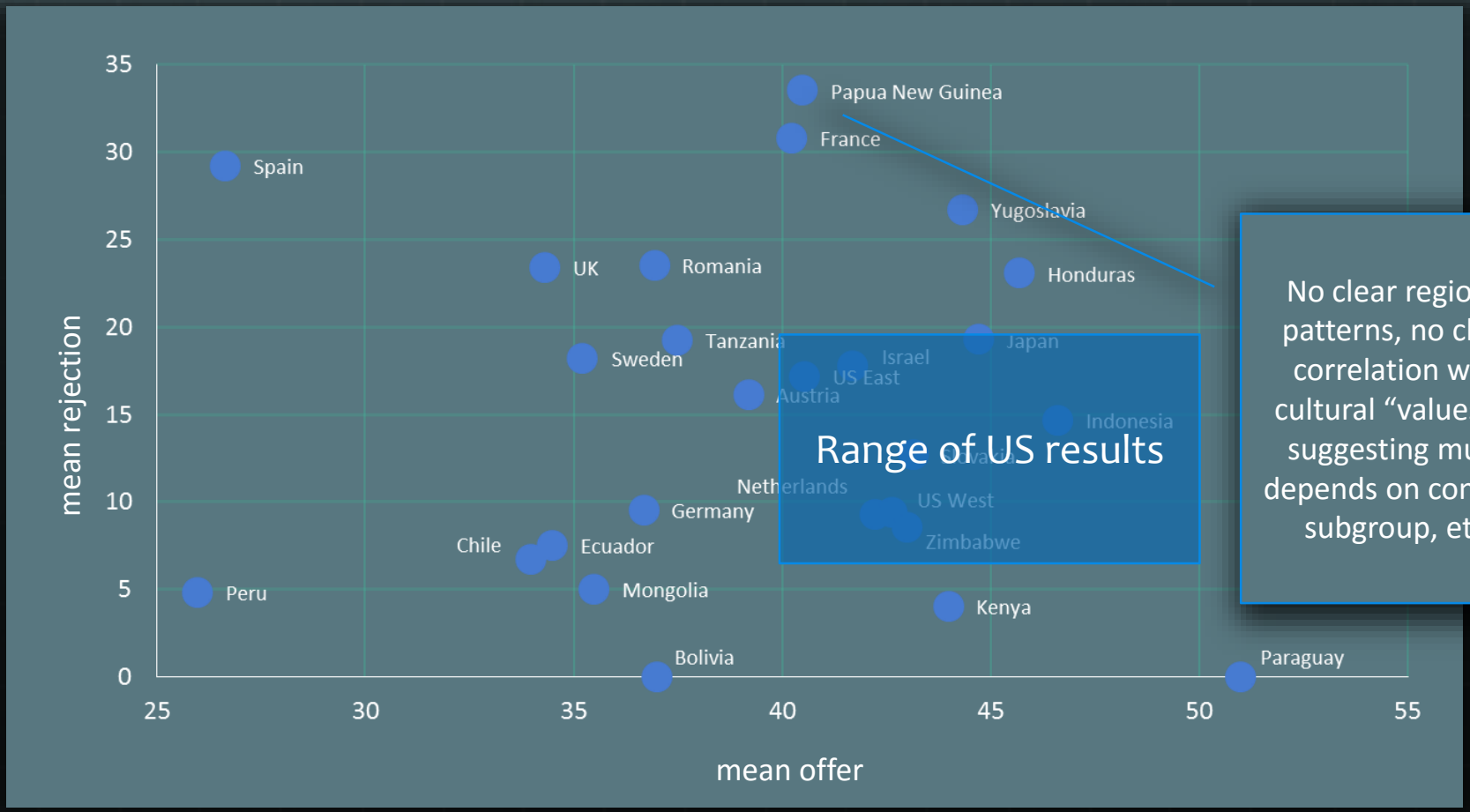
	Dictator Game	Ultimatum Game
United States	$39.81	$48.51
India	$37.75	$45.14
Both	$38.78	$46.83

Nouri and Traum, 2013.

Ultimatum Game	United States	Russia
Female	45.3	45.2
Male	31.5	35.3
All	36.4	39.2

Botelho, Hirsch and Rutstrom, 2000

#2: culture matters*



No clear regional patterns, no clear correlation with cultural "values"—suggesting much depends on context, subgroup, etc.

Oosterbeek, Sloof, van de Kuilen (2004).

#4: culture matters*

- Play style also varies as much (or more):
  - age/generation
  - male/female
  - urban/rural/class/education/market integration
  - personality type
  - etc.
- Occupational subcultures can have substantial effects on game play.

#5: subculture matters

- For example, economists are selfish (from lit review by Bauman 2012):
  - Marwell and Ames, 1981 – Economists don't understand fairness like other people…
  - Carter and Irons, 1991 – Economists are different before they become economists…
  - Frank et al, 1993 – Economists more likely than others to freeride…
  - Frank and Shulze, 2000 – Economics students more corrupt than others…
  - Wang et al, 2012 – Economics students kept more in Dictator Game, economics education associated with more positive attitudes to greed and toward one's own greedy behavior…
  - Bauman and Rose, 2011 – Economics students contribute less to social programs…

#5: subculture matters

- Similarly, Mintz et al (2006) showed that university students and military officers game crises in demonstrably different ways, despite having a common "national" culture.

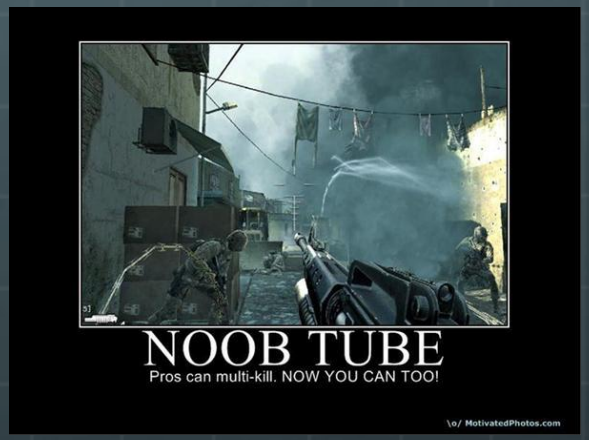
TABLE 1
Differences between Students and Military Commanders in Choosing "Do Nothing" versus "Do Something" (in Percentages)

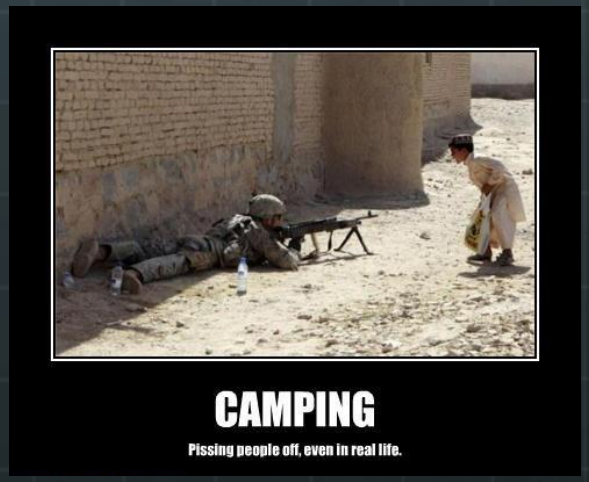
	Choice	
Subject Group	*Do Nothing*	*Do Something*
Students	35	65
Military	8	92

- Globalization may create some convergence along professional rather than national lines—ie, diplomats tend to have similar educations, background, and interactions, and their 'styles" have converged despite ethnicity, religion, etc.

#6: game cultures matter

- Regular players may develop informal norms that constrain or encourage behaviours, independent of the formal rules and incentive structure of the game.
- Eurogamers and the importance of sociality (Woods 2012).
- Online games and self-imposed limits on certain behaviours (Carter, Gibbs, and Arnold 2015).
- “Gamer mode” in professional military simulation (Frank 2012, 2013)





#7: lessons from prediction

- "Wargames are not predictions…"
- …yet they certainly contain elements that value predictive accuracy:
  - focus on plausible processes and outcomes.
  - effective play requires anticipation of an opponent's potential moves.
- What does the literature on political prediction tell us that might be useful? (Tetlock 2005, Tetlock and Gardner 2015)

#7: lessons from prediction

- Cognitive style may matter as much formal expertise.
  - “hedgehogs” vs “foxes”
- Bayesian updating is essential.
- Aggregate assessments outperform individual ones.
- Diverse teams outperform homogenous ones.
- Long-term forecasting unreliable.
- Unflinching post-mortems and accountability help.

#8: threats, deterrence, and signaling

- Deterrence theory and other aspects of international relations theory remain deeply rooted in rationalist assumptions.
  - credible threats and costly bargaining (Fearon 1995, 1997)
- But, such assumptions are deeply problematic:
  - perception (Jervis 1976)
  - social constructivism (Wendt 1999)
  - cognitive psychology (Stein 2013)

#8: threats, deterrence, and signaling

- Thomas Schelling (2016) on a key finding the RAND (1960s) crisis games:

  "Everybody… was astonished at how poorly they had signaled to the adversary what they took seriously, how badly each side had read the other's behaviour and interpreted how far they were willing to go or what they took seriously, and how many things of no significance they spent a lot of time analyzing."

#8: threats, deterrence, and signaling

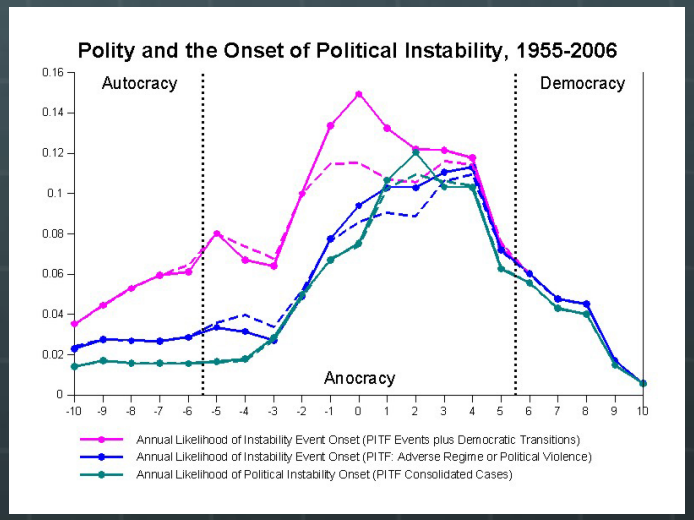
- Insights from cognitive psychology (Stein 2015):
  - preference for simplicity
  - averse to ambiguity and dissonance
  - predisposed to listen to hawks, magnify threat
  - resist updating
  - poor at estimating probability
  - heightened sensitivity to (relative) losses
  - fundamental linkages between emotion, reason, and perception
    - effects of fear, anger, humiliation
    - individual and collective

#9: games and learning

- Research shows that simulation- and games-based learning is <u>moderately</u> effective.
- However this is highly dependent on context.
  - DICE: Game Design x Game Implementation x Curriculum Integration X Educational Requirements
  - Literature on “learning styles” poorly grounded in research evidence.

#10 social dynamics are often non-linear

- framing effects (corruption)
- opportunity effects (protest)
- declining returns (patronage)
- curvilinear (repression, democracy and stability)
- homeostatic vs cascading systems (Arab Spring)



Source: Center for Systemic Peace

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