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Chad Raymond
Salve Regina University, chad.raymond@salve.edu

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Can't Get No (Dis)Satisfaction:

The *Statecraft* Simulation's Effect on Student Decision Making

Dr. Chad Raymond

Salve Regina University

Newport, Rhode Island, USA

chad.raymond@salve.edu

Abstract

Simulations are often employed as content-teaching tools in political science, but their effect on students' reasoning skills is rarely assessed. This paper explores what effect the *Statecraft* simulation might have on undergraduate students' perceptions of their decision making. As noted by the psychologist Daniel Kahneman (2012: 203), decisions are often evaluated on the basis of whether their outcomes are good or bad, not whether a sound reasoning process was used to reach them. A survey was administered at multiple points in an international relations course to gauge students' satisfaction with the decision-making processes and outcomes in their respective teams during the *Statecraft* simulation. Students also engaged in exercises in which their teams' tentative plans were evaluated as if the plans had generated unfavorable outcomes after implementation. An analysis of students' reactions to the *Statecraft* simulation, their performance in the simulation, and other data showed no obvious association between *Statecraft* and changes in student perceptions of their decision making.

Keywords: international relations, decision making, hindsight bias, simulation, Statecraft

Introduction

   This research project began when the author read two sentences written by Daniel Kahneman (2012: 203), recipient of the Nobel Memorial Prize in Economic Sciences: "Hindsight bias has pernicious effects on the evaluations of decision-makers. It leads observers to assess the quality of a decision not by whether the process was sound but whether its outcome was good or bad." These sentences made me wonder if the ways in which undergraduates made decisions, or at least their perceptions of what constituted a good decision, could be changed through experience. I hypothesized that the tendency toward hindsight bias in evaluating decisions might diminish if students repeatedly practiced decision making in a simulation, and that this could be measured by asking students their opinions about how such decisions had been made. I selected *Statecraft* as the simulation to use and obtained an IRB waiver for the project.

   Decision making has long been an area of interest in political science; the literature is filled with studies of bounded rationality, bureaucratic bargaining, and other theoretical models. Sound decision making in foreign policy is recognized as particularly difficult, because "problems in foreign policy are ill structured. Goals are often multiple and vaguely defined, one or more constraints are open, information is ambiguous and incomplete, and little may be known about the solution to the problem" (Stein and Welch 1997:56). As a result, the decisions of policymakers "may reflect assumptions that are questionable or untrue" (Larson 2003: 5). Though changes in the decision making process might make favorable foreign policy outcomes more likely, such outcomes are not guaranteed (Renshon 2003: 46).

Simulations

   Studies of decision making in political science are often situated within the context of gaming or simulations (Mayer 2009; Brewer 1984; Abt 1970; Guetzkow and Jensen 1966). Such simulations can range from a simple classroom demonstration of Prisoner's Dilemma (Raymond 2011 and Asal 2005) to the use of card games that illustrate theories of international political economy (Boyer, Trumbore, and Fricke 2011), to complex role-playing exercises such as ICONS and the Global Problems Summit that focus on international negotiation and conflict resolution (Starkey and Blake 2001 and Krain and Lantis

2006, respectively). In some cases, participants interact only with a computer-based representation of reality, but more frequently, simulations function as environments in which participants communicate, negotiate, and decide either face-to-face or via online communication (Chasek 2005; Shellman and Turan 2003; Kaufman 1998; Mandel 1987).

Simulations have been applied in the teaching of many academic disciplines; they are commonly regarded as being able to help students learn facts and concepts (Baranowski 2006; Bredemeier and Greenblat 1981; Heitzmann 1973), produce high levels of student engagement with course content and peers (Torney-Purta 1998), and generate positive student attitudinal and behavioral changes (Williams and Williams 2010; Dorn 1989; Tamminga 1977). Their perceived ability to simultaneously target students' cognitive, behavioral and emotional domains while challenging student attitudes and presuppositions makes them highly attractive pedagogical tools (Davidson et al. 2009:153), and the study of their pedagogical utility is part of a broader literature advocating the superiority of active and experiential instructional techniques over traditional teaching methods. For example, Crossley-Frolick asserts that standard methods of teaching about theories and institutions in undergraduate international relations courses

> often do not provide the opportunity for students to explore the importance of negotiation, bargaining, diplomacy, contingency, incentive structures, and strategy in the context of such organizations. Nor do they adequately expose students to the significant limit that international organizations face . . . This is where simulations can improve student learning experiences (2010:185).

Advocates of active and experiential learning assert that simulations have two main advantages over traditional teaching methods. First, simulations can improve students' motivation to learn by delivering information to students in a way that heightens their interest in understanding it. Through prompt feedback, challenging but achievable goals, uncertain outcomes, and the generation of feelings of autonomy, accomplishment, relevance, relatedness to others, and pleasure among participants, simulations can enhance students' extrinsic and intrinsic motivation (Carnes 2011; Koh et al. 2010;

Mitchell and Savill-Smith 2004). According to de Freitas (2006:350), "[o]ne of the main perceived advantages of using games and simulations [is] increased motivational levels for learners." Identifying specific causal relationships between simulation, motivation, and learning can be difficult, however, and much of the evidence on the subject reported in the literature is anecdotal (Stroessner, Beckerman, and Whittaker 2009:605; de Freitas 2006:35). Motivation "often is inferred from learning [but] learning usually is the indicator of motivation" (Weiner 1990:618); similarly, affective response can be both a product of and an influence on motivation (Katt and Condly 2009:219). For example, Machemer and Crawford (2007:9) found that students valued any classroom activity—whether active or traditional—that directly related to improved exam performance. Furthermore, intrinsic motivation is likely to be high only if students' expectations of success and the value placed on success are high (Ehrman and Oxford 1995:68).

Second, simulations substitute peer-to-peer instruction and self-discovery—learning through experience—for the passive receipt of information from an instructor—learning solely through thought. The distinction between thought and experience in theories of learning, and the supposed superiority of the latter, derives from the work of American educational philosopher John Dewey (1916) and was more recently elaborated by Kolb (1984). Kolb (1984:30) argued that the experience, reflection, abstraction, and experimentation are all necessary components of learning. Following Kolb's (1984) logic, students who participate in a simulation can initially observe and reflect upon the effects of their behavior, then form abstract generalizations as they seek to understand what they have experienced, and finally can test these generalizations against new observations. By participating in a simulation students can easily match "theoretical concepts with empirical, accessible behavior" (Enterline and Jepsen 2009:58) to a degree that is unlikely in traditional forms of instruction. Yet the effectiveness of simulations' experiential aspects remains a matter of debate despite several decades of investigation. Krain and Lantis (2006:404) found that both an experiential simulation and traditional lecture and discussion had "statistically significant positive effects on student learning, regardless of instructor or issue area," though possibly in different ways. Powner and Allendoerfer (2008) found that students who participated in a brief role-play activity

scored better on multiple choice questions after the activity than students who participated in classroom discussion, but that there was no statistically significant differences in the overall performance of the two groups. Stroessner, Beckerman, and Whittaker et al. (2009:614) found that role play exercises in the *Reacting to the Past* simulation produced no statistically significant benefit in writing skills among first-year college students, and that the benefit to students' rhetorical skills was "marginal." Raymond (2010) found no statistically significant improvements in exam scores among students who participated in a role-playing simulation compared to students who received traditional lectures and assignments in an international relations course.

In sum, the efficacy of simulations in enabling students to achieve desired learning outcomes has not been comprehensively validated, in part due to the frequent failure to properly align simulations with course learning objectives or assessment regimes (Raymond and Usherwood 2013). As Krain and Lantis (2006:399, 400) write, "very few studies confirm our experiences (and convictions) that [simulation] exercises are truly effective methods for teaching political science and international relations" because such exercises "have remained generally untested in any rigorous fashion."

The Cognitive Approach to Decision Making

Studies have found that temporal and contextual biases frequently affect decision making, leading to outcomes not predicted by rational choice models of utility maximization (Kahneman 2012; Krueger and Acevedo 2007; Budescu and Maciejovsky 2005; Stein and Welch 1997; Quattrone and Tversky 1988; Kahneman and Tversky 1979 and 1984). In response to these findings, cognitive psychologists have concentrated on "identifying and categorizing the filters through which people process information and the simplifying mechanisms they employ to help them make sense of the world" (Stein and Welch 1997:53). For example, the pain associated with a potential loss is frequently perceived as greater than the pleasure derived from a potential gain, even when the absolute size and probability of either outcome is equal, leading to a "preference for the status quo over alternatives with the same expected value" (Quattrone and Tversky 1988:724). Hindsight bias causes people's perceptions of the reasons why they do things to be affected "by the knowledge of the outcome of their actions" (Sligo and Stirton 1998:112).

Hindsight bias leads individuals to distort their evaluation of their original decisions and the factors that influenced them (Bukszar and Connolly 1988:639), and groups can overestimate the probability of successful outcomes for current decisions if they have experienced success in the past, leading them to take unwarranted risks (Burnstein and Berbaum 1983:554). Hindsight bias can be especially influential in infrequent situations where decisions have enormous impacts, such as natural disasters, military conflicts, and political crises. While individuals who have encountered a problem "in similar forms numerous times before and have experienced appropriate feedback from their natural environment" are likely to solve a problem effectively (Budescu and Maciejovsky 2005:1842), decision makers often draw inappropriate lessons from events that have occurred infrequently and tend to discount potential harm from situations never previously encountered (Camerer and Kunreuther 1989:576 and Kirkwood 1999:35).

Hindsight bias is decreased in situations where outcomes are surprising or outcome-consistent information is presented in novel ways (Sanna and Schwarz 2006:174). Failure can also improve decision making if it challenges the status quo. Highly predictable failures "provide no new information, but unanticipated failures that challenge old ways of representing problems are more likely to stimulate new formulations. Responding to failure, leaders can 'learn through experimentation' (Campbell 1969, Hedberg 1981)" (Stein and Welch 1997:56). Also, when faced with the need to make a decision, individuals who "are explicitly encouraged to think of reasons why they might be wrong are less likely to persist with initially incorrect impressions of a problem" (Tetlock 1992:526).

The *Statecraft* Simulation

A simulation like *Statecraft*, with its multiple turns, unfamiliar environment, surprising outcomes, and constant feedback, seemed to be a promising environment in which to examine changes in students' perceptions about their decision making; however, studies of the *Statecraft* simulation were absent from the peer-reviewed literature. Executives at Digital World Construction, the company that produces *Statecraft*, were not aware of any such literature being published.

Statecraft does happen to share many of the same features of other simulations that have been used to model or teach international relations. *Statecraft* assigns tangible rewards in the form of points to

participants if their teams achieve particular goals, but competition for scarce resources, conflicting domestic and international interests, and the varied personalities and values of individual participants make goals difficult to achieve and drive differences in team behavior. The teams themselves represent fictional nation-states, and team member is assigned a role that nominally has specific responsibilities within each nation-state's government, such as secretary of defense. Prior to the start of *Statecraft*, members of each team select a country name, city names, government positions for each participant, a government type (such as constitutional monarchy or military dictatorship), and two country attributes (industrial, green, militaristic, pacifist, or scientific). The government type and attributes affect the incentive structure for each team in the simulation.

The simulation unfolds through a series of turns; in each turn, the nation-states produce limited amounts of gold, food, steel, scientific knowledge, and oil—resources that can be used to build military capabilities or domestic structures, or be traded with other nation-states. Teams can also invest resources in research that speeds the acquisition of prerequisite technologies; for example, a nation-state must reach the technological level of "advanced medicine" before it can begin building hospitals.

Statecraft also rates each nation-state on the basis of health, welfare, environment, safety, education, and culture; these ratings can be improved with the purchase of hospitals, welfare offices, and prisons. Each team must also try to manage the approval ratings of six domestic factions (capitalists, socialists, environmentalists, nationalists, civil libertarians, and intellectuals). For example, if a team decides to build a factory, which increases gold production but also increases pollution, the nation-state's capitalist faction will be pleased but the approval rating of the environmentalists will fall. If any faction's approval rating decreases to thirty-five percent, it will engage in demonstrations, riots, and strikes that consume the nation-state's resources.

In writing assignments, debriefings, and the final exam, students readily identify parallels between *Statecraft*, the real world, and the field of international relations. As outlined by Rosen (2011),

> [a]lthough the countries, domestic factions, and global issues in *Statecraft* are fictional, they have
> been carefully designed to provide maximum insight into parallel real-world dilemmas: as

students grapple with the Orion slavery issue, the threat posed by the melting Ice Mountain, and the temptation to seize Sapphire Island's vast resources they come to understand the security dilemma, the tragedy of the commons, two-level games, the challenges of cooperation under anarchy, and many other constructs not as theoretical concepts but as visceral truths.

One of the main advantages of *Statecraft* for the course instructor is the simulation's high degree of automated record keeping. Teams execute resource trades, purchases of structures, military attacks, and treaties through the *Statecraft* website, with the results automatically tabulated, and the website also tracks the approval ratings of the domestic factions, resource levels, and points accumulated for each team in real time. The website also allows students to communicate with each other online, which facilitates the ability of participants to negotiate and reach decisions outside of the classroom.

The Course

Statecraft was employed in an honors section of an introductory international relations course during the Fall 2012 semester. This course fulfills a university core curriculum requirement and is most frequently taken by students in their first year of college. This particular class contained thirty-four students: twenty-four first-year students, five sophomores, one junior, and four seniors. Eleven students were male; twenty-three were female.

The author had taught sections of this course previously and had used it to study the possible effects of another simulation, but had not used *Statecraft* before. As argued by Asal and Blake (2006), simulations are most effective as teaching tools when they include robust mechanisms for preparation, interaction, and debriefing.

> [P]reparation . . . provides students with the opportunity to study the subject matter of the simulation and the role that they are portraying . . . During the interaction stage, students . . . put their learning from the preparation phase into action. Exchanges with their counterparts can challenge their thinking and push them to delve deeper into the content. The interactions also allow students to apply and test different strategies for achieving their goals. Finally, the debriefing stage gives students the chance to internalize the

lessons of the simulation. Without guidance and time for reflection, students may not be able to make the connection between what they learned in the simulation and the concepts that or processes that the instructor was trying to illustrate (Asal and Blake 2006: 2).

The author integrated *Statecraft* into the course with the above in mind. Although lecture material and some assignments in the course were the same as in past semesters, much was new and oriented around the subject of decision making. Joachim Remak's *The Origins of World War I: 1871-1914* (New York: Harcourt, 1995) and Barbara Tuchman's *The March of Folly: From Troy to Vietnam* (New York: Ballantine Books, 1984) were required texts for the course, and these books were augmented by other, shorter readings, primarily peer-reviewed journal articles. Students were required to write fifteen responses to prompts on readings over the semester; the prompts were argumentative in nature and asked students about international relations theories and decision making; for example, "Which international relations theory best explains Roosevelt's decision making prior to the attack on Pearl Harbor in 1941? Why?" These assignments were submitted before class through the course website and formed twenty-five percent of the student's final grade. Students' written responses to these questions functioned as a basis for class discussions.

To formatively assess the acquisition of content knowledge, students took five multiple choice online quizzes during the semester, worth one-fourth of the final grade. Quiz questions covered basic concepts from international relations theories and were intended to reinforce connections in students' minds between information presented in lectures and what students experienced in *Statecraft*. Summative assessment occurred through a final exam worth one-sixth of the final grade.

The *Statecraft* simulation independently accounted for twenty-five percent of the final grade, and included several different components. Students took two quizzes on the *Statecraft* instruction manual to help them learn about rules and procedures of the simulation, and during each turn of the simulation they wrote memos of at least 300 words in which they reviewed their teams' accomplishments in the simulation's previous turn and discussed their objectives for the current turn. There were also four in-

class pre-mortem assignments during the simulation, an exercise specifically recommended by Kahneman (2012:250) for learning how to avoid creating forecasts that are unrealistically close to best-case scenarios. In the pre-mortem exercises, students (1) imagined that the plans they had agreed upon with their teammates for the current turn had produced disastrous outcomes, (2) wrote a brief history of the disaster, and (3) reconvened with their teammates for discussion and reevaluation of decisions that their teams had made. The simulation concluded with a 4-5 page paper in which students were asked to apply common international relations concepts—such as the effects of economic interdependence and polarity—to events that had occurred during *Statecraft*.

The points earned by teams according to their performance in *Statecraft* were counted as extra credit toward students' final grades, which was computed on a 600 point scale. Members of the worst performing team in *Statecraft* earned eight points and members of the best performing team earned twenty-three points.

Data on students' perceptions of their teams' decision making in *Statecraft* were collected through six surveys administered online as the simulation progressed. The surveys began in the second turn of the simulation and ended on the seventh turn, and they asked the following questions:

1) How satisfied are you with the *outcome* (results) of the decisions made by your team in the *previous* turn of *Statecraft*?

2) How satisfied are you with the decision-making *process* used by your team so far in *Statecraft*?

3) If you answered "Somewhat Dissatisfied" or "Very Dissatisfied" to Question 2, what will you try to do differently in future turns of *Statecraft*? If you answered "Somewhat Satisfied" or "Very Satisfied" to Question 2, what will you try to continue doing?

4) How satisfied are you with the *decisions made so far in the current turn* by your team?

5) Please comment on your reasons for any of your answers to the previous questions.

Survey questions (1), (2), and (4) were formatted on a Likert scale that ranged from "very satisfied" to "very dissatisfied."

Analysis of Student Reactions

Students demonstrated a very high level of interest in *Statecraft*. The class met on Mondays, Wednesdays, and Fridays at 9:00 a.m., with the Monday class devoted entirely to *Statecraft* for the eight weeks of the simulation. On Monday mornings, students were already seated and engaged in discussions and negotiations by the time the class officially started. Responses to the post-simulation written debriefing indicated that *Statecraft* was very well received by students, especially on the following items:

- I would recommend this course to other students (average score 4.50 out of 5 points).

- The *Statecraft* simulation was an enjoyable and worthwhile experience (4.35).

- The analysis paper on *Statecraft* will help me understand international politics and IR theories (4.20).

- My team functioned well as a group (4.14).

- *Statecraft* helped me understand international politics (4.03).

The written debriefing also asked students if they communicated with their teammates in person or via online means outside of class, and if so, how frequently. Twenty-six out of the thirty-one respondents responded that their teams met in person outside of class, often for an hour each week. Twenty-two of the students stated that they communicated online with teammates outside of class during the simulation. Many said this occurred on a regular basis, often up to an hour per week. It appears that *Statecraft* stimulated a fair amount of engagement among students outside of the classroom.

The theme of communication also appeared in students' comments on the written debriefing Students recommended making sure that all team members were well-informed even if that necessitated meeting outside of class, being open-minded enough to consider different opinions, and giving team members equal weight in decision making. Some noted that efficient and quick decision making occurred when everyone on the team spoke their minds and contributed their expertise. One student wrote that the lack of input from some team members negatively affected that team's decision making. Another recommended that each person on a team present an idea or course of action each time the team meets.

In comments on what they learned from *Statecraft* about decision making in the context of international politics, students referenced the following subjects:

- The environment in which leaders must make decisions is complex, fluid, and/or unpredictable; it often reflects competing interests, different interests, or a two-level game, as outlined by Putnam (1988). One student wrote "it is nearly impossible to come to a decision that everyone will be happy with. It is better to make unpopular decisions than none at all." While one student noted that he or she believed that a consistent foreign policy brings more success, others stated "everything is constantly changing and new decisions are always being revised and improved" and "sometimes accepting change is a good thing."

- Different actors might pursue different and conflicting strategies of self-reliance, cooperation, or bargaining, but norms of behavior can develop that facilitate alliances and trade between nation-states, which result in tangible benefits. One student said "countries must work together to survive."

- International actors must evaluate the possible outcomes or consequences of decisions and this evaluation frequently reflects cost-benefit calculations. However, decisions are often affected by the dynamics, cohesiveness, and/or individual influence and persuasiveness within a nation-state's leadership.

The complete list of the written debriefing items, scores, and number of respondents is located in Appendix A.

In the six online surveys, students indicated an extremely high level of satisfaction with decision making processes and outcomes during *Statecraft*, a result that was unexpected by the author. If responses are grouped into two categories of "satisfied" and "dissatisfied" (ignoring middle scores of "uncertain"), the data shows that an overwhelming majority of students were satisfied with the decision making that occurred within their teams throughout the simulation. Trend lines for the students' average ratings on the satisfaction-related survey questions are shown in Figure 1.

<insert Figure 1 here>

The first time the survey was administered (N= 30), 92 percent of respondents for Question 1 – "How satisfied are you with the *outcome* (results) of the decisions made by your team in the *previous* turn of *Statecraft*?" – were satisfied and no respondents indicated dissatisfaction (again, the middle scores of "uncertain" are being excluded from consideration). For the sixth and last survey (N = 26), 72 percent of respondents indicated satisfaction and 14 percent indicated dissatisfaction for Question 1. For Question 2 – "How satisfied are you with the decision-making *process* used by your team so far in *Statecraft*?" – 86 percent of respondents were satisfied and 3 percent were unsatisfied in the first survey, while in the sixth survey, 84 percent were satisfied and 10 percent were dissatisfied. For Question 4 – "How satisfied are you with the *decisions made so far in the current turn* by your team?" – 92 percent indicated satisfied and only 3 percent indicated dissatisfaction on the first survey, and on the sixth survey, 87 percent indicated satisfaction and 3 percent indicated dissatisfaction.

In sum, as measured by the six surveys, average satisfaction with decision making declined slightly but remained very high over time, making it extremely difficult to identify whether or how students' perceptions of their teams' decision making might have changed during *Statecraft*. Only fourteen of the thirty-four students in the class selected a response of "somewhat dissatisfied" or "very dissatisfied" on any of the six surveys. However, the frequency of dissatisfied responses nearly doubled between the fourth and fifth surveys (taken in the fifth and sixth turns of the simulation, respectively), and remained higher for the sixth survey (taken in the seventh turn) than reported in the surveys taken during the first half of the simulation.

Could team performance have caused the small increase in dissatisfaction reported by these fourteen students? In an attempt to answer this question, the number of students on a team who responded "somewhat dissatisfied" or "very dissatisfied" on any of the six surveys was compared in a scatter plot against the number of points earned by members of that team. No relationship between reports of dissatisfaction and team performance was found. Also, the total number of "somewhat dissatisfied" and "very dissatisfied" responses for a team was compared in a second scatter plot against the points earned by members of that team. Again no relationship was found.

Responses to the surveys' open-ended questions suggested that students' feelings of dissatisfaction with team decision making stemmed from perceptions about intra-team communication. One student wrote:

> "I am only somewhat satisfied with the outcomes . . . because two of our group members ignore the rest of the team. Two other team members only contribute one idea, if we are lucky, and otherwise act as bobble heads . . . after trying many different ways with another team member to try and change what is occurring I am no longer willing to let only two people influence my grades."

Effective communication among teammates, on the other hand, was reported as extremely beneficial to team performance; for example, one student wrote:

> "The past few turns have proven to be our most successful yet due largely to our great communication efforts. Lately, we have actually been meeting face to face outside of the classroom to discuss our final decisions for each turn. This has been efficient and allowed us to ALL voice our opinions."

Conclusions

Because *Statecraft* generated such an overwhelmingly favorable reaction among students, the hypothesis that the simulation might positively affect student perceptions of decision making could not be adequately tested. The data collected through surveys on student satisfaction with decision making processes and outcomes did not vary enough to clearly identify any change, and the small amount of dissatisfaction that was expressed in the surveys seems to be driven more by frustration with temporarily faulty communication among team members rather than by bad decision making *per se*.

The group context in which decisions were made should not have obscured observation of the effects of hindsight bias. While economists generally assume that competitive institutions eliminate individual biases like "averaging cancels out random noise," theories of cognitive psychology stress that "fallacies and biases that plague individuals are robust and systematic [and] survive and affect behavior at the aggregate level" (Budescu and Maciejovsky 2005:1841-1842). This study's failure to detect a change

in the presence of hindsight bias over the duration of the simulation thus points to the survey instruments being an inadequate method of assessment. The sample size of thirty-four individuals also makes it difficult to determine how *Statecraft* may have affected students' decision making.

Future research on how *Statecraft* might affect students' decision making should therefore include a pre-test/post-test instrument in which students are presented with fictional examples of decision making. Each example should contain information on the process used to reach a decision and the outcome of that decision. If students are asked to evaluate similar scenarios before and after *Statecraft*, it may be possible to detect whether the simulation is associated with a decrease in hindsight bias among students. A second run of the experiment should also include a larger sample, perhaps by running *Statecraft* in multiple sections of the course or across successive semesters; however, this is difficult to achieve because the author teaches the course every other year and other instructors use different approaches and teach different content.

Appendix A – Results of *Statecraft* Debriefing Survey

Table 5	Scores						
	5	4	3	2	1	N	Average
The *Statecraft* simulation was an enjoyable and worthwhile experience.	13	17	0	1	0	31	4.354839
Statecraft helped me understand international politics.	6	19	3	1	0	29	4.034483
Statecraft helped me understand how to apply ideas from lectures, discussions, and readings.	5	20	2	2	0	29	3.965517
My team functioned well as a group.	5	16	0	1	0	22	4.136364
Participating in *Statecraft* helped me improve my decision-making skills.	6	17	8	1	0	32*	3.875
Lectures, readings, and discussions on readings helped me imporve my decision-making skills.	5	19	5	2	0	31	3.870968
The memo assignments helped me get more out of the *Statecraft* experience.	3	10	7	6	4	30	3.066667
The premortem assignments helped me get more out of the *Statecraft* experience.	3	14	6	3	1	27	3.555556
Statecraft caused me to think more about the practice of international politics.	4	20	4	1	0	29	3.931034
The memo assignments helped me better understand ideas from lectures, discussions, and readings.	1	8	11	6	4	30	2.866667
The premortem assignments helped me understand how to apply ideas from lectures, discussions, and readings.	2	12	10	3	2	29	3.310345
The analysis paper on *Statecraft* will help me understand international politics and IR theories.	15	9	3	3	0	30	4.2
I would recommend this course to other students.	17	11	2	0	0	30	4.5

*One student checked more than one box checked for this item; both scores are used.

Works Cited:

Abt, Clark (1970) *Serious Games*, New York: Viking Press.

Asal, Victor (2005) "Playing Games with International Relations," *International Studies Perspectives* 6(3): 359-373.

Asal and Blake (2006) "Creating Simulations for Political Science Education," *Journal of Political Science Education* 2:1–18.

Baranowski, Michael (2006) "Single Session Simulations: The Effectiveness of Short Congressional Simulations in Introductory American Government Simulations," *Journal of Political Science Education* 2(1): 89-112.

Brademeier, Mary E., and Cathy Stein Greenblat (1981) "The Educational Effectiveness of Simulation Games," *Simulation & Games*: 307-332.

Boyer, Mark, Peter Trumbore, and David O. Fricke (2006) "Teaching Theories of International Political Economy from the Pit: A Simple In-Class Simulation," *International Studies Perspectives* 7: 67-76.

Brewer, Garry D. (1984) "Child of Neglect: Crisis Gaming for Politics and War," *Orbis* 27(4): 803-812.

Budescu, David V. and Boris Maciejovsky (2005) "The Effect of Payoff Feedback and Information Pooling on Reasoning Errors: Evidence from Experimental Markets," *Management Science* 51(12): 1829-1843.

Bukszar, Ed and Terry Connolly (1988) "Hindsight Bias and Strategic Choice: Some Problems in Learning from Experience," *The Academy of Management Journal* 31(3): 628-641.

Burnstein Eugene and Michael L. Berbaum (1983) "Stages in Group Decision Making: The Decomposition of Historical Narratives," *Political Psychology* 4(3): 531-561.

Camerer, Colin F. and Howard Kunreuther (1989) "Decision Processes for Low Probability Events: Policy Implications," *Journal of Policy Analysis and Management* 8(4): 565-592.

Carnes, Mark C. (2011) "Setting Students' Minds on Fire," *The Chronicle of Higher Education*, March 6, http://chronicle.com/article/Setting-Students-Minds-on/126592/.

Chasek, Pamela S. (2005) "Power Politics, Diplomacy and Role Playing: Simulating the UN Security Council's Response to Terrorism," *International Studies Perspectives* 6: 1-19.

Crossley-Frolick, Katy (2010) "Beyond Model UN: Simulating Multi-Level, Multi-Actor Diplomacy Using the Millennium Development Goals," *International Studies Perspectives* 11(2): 184-201.

Davidson, Jean H., Leanne Du Preeez, Matthew W. Gibb, and Etienne L. Nel, "It's in the Bag! Using Simulation as a Participatory Learning Method to Understand Poverty" *Journal of Geography in Higher Education* 33(2): 149-168.

Dewey, John (1916) *Democracy and Education*, Project Gutenberg, Champaign, IL, eBook.

Dorn, Dean S. (1989) "Simulation Games: One More Tool on the Pedagogical Shelf," *Teaching Sociology* 17(1):1–18.

Ehrman, Madeline E. and Rebecca L. Oxford (1995) "Cognition Plus: Correlates of Language Learning Success," *The Modern Language Journal* 79(1): 67-89.

Enterline, Andrew J. and Eric M. Jepsen (2009) "Chinazambia and Boliviafranca: A Simulation of Domestic Politics and Foreign Policy," *International Studies Perspectives* 10: 49-59.

Freitas, Sara I. de (2006) "Using Games and Simulations for Supporting Learning," *Learning, Media and Technology* 31(4): 343-358.

Guetzkow, Harold and Lloyd Jensen (1966) "Research Activities on Simulated International Processes," *Background* 9(4): 261-274.

Heitzmann, William Ray (1973) "The Validity of Social Science Simulations: A Review of Research Findings," *Education* 94(2):170-174.

Kahneman, Daniel (2012) *Thinking, Fast and Slow*, New York: Farrar, Straus and Giroux.

Kahneman, Daniel, and Amos Tversky (1984) "Choices, Values, and Frames," *American Psychologist* 39:341-50.

Kahneman, Daniel, and Amos Tversky (1979) "Prospect Theory: An Analysis of Decision under Risk," *Econometrica* 47:263-91.

Katt, James A. and Steven J. Condly (2009) "A Preliminary Study of Classroom Motivators and De-motivators from a Motivation-hygiene Perspective," *Communication Education* 58(2): 213-234.

Kaufman, Joyce P. (1998) "Using Simulation as a Tool to Teach About International Negotiation," *International Negotiation* 3:59-75.

Kirkwood, Alan (1999) "Discounting the Unexpected: The Limitations of Isomorphic Thinking," *Risk Management* 1(4): 33-44.

Koh, Caroline and Hock Soon Tan, Kim Cheng Tan, Linda Fang, Fook Meng Fong, Dominic Kan, Sau Lin Lye, and May Lin Wee (2010) "Investigating the Effect of 3D Simulation-Based Learning on the Motivation and Performance of Engineering Students," *Journal of Engineering Education* 99(3): 237-251.

Kolb, David A. (1984) *Experiential Learning: Experience as The Source of Learning and Development*, Englewood Cliffs, NJ : Prentice-Hall, Inc.

Krain, Matthew and Jeffrey S. Lantis (2006) "Building Knowledge? Evaluating the Effectiveness of the Global Problems Summit Simulation," *International Studies Perspectives* 7: 395-407.

Krueger, Joachim I. and Melissa Acevedo (2007) "Perceptions of Self and Other in the Prisoner's Dilemma: Outcome Bias and Evidential Reasoning," *The American Journal of Psychology* 120(4): 593-618.

Larson, Deborah Walsh (2003) "Good Judgment in Foreign Policy: Social Psychological Perspectives," *Good Judgment in Foreign Policy: Theory and Application*, Stanley A. Renshon and Deborah Welch Larson, eds, Lanham, MD: Rowman and Littlefield Publishers: 3-24.

Machemer, Patricia L. and Pat Crawford (2007) "Student Perceptions of Active Learning in a Large Cross-Disciplinary Classroom," *Active Learning in Higher Education* 8(1): 9-30.

Mandel, Robert (1987) "An Evaluation of the 'Balance of Power' Simulation," *The Journal of Conflict Resolution* 31(2):333–45.

Mayer, Igor S. (2009) "The Gaming of Policy and the Politics of Gaming: A Review," *Simulation & Gaming* 40(6):825-862.

Mitchell, Alice and Carol Savill-Smith (2004) *The Use of Computer and Video Games For Learning: A Review of the Literature*, Learning and Skills Development Agency, London, United Kingdom.

Powner, Leanne C. and Michelle G. Allendoerfer (2008) "Evaluating Hypotheses About Active Learning," *International Studies Perspectives* 9 (1): 75-89.

Putnam, Robert (1988) "Diplomacy and Domestic Politics: The Logic of Two-Level Games," *International Organization* 42(3):427-460.

Quattrone, George A. and Amos Tversky (1988) "Contrasting Rational and Psychological Analyses of Political Choice," *The American Political Science Review* 82(3): 719-736.

Raymond, Chad (2011) "Kim Kardashian's Prisoner's Dilemma," *Active Learning in Political Science*, November 21, 2011, http://activelearningps.wordpress.com/2011/11/21/kim-kardashians-prisoners-dilemma/, last accessed March 30, 2013.

Raymond, Chad (2010) "Do Role-Playing Simulations Generate Measurable and Meaningful Outcomes? A Simulation's Effect on Exam Scores and Teaching Evaluations," *International Studies Perspectives* 11: 51-60.

Raymond, Chad and Simon Usherwood (2013) "Assessment in Simulations," *Journal of Political Science Education* 9(2):1-11.

Renshon, Stanley A. (2003) "Psychological Sources for Good Judgment in Political Leaders: A Framework for Analysis," *Good Judgment in Foreign Policy: Theory and Application*, Stanley A. Renshon and Deborah Welch Larson, eds, Lanham, MD: Rowman and Littlefield Publishers: 25-57.

Rosen, Amanda (2011), "Statecraft: A Simulation for International Relations," *Active Learning in Political Science*, November 24, 2011,

http://activelearningps.wordpress.com/2011/11/24/statecraft-a-simulation-for-international-relations/, last accessed March 30, 2013.

Sanna, Lawrence J. and Norbert Schwarz (2006) "Metacognitive Experiences and Human Judgment: The Case of Hindsight Bias and Its Debiasing," *Current Directions in Psychological Science* 15(4): 172-176.

Shellman, Stephen M. and Kursad Turan (2003) "The Cyprus Crisis: A Multilateral Bargaining Simulation," *Simulation & Gaming* 34(2):281-291.

Sligo, Frank and Nicole Stirton (1988) "Does Hindsight Bias Change Perceptions of Business Ethics?" *Journal of Business Ethics* 17(2): 111-124.

Starkey, Brigid A. and Elizabeth L. Blake (2001) "Simulation in International Relations Education," *Simulation & Gaming* 32: 537-551.

Stein, Janice Gross and David A. Welch (1997) "Rational and Psychological Approaches to the Study of International Conflict: Comparative Strengths and Weaknesses," *Decisionmaking on War and Peace: The Cognitive-Rational Debate*, Nehemia Geva and Alex Mintz, eds, Boulder: Lynne Rienner Publishers: 51-77.

Stroessner, Steven J, Laurie Susser Beckerman, and Alexis Whittaker (2009) "All the World's a Stage? Consequences of a Role-Playing Pedagogy on Psychological Factors and Writing and Rhetorical Skill in College Undergraduates," *Journal of Educational Psychology* 101(3):605-620.

Tamminga, Harriet L. (1977) "Moral Education through Gaming—Simulation in Sociology Courses," *Teaching Sociology* 4(3): 251-270.

Tetlock, Philip E. (1992) "Good Judgment in International Politics: Three Psychological Perspectives," *Political Psychology* 13(3): 517-539.

Torney-Purta, Judith (1998) "Evaluating Programs Designed to Teach International Content and Negotiation Skills," *International Negotiation* 3(1): 77-97.

Weiner, Bernard (1990) "History of Motivational Research in Education," *Journal of Educational Psychology* 82(4): 616-622.

Williams, Robert Howard and Alexander Jonathan Williams (2010) "One for All and All for One: Using Multiple Identification Theory Simulations to Build Cooperative Attitudes and Behaviors in a Middle Eastern Conflict Scenario," *Simulation & Gaming* 41(2):187-207.