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## Model Diplomacy Classroom Simulation: Three-Way Prisoners' Dilemma

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### **Abstract:**

*This study examines collective decisions by applying game theory in undergraduate diplomacy classes where simulations are used to promote active learning. Facing the fateful decision of whether or not to invade a disputed territory, students are given the opportunity to maximize their scores by trusting the decisions of others. A three-player prisoners' dilemma is used to test the impact of uncertainty in a crisis situation. Variables analyzed in this study include level of education (lower-division, upper-division), gender (male, female), decision setting (integrated, isolated) and international agreement (drafted, not drafted). The findings reveal that all four variables have a significant impact on the outcome of the simulation.*

**Keywords:** Model diplomacy, game theory, prisoners' dilemma

### **1. Introduction**

Crisis simulations in the classroom are widely employed as a pedagogical technique to engage students in the learning process. When designed and executed properly, role-playing simulations go a long way to enhance learning. Leib and Ruppel (2020: 337) observe that "[t]here is considerable support for the argument that active learning techniques promote student learning outcomes better than passive approaches." Within the field of Political Science, simulations can be utilized for courses in American Politics, Comparative Politics and International Relations, as well as a multitude of sub-fields within the three main branches of the discipline. Desai and Bedi (2017) reveal that simulations are highly constructive teaching methods in fields far from political science, such as business.

Simulated role-playing aimed at identifiable learning objectives can be organized as a single iteration or carried out over the course of the semester. In International Relations, simulations can be used to teach students about diplomacy, negotiation, crisis management, conflict resolution, and the functioning of a myriad of international organizations.

In this study, eighteen classes of students spanning a six-year period are tasked with completing a simulation with rewards and penalties assigned based on the decisions that they make. The simulated crisis involves a disputed territory that three countries claim. Students are divided into three groups by country and tasked with making a binary decision (invade, do not invade) at the conclusion of the one-hour simulation. Participating students are informed that the grade for the assignment will be determined by not only their decisions but also the decisions of others. While the goal for each student is to maximize his/her grade, the dynamics of the simulation often result in a sub-optimal outcome. The purpose of this study is to identify the variables that influence the final decisions of the students. Considerations include year in school (lower-division v. upper-division), gender (male, female), setting during decision-making (isolated, integrated) and international agreements (drafted, not drafted).

### **2. Cooperation and Conflict**

The most fundamental question in world politics is the nature of individuals and the nation-states that they govern. The 'natural state of affairs' varies greatly by theoretical perspective. The oldest theory in world politics is political realism, which dates back to the fifth century BCE with the writings of Thucydides. Classic realists contend that the natural state of affairs in international relations is conflict among nations. It is not that realists prefer war; rather, they expect it due to the dynamics of human nature and the international system. Their logic is based upon the assumption that states, in pursuit of security, will accumulate power and use that power in ways that increase the likelihood of armed conflict. The realist paradigm is replete with scenarios, from arms races to security dilemmas to hegemonic bids, that result in war. To the realists, states are either waging war, recovering from war or preparing for the next war. Liberals, on the other hand, contend that war is an indication of failure since they view the natural state of affairs as peaceful. The liberal international approach argues that there are several factors that can reduce the likelihood of armed conflict. Institutional liberals point to international organizations and laws as means of clarifying relations and resolving disputes short of war. Economic liberals contend that trade among nations increases the cost of going to war due to the opportunity costs of losing profitable trade and enhances peaceful relations. Finally, democratic liberals argue that citizen control over government makes war a less likely outcome. This is referred to as the Democratic Peace, which contends that democracies will not go to war with other democracies.

### 3. Game Theory

Since the Second World War, international relations (IR) scholars have utilized game theory as a means of explaining the complexities of their worldviews and testing their theory's assumptions. While IR theories are a simplification of world politics, the games that they play further simplify theories by reducing them to core assumptions. Not surprisingly, realists and liberals use different games as reflections of world affairs. Two games—Chicken and Prisoners' Dilemma—have been adopted by realists, while liberals believe that Stag Hunt is the most accurate game theory.

The game of Chicken is used to simulate a nuclear crisis. In that game, two actors are driving at a high speed towards one another. Either one or both of the drivers must swerve to avoid a head-on collision, or both will perish. A rational actor will conclude that both of the following strategies are optimal:

- Act rationally to preserve your own life by swerving out of the way of the crash and
- Assume that the other driver will act rationally and swerve out of your way.

If both drivers adopt the second strategy and do not swerve in anticipation of the other actor doing so, a head-on collision (nuclear exchange) occurs.

Several intervening variables can impact the decision of the two drivers, including signaling an irrational attitude or a bellicose attitude. If actor A can convince the other that it is irrational, actor B has little choice but to back down by swerving out of the way. A real-world example of this can be seen in the Nixon administration's handling of the October Crisis in 1973. After Israel was invaded by Egypt and Syria, the United States raised its Defense Condition (DefCon) to Level III, the highest state of armed forces readiness for peacetime conditions. In so doing, Nixon signaled to Moscow that the United States strongly opposed any Russian contingency force sent to the region and was willing to go to the precipice of nuclear war to prevent it. An external variable in the game of chicken is the audience. With onlookers, the drivers feel a greater pressure to stay the course and not swerve so as not to look publicly weak and be viewed by observers as the loser in the game. President John F. Kennedy took a decidedly hard-line stance during the October 1962 Cuban missile crisis to force the Soviets to back down to avoid direct conflict with the United States. Kennedy, fresh off of his humiliating failure at the Bay of Pigs, faced immense "audience" pressure at home as critics and the public questioned his resolve.

Prisoners' Dilemma (PD), another highly analyzed game theory, involves alleged culprits determining whether to remain loyal to each other or confess to a crime in a test of trust in world politics. Similar to the game of chicken, PD traditionally involves two self-interested, rational actors locked in a dangerous scenario with payoffs linked to individual and collective actions.

Prisoners' Dilemma as a game theory model dates back to the late 1950s. Fader and Hauser (1988) note that, since its inception, PD has been one of the most frequently studied phenomena in economics, political science, sociology and psychology. Axelrod (1984) provides one of the most comprehensive assessments of PD and discusses its various applications. The classic variation (2X2) allows each participant to either Cooperate or Defect. Two individuals have been apprehended and accused of a crime. The only evidence that the police have is circumstantial, with no direct evidence or eyewitness accounts linking the defendants to the crime. The detectives seek to turn one or both defendants against each other by offering a lesser sentence for defection. Each is told that if they turn in the state's evidence and assist in the conviction of the other, they will receive a reduced sentence. With only two actors, the payoffs are presented in the matrix below. Their choices are to either Cooperate with each other (do not confess) or Defect the police by confessing their crime.

	<b>Actor 2 Cooperate</b>	<b>Actor 2 Defect</b>
<b>Actor 1 Cooperate</b>	No Evidence Charges Dismissed Keep the Stolen Goods	Actor 2: Probation Actor 1 Goes to Trial 10 Years in Jail
<b>Actor 1 Defect</b>	Actor 1: Probation Actor 2 Goes to Trail 10 Years in Jail	Both Plead Guilty No Trial 3 Years in Jail for Each

*Table 1: Prisoners' Dilemma Payoffs by Quadrant*

For the prisoners facing the dilemma of whether to defect or remain loyal, the optimal outcome is quadrant 1. In that scenario, both alleged culprits remain loyal to each other (Cooperate), refuse to testify on behalf of the state, and the charges are dismissed. In PD, both participants are assumed to be rational actors in that they are aware of the payoffs for each of the four scenarios and understand that if both remain loyal to each other, the charges will be dismissed. As rational actors, however, they are seeking to avoid taking the fall for the theft and being sent to prison for ten years (quadrants 2 & 3). In order to undermine the confidence that each actor has that the other can be trusted to remain loyal, the police separate the two. Each defendant, sitting in isolation, ponders the prospect of being sentenced to jail for a decade while their accomplice only serves probation. Fader and Hauser (1988) observe that each suspect has a unilateral incentive to defect regardless of the other suspect's decision. The Prisoners' Dilemma simulation reveals to students the perils of world politics and the difficulty of achieving cooperation. At its core, the participants act rationally and pursue their own narrow self-interests. In a single-iterated game of PD, the most likely scenario is quadrant 4, with both defendants pleading guilty and serving three years in jail. Both chicken and prisoners' dilemma reflect the realist conception of world politics and, not surprisingly, lead to sub-optimal outcomes.

The liberal game of Stag Hunt reveals the factors that lead actors to cooperate rather than fall into conflict. Four individuals team up to hunt a stag. Each is strategically positioned with the aim of chasing the stag into an area of vulnerability where they can collectively kill the animal. Success will result in enough food for the hunters and their families. Failure imperils all. While in position, one of the hunters encounters a rabbit. The actor has two choices, Cooperate or Defect, which are the same binary choices experienced in the prisoners' dilemma. The hunter may either remain loyal to the group (cooperate) by disregarding the rabbit to focus on the common goal of killing the stag or may defect by trapping the rabbit. Catching the rabbit will remove the defector from the common goal and allow the stag to escape. Immediate self-interest gives way to a realization that if he defects, the actor will no longer be trusted to join in future hunts and will suffer in the long term as a result. Unlike the games played by realists, which often result in defection, stag hunt tends to result in a decision to remain loyal to the group. There are two important distinctions between realist and liberal game theories. In both PD and chicken, a single-iterated game is played. In stag hunt, the actors must calculate the implications of their decisions on the understanding that the game must be played over and over again since the group will always be in need of food. Remaining loyal, in other words, has implications well beyond the first iteration of the game.

#### 4. Diplomacy Simulations

Role-playing diplomats give students hands-on experience in reaching common accords and writing joint documents, such as United Nations resolutions and international accords. In any given academic year, simulations of the European Union, NATO, African Union, Arab League, and Organization of American States, among others, are organized within university classes and at regional, national and international conferences. The most popular organization to simulate is the United Nations, with Model UN programs and conferences populating the international system. Simulations of international organizations vary greatly depending on the number of participants, the length of the conference and the extent to which information about topics and country assignments are provided in advance. Crisis simulations, where the topic is announced at the conference, require students and delegates to quickly gather and assemble information and react to the unfolding challenge with little pre-conference preparation. Most simulations, however, are organized such that all topics are announced and researched months in advance of the conference's opening session.

At Florida Atlantic University, the Leon Charney Diplomacy Program (LCDP) operates on a year-round basis. It participates in the National Model United Nations conference in Washington, DC, in the fall semester and the New York conference in the spring. Supporting the program is a healthy endowed account and strong commitment from the university. Five courses are offered annually as part of the LCDP so that the program can operate across multiple campuses. During the fall semester, three undergraduate courses are offered, one on each of the Boca and Jupiter campuses and one for freshman students in the University Honors Program (UHP). In the spring term, one course is offered on each of the two campuses and is available to those who successfully complete the fall course and conference.

Students join the diplomacy program in the fall and receive training that is designed to take them from novice to skilled student-diplomat over the course of eleven weeks. Classes meet in two sessions per week, with one class session designed for skills building followed by a second session where simulations are used to reinforce and expand on the skills learned to date. The simulations range from vague settings with minimal direction to highly specified and restricted. The first simulation that the students are assigned is called Fatal Decision, a version of lifeboat ethics. Eight people are on a lifeboat; the assignment is to reach a unanimous agreement on which of the passengers should be thrown overboard in order to save the others. Very little information about the boat, its location or condition is provided. As for the passengers, the only data that the students are provided with are their age, occupation and gender. The ages range from a seven-year-old male child to an eighty-five-year-old female. Occupations include, among others, priest, Air Force Ranger, stay-at-home parent, biologist and retiree. Very early in the sixty-minute simulation, students begin to form blocs based upon whom they think should be sacrificed for the good of the whole. The challenge is to coalesce around one candidate to go overboard, as successful completion of the simulation requires a unanimous vote. This initial simulation offers students several valuable lessons about diplomacy and negotiations. The first is that often, in world politics, choices must be made among competing bad options. Since they are theoretically selecting someone to endanger by throwing that person overboard, there are no good options, rather only the least bad options. The second lesson to be learned is that there are no wrong answers. Even the child is a legitimate and defensible choice, as some cultures value people based on their life experiences rather than their potential contributions. Third, the students learn that when the countdown timer is running, a decision, no matter how uncomfortable, must be made. The simulation states that if the students fail to select a passenger to go overboard, the well-being of the group will be in peril. The simulation also states that a group's grade will be determined by their overall performance. This signals to the students that they will either succeed or fail as a whole. Students who make compelling speeches and negotiate with deft and flexibility will receive the same grade (A to F) as students who disengage and sink the experiment by refusing to vote in line with the others. Usually, the outliers will concede and vote for the majority candidate, but there have been times when a single student holds out and forces the class to either bend to his/her will or jointly fail the exercise. This reflects the fourth lesson of this simulation, the impact of voting requirements. Unanimity empowers fringe voices and holdouts, something that is not a concern with simple-majority scenarios. As the fall term unfolds, the simulations become more complicated, students are assigned positions and/or countries, and the matters discussed are more closely parallel to world politics. An example is the simulation that is made up of OPEC nations who are required to reach a super-majority decision on annual oil production quotas. For most of the simulations used in class, a variation of the Stag Hunt is used. Students learn to find ways to cooperate so that everyone can simultaneously gain from the outcome.

However, the simulation used in this study is based on the realist game of Prisoners' Dilemma. Trust or Betrayal is a hypothetical crisis among three major powers over a disputed territory with a history of armed conflict. While the classic PD game is constructed with two actors, as discussed above, the number of participants in this game is three (India, China, and Pakistan). The addition of a third player does not affect the underlying premise of the prisoners' dilemma, namely, self-serving rational actors making independent decisions that determine payoffs for each.

## 5. Structure of the Simulation

The simulation is a dilemma based on a real-world case study revolving around the disputed territory of Kashmir. Students are divided into three groups and jointly represent their assigned countries (India, China, Pakistan). Each country's delegation shares a placard to make procedural motions and vote. The final decision (Invade or Do Not Invade) is made secretly at the end of the simulation. This simulation has been used in our training since the Program's inception in 1996. Data have been collected on outcomes for six years (2019-2024 inclusive). Because three classes are involved in the simulation each fall, the total number of simulation observations is eighteen.

Minimal information about the Kashmiri territorial dispute and no advanced knowledge about the simulation are provided. Students may research the history of the conflict and various claims to Kashmir during the simulation. The allotted time to reach a conclusion is one hour. During the course of the simulation, students are required to make formal speeches, engage in negotiations within their delegation, determine a strategy, and seek a resolution to the crisis with delegates representing other countries. By the time the Trust or Betrayal simulation is held, week five of the class, students have learned the basics of simulated sessions and have grown accustomed to the need to find compromises that satisfy the majority of participants. This simulation forces them to square off against each other with the prospect of differentiated grades based on the outcome. Students can perform perfectly and receive a suboptimal grade, like in prisoners' dilemma. This score gradation is designed to import a degree of seriousness that is often difficult to engender in classroom simulations.

The instructions that the students receive reads as follows:

*Three countries (India, Pakistan, and China) make claims to Kashmir, a region at the core of multiple wars since the United Kingdom decolonized its South Asia colonial possessions after World War II. The three parties to the dispute historically controlled their unofficial 'zones' of Kashmir with armed forces on the ground. No agreement on the final status of the disputed region has been reached. Each country maintains a major offensive capability on the border of or in their zone of Kashmir. Tensions commonly run high as each fears that one of the other states will launch an invasion of Kashmir and effectively control the territory. Invasion by one or more parties is a constant threat to peace and security.*

With three groups of students making binary choices — Invade or Do Not Invade — there are four outcome scenarios. In Scenario 1, all three parties elect to invade. The result is a trilateral war with no side able to overcome the other, which results in a stalemate. All sides under the first scenario receive 10 out of 20 points. Scenario 2 is when two of the three states elect to invade. The two invading countries halved the region but experienced a significant increase in tensions that could result in a major war. Each invading state receives fifteen points. The country that opted to stay out loses all control of the territory and faces significant domestic backlash for its failure. Its students receive zero points out of twenty. In scenario 3, one of the three states elects to invade. The invading country seizes control of Kashmir but must be prepared at all times for war with one or both of the other countries. As the sole treaty violator, it will likely be the target of significant international sanctions. The invading country receives 18 points. The two countries that did not invade lose control over the region but are rewarded for their commitment to non-intervention. They each receive five points out of twenty. The final scenario is when all three parties elect to respect the status quo and not invade. Under scenario 4, all three countries receive full credit (20 points) for the simulation. Table 2 provides an illustration of the four outcomes, along with the points awarded to each delegation accordingly.

	Decision			Points		
	Country 1	Country 2	Country 3	Country 1	Country 2	Country 3
Scenario 1	Invade	Invade	Invade	10	10	10
Scenario 2	Invade	Invade	Do Not	15	15	0
Scenario 3	Do Not	Do Not	Invade	5	5	18
Scenario 4	Do Not	Do Not	Do Not	20	20	20

Table 2: Potential Outcomes and Points

It is obvious from the information provided in table 2 that the optimal outcome for the students is Scenario 4, where no country invades Kashmir and all participants receive full credit. This is no different than in the game of Prisoners' Dilemma. Unlike PD, where the decision to defect or remain loyal is the starting point, and the two defendants remain isolated throughout the simulation, in this exercise, the subjects are allowed to interact extensively until the final decision is made.

## 6. Building Trust & Clarity

The students are provided with the one-page Trust or Betrayal simulation at the start of class and then randomly assigned to one of the three participating countries. The sixty-minute countdown clock is started, and they begin the challenge of building trust through negotiation. At the onset, there is normally a high level of clarity among the students in

terms of their intentions: Do Not Invade in order to receive a perfect score. Only once in the fifteen iterations used in this study did a country representative openly announce an intention of invasion. This was a significant violation of practices taught in the class and, not surprisingly, resulted in all three countries deciding to invade.

The students have three basic ways to build trust among the delegations to ensure that all three elect to cooperate (not invade) the disputed region. The first is through inter-bloc caucusing. This takes place during informal sessions of ten to fifteen minutes. Assurances are made, and reciprocal assurances of non-invasion intent are sought. The second way that students convey their peaceful intentions is through formal speeches. Limited to sixty seconds, students from each delegation take turns delivering speeches promoting a peaceful resolution to the crisis and publicly committing to a non-invasion path. Going on the record with a formal statement holds more weight than making pledges during an informal caucus. The third action taken by students to promote a coordinated easing of tensions and promotion of a peaceful and successful conclusion of the simulation is through drafting a formal document. Students may draft joint statements, draft a resolution or agree to an international treaty. Ideally, all three countries will sponsor a document that commits each to the non-invasion tract. Additionally, statements, resolutions and treaties may call for post-crisis dialogue through peaceful offices of a non-involved party, request peacekeepers to be deployed to enhance clarity and solidify the status quo or an international conference aimed at fully resolving the territorial dispute. Drafting a diplomatic document and formally committing to its implementation is the highest confidence-building measure that the delegations can take.

## 7. The Vote

Up until this point in the semester, all simulations have concluded with simultaneous, open votes on documents designed to resolve the challenge. The Chair announces the vote and calls for a show of placards for those voting YES, NO, and ABSTAIN. Since a simple majority of those voting YES and NO is required for most simulations, the passage of resolutions is relatively high. In this simulation, however, a different tact is taken. Unknown to the students until this critical stage in the simulation is the fact that the final vote is taken in secret. Students are informed that they have five minutes to discuss their options solely within their own delegation and to make their final decision. They are not allowed to communicate with students from the other delegations and are warned against signaling their country's decision. Each delegation is provided with a ballot with two choices: Invade and Do Not Invade. They are instructed to make their decision, fold the ballot and submit it to the Chair. It is during their final five minutes of intra-delegation discussion that students gauge their level of trust in the other delegations and contemplate possible betrayals by the other two countries. They are keenly aware that if they vote not to invade while one or both of the other countries opt to invade, they will lose substantial points for their simulation grade. This mirrors the classic PD game where the two defendants, housed in separate interrogation rooms by the police, make their decisions to Cooperate or Defect in isolation.

Table 3 provides the data from eighteen simulations held between 2019 and 2024. Classes were held in person throughout the temporal domain of this study; however, in 2020, students were given the opportunity to participate virtually due to the COVID-19 pandemic. For that year, Zoom sessions were made available, and students were delegated to breakout rooms for their specific country assignment. The data are listed in temporal order, beginning in 2019 and concluding in 2024, with entries 1-3 representing the three classes that performed the simulation in the first year of this study.

	Countries/War or Peace			Points by Country		
	India	Pakistan	China	India	Pakistan	China
1	Peace	Peace	Peace	20	20	20
2	Peace	Peace	Peace	20	20	20
3	War	Peace	Peace	18	5	5
4	War	War	War	10	10	10
5	Peace	Peace	Peace	20	20	20
6	Peace	Peace	War	5	5	18
7	War	War	War	10	10	10
8	War	Peace	War	15	0	15
9	Peace	War	Peace	5	18	5
10	Peace	War	War	0	15	15
11	Peace	Peace	Peace	20	20	20
12	War	War	War	10	10	10
13	Peace	Peace	Peace	20	20	20
14	Peace	Peace	War	5	5	18
15	Peace	War	War	0	15	15
16	Peace	War	Peace	5	18	5
17	Peace	Peace	Peace	20	20	20
18	Peace	War	Peace	5	18	5

Table 3: Data from Eighteen Simulations Held Between 2019 and 2024

The total number of points awarded for the fifteen simulations was 698 out of a maximum of 1080 (64.46%). In other words, undergraduate students seeking to maximize their points were successful, on average, less than two out of three times. One-third of the simulations (6 of 18) resulted in the maximum score allowed, with all three delegations

deciding not to invade the disputed territory. This parallels studies that indicate that in traditional Prisoners' Dilemma games, the sub-optimal choice is often made. Table 4 presents the data by simulation outcome.

Scenario 1	Scenario 2	Scenario 3	Scenario 4
All Invade	Two Invade	One Invades	None Invades
3	3	6	6
16.66%	16.66%	33.3%	33%

Table 4: Simulation Outcomes by Category of Decision

The next observation to be made from the data relates to the assigned country. Through eighteen simulations of Trust or Betrayal, there is no distinction in outcome by country. Students representing China, India and Pakistan invaded eight times (44.44%) and India.

China	Pakistan	India
8 of 18	8 of 18	8 of 18
44.44%	44.44%	44.44%

Table 5: Invasion by State

There was little expectation, other than chance, that country assignment would impact the decision to invade or not for several reasons.

- First, there is a limited amount of information provided in the simulation. Students had little reason to conclude from the information provided that any of the three participating countries were more inclined to invade than the others.
- Second, the background of undergraduates in South Asian politics and the countries involved is rather minimal. Their Internet searches about Kashmir likely reinforced the history of conflict and the stakes involved but provided little additional information.

Important information that would be used by a more experienced analyst might include political and military leadership, domestic preferences and pressures, and relative military capabilities. Without such insight, students likely view the three countries in the simulation as largely the same, with equal interest in physically dominating the disputed region and a desire to avoid conflict.

Another variable accounted for in this study was the level of education (lower- v. upper-division) of the students involved. As noted earlier, three classes each fall semester completed the simulation. Two of the classes are made up of upper-division students, and one is a University Honors Program class made up of first-semester students. The data is composed of six lower-division classes of students and twelve upper-division classes of students. The data presented in table 6 indicates that first-year students (coded lower-division) are significantly less likely to violate trust by opting to invade. Since there were three decisions made during each simulation, one for each participating country, six lower-division simulations resulted in eighteen decisions to invade or not. Likewise, the twelve simulations involving upper-division classes resulted in thirty-six decisions.

	Lower-Division	Upper-Division
Invade	8 (44.44%)	12 (33.33%)
Do Not Invade	10 (55.55%)	24 (66.66%)
Total Decisions	18	36

Table 6: Decisions by Class Status: Lower-Division v. Upper-Division

In the eighteen decisions made in the six lower-division simulations, students opted for war 44% of the time, compared to 33% for upper-division students. It is difficult to determine what makes first-semester students more likely to defect than upper-division students. It is possible that, without a background in world politics, the lower-division students thought less about the real-world implications of a territorial war among nuclear states than students who have studied international relations and armed conflict among nations.

The gender of the students involved was also coded for the simulations. Stamato (1992) conducted research to reveal the impact of gender on managing differences and resolving conflict. She notes (1992: 376), "[w]hen studies include both men and women, a more accurate picture of human behavior emerges..." Watson and Kasten (1989) concluded that gender differences are highly impactful on negotiation outcomes, suggesting that women were less effective negotiators than men when the process was viewed as a competitive win-lose game rather than problem-solving win-win endeavor. Garza and Morales (2003) specifically examined the impact of gender in prisoners' dilemma games, concluding that the gender effect is ambiguous in actions. The results of this study enhance our understanding of the role of gender in crisis decision-making.

Approximately 65% of students electing to join the diplomacy program are female, resulting in several instances where a delegation was made up entirely of women. In sixteen instances, out of fifty-four simulations, a delegation of females represented one of the three countries. Nine times, a delegation made up of males represented a country, and in twenty-four instances, delegations were mixed. Table 7 presents the data.

	<b>Female</b>	<b>Male</b>	<b>Mixed</b>
Invade	3 (18.75%)	6 (66.66%)	15 (51.72%)
Do Not Invade	13 (71.25%)	3 (33.33%)	14 (48.28%)

*Table 7: Decisions by Gender: Female, Male, Mixed*

When a country was represented by a mix of females and males, it opted for war slightly more than half of the time (15 of 29). That percentage increases significantly for delegations made up exclusively of males (66.6%) and decreases significantly for delegations composed of female students (18.75%). While further exploration of the motives for making decisions would be necessary for confident conclusions to be reached, at a minimum, this study reveals that gender is a strong predictor of decision-making in crisis simulations.

As previously explained, the students make their final decision to trust or betray their fellow students at the end of the simulation and without consultation with the other delegations. However, in five of the eighteen simulations, a new wrinkle was applied—separation during decision-making. In most simulations (13 of 18), the three country delegations were positioned together in the classroom when making their final decision to invade or not. Eye contact, subtle gesturing or other forms of non-verbal communication were always possible under such circumstances. Five times, however, I removed one or more delegations from the classroom and instructed them to make their decision in physical isolation from the others. The expectation was that separating the groups would heighten the suspicion that one or more of the others would betray the class by opting to invade. In those five instances, six of the eighteen decisions were for invasion, as indicated in table 8. In the instances where all the students remained in the classroom for their final decision, the vast majority (74%) opted for the non-invasion route.

	<b>Separated</b>	<b>Together</b>
Invade	12 (66.66%)	9 (25%)
Do Not Invade	6 (33.33%)	27 (75%)

*Table 8: Decisions by Location: Separated or Together*

The results reveal the high impact of separating at least one of the groups in making the final decision. When one group was taken from the classroom prior to the final decision, 66% of the time, the decision was to betray the others by invading. One-third of the time, when one group was separated for the final decision, delegations opted not to invade. On the other hand, when the students remained in the classroom, the numbers flipped. In nine of thirty-six instances, with all the students in the same room, delegations opted for an invasion (25%), while twenty-seven of thirty-six instances (62%) decided not to invade.

The final variable tested in this study is the presence of a joint statement, declaration or formal resolution. Unlike simulations in the latter half of the semester, when drafting resolutions is a requirement, in the first five weeks of the course, there is no requirement to do so. This is because resolution writing is a learned skill that involves specific training that occurs well into the semester. As a result, students drafted a document in the eighteen simulations four times, but no document was reached in the remaining fourteen simulations.

In his study of international conflict, Kocs (1994) found that territorial disputes were less likely to result in armed conflict if the issue had been judicially settled prior to the crisis. This study seeks to test that proposition. The drafting of a joint statement, resolution or treaty that was adopted by the parties to the simulated dispute occurred in only four of the eighteen simulations (18%) across the six-year time frame. As noted earlier, a formal document adopted by the participants is the highest level of commitment to a non-violent end to the crisis. In the four instances where a resolution was adopted, two times, a country decided to invade Kashmir, compared to ten instances (83%) where the decision was made not to invade. When no declaration, formal statement or resolution was drafted and adopted, the decisions were more equally split between Invade (45%) and Do Not Invade (55%).

	<b>Resolution Adopted</b>	<b>No Resolution Adopted</b>
Invade	2 (16.66%)	19 (45.23%)
Do Not Invade	10 (83.33%)	23 (54.66%)

*Table 9: The Impact of Resolutions*

## 8. Results

Table 10 presents the data and the variables for this study. Several results stand out. First, as is the case with traditional prisoners' dilemmas, actors protect against a worst-case scenario by selecting a sub-optimal choice. With their simulation grade on the line, only one-third of student delegations jointly selected the optimal choice not to invade the disputed territory. In the remaining two-thirds of cases, at least one of the three betrayed the others by opting to invade. Second, gender appears to be an influential factor in deciding whether to trust others or not. Female delegations opted for invasion less than one-fourth of the time (23%), while delegations made up of males decided to invade six in nine times (67%). Delegations made up of a mix of male and female students fell in between the extremes, with a roughly equal divide between those who opted to invade (52%) and those who elected not to invade (48%). The proximity of decision-makers, coded in this study as Setting, was shown to be highly impactful in making the decision to invade the territory or opt for a commitment to peace. Two-thirds of the time, a delegation was removed from the room during the final decision, and the

invasion was the result of at least one of the three delegations (66.7%). This percentage dropped to one-fourth of the time (25%) when the students made their fateful decision in the same physical setting. Finally, the presence or absence of a formal document in the form of a resolution, declaration or joint statement was shown to be highly impacting, as well. When a resolution, declaration or joint statement was drafted and unanimously adopted, only twice in twelve times did a signatory opt to invade (16.67%). In the remaining instances where no document was adopted, the choice by at least one delegation to invade was made 45% of the time. When the level of education was controlled for, the study found that lower-division students were much more likely to defect (Invade) at a rate of 44% compared to upper-division students, who elected to invade one-third (33%) of the time.

	Countries/War or Peace			Class Rank		Gender			S*	R**
	India	Pakistan	China	Frosh	Upper	Male	Female	Mixed		
1	Peace	Peace	Peace	Yes			Peace	Peace, Peace		
2	Peace	Peace	Peace		Yes	Peace	Peace	Peace		Y
3	War	Peace	Peace		Yes	War	Peace	Peace		
4	War	War	War	Yes		War	War	War	Yes	
5	Peace	Peace	Peace		Yes		Peace	Peace, Peace		Y
6	Peace	Peace	War		Yes	Peace	Peace	War		
7	War	War	War	Yes		War		War, War	Yes	
8	War	Peace	War		Yes	War	War	Peace		
9	Peace	War	Peace		Yes		Peace	Peace, War	Yes	Y
10	Peace	War	War	Yes		War	Peace	War		
11	Peace	Peace	Peace		Yes	Peace	Peace	Peace		
12	War	War	War		Yes		War	War, War	Yes	
13	Peace	Peace	Peace	Yes				Peace, Peace, Peace		
14	Peace	Peace	War		Yes		Peace	Peace, War		
15	Peace	War	War		Yes		Peace	War, War		
16	Peace	War	Peace	Yes		War	Peace, Peace		Yes	
17	Peace	Peace	Peace		Yes		Peace	Peace, Peace		
18	Peace	War	Peace		Yes			Peace, Peace, War	Yes	Y

Table 10: Presents the Data and the Variables for This Study

\*Separated at Time of Decision

\*\*Resolution or Joint Statement Adopted

## 9. Conclusion

The use of simulations in the classrooms allows students the opportunity to actively engage with others in situations that mirror events in world politics. When properly organized and administered, model diplomacy simulations allow students to develop essential skills, ranging from conflict resolution to public speaking. Data collected from simulations can be used to test basic propositions about decision-making. In this study, students were placed in a crisis and given a binary option: invade or do not invade a disputed territory. The results indicate that a range of factors (class rank, gender, setting, formal document) impact the decisions that are made.

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