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Gaming and Aggressive Tendencies: The Effects of Conflict Simulations on Behavior and Political Decision-Making

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GAMING AND AGGRESSIVE TENDENCIES: THE EFFECTS OF CONFLICT SIMULATIONS ON BEHAVIOR AND POLITICAL DECISION-MAKING

A Masters Thesis

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In Partial Fulfillment

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Master of Arts, Global Studies

By

James Cannon Gilmore

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ABSTRACT

Simulations and war games have seen increasing use not only in the military, but various other agencies throughout the United States Federal Government as well. There seems to be a gap in the relevant literature examining if there are any effects on foreign policy decision-making after participating in these games, however. I deployed a survey at a local paintball place, to test for any noticeable effect on people's foreign policy preferences after they take part in a conflict simulation. The results of my research showcased several surprising aggressive changes in respondents' political attitudes and demonstrated a greater need to examine the effects of conflict simulations on decision-making processes. Some of the changes included a willingness to utilize a more militant foreign policy when dealing with a situation such as the Arab Spring, or having a more aggressive emotional state after participating in a conflict simulation.

KEYWORDS: behavior, conflict, simulation, game, decision-making, war game, violence

This abstract is approved as to form and content

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE: INTRODUCTION

Role-playing and simulation have become prominent in the field of international relations. Ever since the use of war-gaming arose, for the purpose of crafting military strategy and training soldiers for future conflicts, its effects on participants have been called into question. Most research done on the use of conflict simulations pertains to their frequency of use and their benefits in teaching new critical thinking skills. The simulation's effects on the behavior of the participant was not a subject many researchers had investigated, despite many of these games tackling difficult subject matters related to political violence and social turmoil.

Behavioral effects from simulations on wars and other acts of violence are what are being measured by this study. The goal is to test if one who participates in some sort of conflict simulation feels more aggressive in other aspects of their life, or if the competitive constraints of the game lessen the emotional impact of making decisions that could potentially lead to an outbreak of violence. By taking a quick look at existing literature on the subject of simulations in political science research, it is clear that discussion tends to head in a particular direction.

Current research pertaining to simulations discusses the benefit of their adoption in understanding multiple perspectives on a given conflict.[1] This 'empathy' garnered from simulations, according to researchers, could potentially change the perception and values of one who is embodying another person in a position of power, by increasing

[1] Anne M. Baylouny, "Seeing Other Sides: Nongame Simulations and Alternative Perspectives of Middle East Conflict," *Journal of Political Science Education* 5, no. 3 (2009): 214.

their ability to identify with another person, while at the same time broadening their preconceptions regarding particular ideas. By defending ideas the participants once found personally reprehensible, some researchers contend that the players of the game would slowly come to adopt another worldview. Many of the creators and observers of conflict simulations see this as a positive development.[2] By being forced to role-play as another country or person, the participant is often forced to think in new and creative ways.

Having games that are similar to historical conflicts or real life military situations can produce varied and complicated results. Conflict simulations usually have players portraying either negotiators or 'peace-spoilers,' along with an often-intense depiction of simulated violence. These competitive parameters can force people to explore and re-evaluate previous conceptions about violence.[3] There are an extraordinarily large number of variables to take into account when observing and participating in a war game or other type of conflict simulation. Researchers have also focused heavily on the complexities of predicting a participant's simulation-style learning abilities and whether the choices they have made in a game are the result of preconceived notions regarding a subject, their predilection to use violence, or the competitive stresses of participating.[4] Additionally, results can be hard to measure as just the act of picking a winner or loser in a game can

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[2] Jeremy Youde, "Crushing Their Dreams? Simulations and Student Idealism," *International Studies Perspectives* 9, issue 3 (2008): 349-350.

[3] Michael Goon, "Peacekeeping the Game," *International Studies Perspectives* 12, issue 3 (2011): 254.

[4] Vinsent Buskens, et al., "Consent or Conflict: Coevolution of Coordination and Networks," *Journal of Peace Research* 45, no. 2 (2008): 206.

change the dynamic between the participants, skewing the recorded observations.[5] Competitive constraints are extremely important in determining the effects of conflict simulations on critical and analytical thinking skills. These traits are highly valuable in fostering education on international issues both inside and outside the classroom.[6] Unlike what might happen on an actual battlefield, a game through the use of rules could lend clarity, simplicity, and some certainty to a particular situation, which can make complex concepts seem easy to comprehend by the participants.[7] While these benefits garnered from simulations are important to examine, there could potentially be some consequences to this particular style of learning.

There is a gap in the knowledge base pertaining to the effects of conflict simulation on the participants' behavior, besides the commonly agreed upon observation that learning habits evolve over the course of a game. There is extensive literature regarding the effect of violent video games and other similar platforms on childhood development and willingness to use violence, but there is almost no existing literature pertaining to attitudinal changes for those that participate in conflict simulations, such as war games. Participating in violent simulations might influence policymakers, or others in positions of power, to make more aggressive choices. This behavioral research in the field of political science has been underutilized and so an experiment is needed to answer

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[5] Baylouny, "Seeing Other Sides: Nongame Simulations and Alternative Perspectives of Middle East Conflict," 221-223.

[6] Stephen M. Shellman and Kürşad Turan, "Do Simulations Enhance Student Learning? An Empirical Evaluation of an IR Simulation," *Journal of Political Science Education* 2, no. 1 (2006): 22.

[7] Agnieszka Golec and Christopher M. Federico, "Understanding Responses to Political Conflict: Interactive Effects of the Need for Closure and Salient Conflict Schemas," *Journal of Personality and Social Psychology* 87, no. 6 (2004): 751.

the question of what behavioral or attitudinal changes, if any, come about from participating in a simulation that focuses on conflict, or the use of violence.

This investigation, on whether there are any behavioral effects after participating in an aggressive simulation, revolved around the study of participants in a game of paintball. Since the observation of actual participants in a military war game is not feasible for this paper, studying participants on a smaller scale in local paintball competitions allowed for the measurement of attitudinal changes from participating in a combat simulation. A survey of questions were asked of the participants both before and after the paintball game; controlling as much as possible for extraneous variables, such as age and gender. The purpose of the survey was not made clear to the participants, however poignant questions regarding United States military involvement and other aggressive foreign policy questions were asked of the respondents. After results were collected, a model charting the aggressiveness of simulation participants was created and a conclusion was drawn. By carrying out this experiment, the hope was that some light could have been shed on military decision-making and the behavioral tendencies of those that face simulated conflicts and scenarios on a regular to semi-regular basis. While this paper is optimistic regarding the effect of simulations on levels of aggressiveness, there are some limitations with the experiment that must be considered.

The pool of participants was limited to those that reside in or frequent Greene County, Missouri. Additionally, the sample of people I gave the questionnaire to have willingly gone to a paintball field to participate, potentially priming them to answer in a particular fashion; making them a non-random sample. These limitations, which will be

discussed more thoroughly in Chapter Three, may have negatively impacted the generalizability of this experiment.

It is necessary to study the effects of conflict simulations on participant attitude and behavior to help shed light on international decision-making and the usefulness of games in military and governmental training. While the survey experiment might have trouble with external validity, the results garnered from this observation of participants in a simulated combat setting, was still invaluable in testing the effect of gaming on emotional appeals to anger, aggressiveness, and future willingness to view violence as an acceptable competitive option.

CHAPTER TWO: SIMULATION AND DECISION-MAKING

The literature on simulations does not seem to contain any particular references to behavioral effects on political decision-making after participating in a conflict game. While role-playing is discussed in terms of education, the next step of analysis pertaining to the lasting effects of participation in a simulation has yet to be explored. Role-play simulations can demonstrate multiple perspectives on a conflict by lending understanding to all motivations behind a particular conflict or policy. People who have participated in these types of games have claimed that they even understand certain terrorist group stances on issues and have developed some measure of empathy.[8] Simulations are useful tools for anyone in a position to make a crucial policy decision with minimal information.[9] Empathy garnered from simulations can change the perception and values of one who is embodying another person or position of power, increasing identification while also adding depth to already acquired knowledge.[10]

Military Uses

When designing military operations abroad, the ability to understand the enemy can also make strategic planning much easier. However, while identifying with the enemy can be beneficial, there are problems that might arise when simulating conflict.

[8] Baylouny, "Seeing Other Sides: Nongame Simulations and Alternative Perspectives of Middle East Conflict," 214.

[9] Thomas E. Keller et al., "Student Debates in Policy Courses: Promoting Policy Practice Skills and Knowledge Through Active Learning," *Journal of Social Work Education* 37, no. 2 (2001): 344.

[10] Baylouny, "Seeing Other Sides: Nongame Simulations and Alternative Perspectives of Middle East Conflict," 215.

The longer the simulation continues, the more participants tend to personalize their role through identification and to empathize with the group they were a part of, justifying themselves on any given issue.[11] One would think that a person could become desensitized through participation in war gaming, however the literature disagrees with this notion. Strong support for depersonalization from simulation participation started to wane in the literature around the end of the Cold War. The idea that people would start viewing conflict in a game theoretic format and would thus make choices by weighing win-loss conditions broke down preconceived notions regarding strategic planning.[12] By utilizing terms in the military establishment, such as 'body-count' and "war-bargaining," those in charge of foreign policy decision-making were viewed as callous and out of touch.[13] During the Cold War this type of environmental analysis worked, in a way, as many decisions pertaining to future conflict were theoretical and remained in the realm of simulation. However, after the collapse of the Soviet Union and the rise of religious extremism, this type of analysis seemed to underestimate the situation on the ground. Cultural and broader societal understanding was more important than ever before, causing conflict simulations to change over time.[14] While societal context is important when crafting a game designed to enhance foreign policy, there are some risks associated with utilizing this new type of simulation.

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[11] Ibid., 226.

[12] Ibid.

[13] Ibid.

[14] Ibid., 228.

Simulating foreign policy action by 'understanding' this particular line of thought, could potentially lead to indecision and conflict within ranks. This is especially true if the military starts thinking about an operation in a way that could cause them to disagree with those planning the foreign mission. Participants in a simulation, by roleplaying, start defending ideas that they once found personally reprehensible as they slowly inculcate game interests, thus allowing them to embody a particular worldview.[15] These analytical shortcuts developed during a game could help serve a vital purpose during an actual foreign policy crisis, or it might serve to further complicate a choice. Simulations are not perfect representations of real-world environments and depending on the game being played, participants can either develop skills that could be useful in a similar situation, or could adopt poor habits.[16] A simulation naturally has a bevy of rules to make participation by a wide variety of people possible and to establish conditions, which make either winning or losing a definite possibility. Unfortunately, there are numerous situations in the real world that lack any clear avenues for victory. Besides operational strictures evident in game making, there are problems inherent in roleplaying and utilizing a switch-side perspective.

Roleplaying and Switching Sides. Even though simulation participants may personally disagree with a position they have to support, they resist the urge to break character and step outside their roles.[17] Some simulations, especially those that require

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[15] Jeremy Youde, "Crushing Their Dreams? Simulations and Student Idealism," 349-350.

[16] Edward B. Portis et al., *Political Theory and Partisan Politics*, (Albany: State University of New York Press 2000): 61.

[17] Youde, "Crushing Their Dreams? Simulations and Student Idealism," 354.

human interfacing, require participants to role-play as characters they might find culpable, or at least morally questionable in their everyday lives.[18] Simulations often force participants to question moral and political beliefs, as they have to understand differing interests of competing parties and how the particular group, or person, would craft a solution to different problems. For instance, when participants simulate an ethnic conflict they tend to develop empathy for the various ethno-national groups in the region.[19] By participating in a simulation a person must put themselves into the minds of their opponents in order to successfully win.[20] Complications that arise when attempting to role-play, can sometimes make game results hard to quantify and measure, as changes in attitude and other affective outcomes are hard to differentiate.[21] Since most simulation parameters used by agencies inside the Federal Government undergo a process of recalibration and refinement, muddied results can complicate this process and hinder planning based on those simulations. Despite these complications, simulations can teach lessons learned in a conflict by altering the participant's attitudes or sympathies.

Without extensive prior planning, U.S. forces often run the risk of failing to understand the new environment and falling back on long-established protocol and habit. While this is not altogether negative, it can produce haphazard results or engender

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[18] Michael Ignatieff, *The Lesser Evil: Political Ethics in an Age of Terror*, (Princeton: Princeton University Press 2004): 15.

[19] Janet T. Simmons and Sharon W. Rivera, "Engaging Students through Extended Simulations," *Journal of Political Science Education* 4, no. 3 (2008): 300.

[20] Susan Hurley, "Understanding Simulation," *Philosophy and Phemenological Research* 77, no. 3 (2008): 756.

[21] Baylouny, "Seeing Other Sides: Nongame Simulations and Alternative Perspectives of Middle East Conflict," 214-215.

societal hostility by those incidentally affected by the situation. By using content analysis, one can measure the effect of roleplaying in a particular conflict by letting statements of players drive the categories being observed. Simulations involving peace-spoilers and intense levels of violence force people to explore and reevaluate previous conceptions about war. It leads to the questioning of certain conflict mainstays such as: can a smaller army destroy a larger army; how does one guard against unintended consequences; and how many troops are sufficient to intercede between belligerent groups?[22] Participants, while roleplaying, tend to develop ideology interdependently depending on how they are socialized into the particular scenario. There are a variety of different factors that could affect how a participant responds to something that falls outside the scope of the simulation. This could include someone's personal predilection to use violence, his or her lifestyle choices, or the ability to network once they are inside the game.[23] Over many years of war gaming, people have observed measurable bureaucratic effects in the military. War gaming participants' comprehensions of various situations and ways of formulating decision-making habits have changed over time.

Influence and Cognitive Learning. Academics have consistently debated whether these decision-making changes are due more to external factors than from participation in a simulation.[24] Some academics claim that understanding a conflict situation can help lead to a mediated variance in a decision-maker's policy choice,

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[22] Michael Goon, "Peacekeeping the Game," 254.

[23] Vinsent Buskens, et al., "Consent or Conflict: Coevolution of Coordination and Networks," 206.

[24] Christopher C. Joyner, "Teaching International Law: Views from an International Relations Political Scientist," *ILSA Journal of International and Comparative Law*, (1999).

resulting in positive outcomes as discordant worldviews are tested.[25] However, understanding the interactional processes of conflict can be complicated; making an attempt to prove a direct relationship between roleplaying and political behavior convoluted.[26] So far simulations have most routinely been used by the military, with the rest of government reluctant to utilize different educational and planning tools such as roleplaying or modeling.

Picking a winner in a particular conflict can change the dynamic between popular and unpopular actors, with those winning a war very rarely winning in a simulation.[27] Disparities between what happens in the game and what happens in real life can over time engender cognitive dissonance in those that participate. Resulting from new and creative ways of thinking brought about by simulation, many of the insights gleaned from a simulation run counter to U.S. policy and their real-life counterparts. Either people tended to gravitate to a black-and-white worldview, or they adopted a perspective of thinking about solutions in a murky 'grey-area.'[28] The competitive constraints of many simulations may hinder any predictive power that might be found, hurting its chances at wider adoption throughout the Federal Government. Simulating political processes forces people to apply knowledge to solve novel problems; applying theories and

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[25] Agnieszka Golec and Christopher M. Federico, "Understanding Responses to Political Conflict: Interactive Effects of the Need for Closure and Salient Conflict Schemas," 750.

[26] Johan Galtung, "Peace Studies and Conflict Resolution: The Need for Transdisciplinarity," *Transcultural Psychiatry* 47, no. 1 (2010): 24.

[27] Baylouny, "Seeing Other Sides: Nongame Simulations and Alternative Perspectives of Middle East Conflict," 221-223.

[28] Ibid., 224.

concepts they are reacting to in real-time. It becomes difficult to give 'programmed' responses to a given scenario as the dynamics of the game constantly change.[29]

Group Think Dynamics. Group thinking can lead to dynamic group conditions, as participants in role-playing simulations have to make defensible decisions in volatile situations. Competitive formats can lead to one-sided interpretations of conflict, as there is a pressure to seek closure, artificially leading participants to direct their efforts towards a particular outcome. Negotiations are hard to continue in a simulation as there are naturally competitive dynamics, which can exist in a game, breaking down integrative solutions.[30] These game parameters can also hinder the ability of a person to fully immerse themselves into a situation; with competition consistently reminding people they are participating in a simulation. This artificiality, while mostly seen as a negative by those in government, can be beneficial. Certain constraints help pressure people into adopting new ways of understanding dynamics, problems, tactics, and strategies. Participants learn how organizational and situational constraints can hinder action in a real-world scenario.[31] Simulation participants overwhelmingly report an enhancement in their level of critical and analytical thinking skills as they are forced to confront novel problems by utilizing unique strategies and tactics. In-game knowledge, accumulated over time, can help those in positions of power in federal agencies formulate effective

[29] Stephen M. Shellman and Kürşad Turan, "Do Simulations Enhance Student Learning? An Empirical Evaluation of an IR Simulation," 21.

[30] Archie W. Simpson and Bernd Kaussler, "IR Teaching Reloaded: Using Films and Simulations in the Teaching of International Relations," *International Studies Perspectives* 10, no. 4 (2009): 421.

[31] Stephen M. Shellman and Kürşad Turan, "Do Simulations Enhance Student Learning? An Empirical Evaluation of an IR Simulation," 22.

mechanisms of future planning. Having a connection between simulation and real-world action seems self-evident, if not complicated, but in reality there are still so many factors involved that it is difficult to pinpoint how exactly gaming shapes policy formulation.

Group mobilization and group formation can be modeled in different ways, as collective decision-making can differ on how a choice is made.[32] Game parameters necessitate a penchant for clarity, certainty, and simplicity, which force people to make political decisions using a competitive approach. The artificiality that comes with competitive constraints also arises with the endpoint of a simulation. Some real-world situations do not have an endpoint, however a simulation naturally requires closure.[33] Knowing there is a finite number of options and that no matter what choices are made the situation will come to a close, can influence the way a participant reacts to certain actions in the game. Narrowing options so they lead to a particular endpoint could cause a person, when responding to a similar situation, to utilize tools or tactics developed in the simulation in order to accomplish a goal.[34] This simplicity present in simulations may strengthen the aggressiveness of a situational response.[35]

There is a dearth of literature on the way games influence decision-making. The measurement of behavior is difficult to accomplish and the nuances found in the

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[32] Vinsent Buskens, et al., "Consent or Conflict: Coevolution of Coordination and Networks," 207.

[33] Agnieszka Golec and Christopher M. Federico, "Understanding Responses to Political Conflict: Interactive Effects of the Need for Closure and Salient Conflict Schemas," 751.

[34] Star A. Muir, "A Defense of the Ethics of Contemporary Debate," *Philosophy and Rhetoric* 26, no. 4 (1993): 280.

[35] Ibid., 752.

everyday course of statecraft makes this especially complicated. Participating in a simulation once might not be enough to have a lasting effect on someone's decision-making capabilities, but in the military and other areas of government these simulations might be repeated dozens of times. A conflict study through use of simulation is intersubjective and includes outcomes that are highly dependent on observers and creators of the game. [36] Despite how complex certain games could be, the participant in a simulation can still utilize the results to make educated assumptions on what would happen in the real world.[37]

Simulations that mimic real-life dynamics can make certain complex theories easier to understand by providing hands-on examples that participants can explore and tackle.[38] Throughout a game, relationships form between participants which help immerse those who are playing, allowing them to more easily embody character traits and conform to role-playing parameters.[39] Simulations can be helpful in understanding violence and war, as both of these concepts are relational, showcasing the connection between the perpetrator and the victim.[40] Foreign policy and defense communities utilize

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[36] Johan Galtung, "Peace Studies and Conflict Resolution: The Need for Transdisciplinarity," 20-21.

[37] Susan Hurley, "Understanding Simulation," 772.

[38] Michael Goon, "Peacekeeping the Game," 252.

[39] Michael K. Baranowski and Kimberly Weir, "Power and Politics in the Classroom: One-Session Legislative Simulations in Introductory American Government Classes," *Conference Papers at the American Political Science Association*, (2006): 1.

[40] Johan Galtung, "Peace Studies and Conflict Resolution: The Need for Transdisciplinarity," 21-22.

these types of simulations on a regular basis. Many in the military value extensive planning before any major decision is made.

While planning may be prized in the defense establishment, it is often scoffed at by other agencies as unrealistic and inadequate. Those in the Department of State and similar agencies believe more in improvisational action in the field and having a more organic process when it comes to making decisions, something that does not lend itself well to simulation. Most conventional forms of simulation tend to work best only in certain situations, making interagency utilization of these games fairly difficult.[41] While many disagree with simulations being used in decision-making, the effectiveness of roleplaying has become increasingly sophisticated over the past several decades.

Cognitive Learning Approach. Utilizing sophisticated models, games are becoming adaptable allowing the creator to test an increasing array of situations and objectives.[42] Due to this evolution in gaming, simulations now are able to better predict the moves of those participating and can adapt accordingly.[43] As war games become more and more sophisticated, the participants can become increasingly immersed in the situation and role-play to their fullest potential.

In an older game when an actor changed their behavior, it usually did not alter more than once, as that type of adaptation was a slow and highly dynamic process. Now people can slip in and out of roles with ease as customization reaches new heights. While

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[41] Levent Yilmaz et al., "Simulation-Based-Problem-Solving Environments for Conflict Studies," *Simulation Gaming* 37, no. 4 (2006): 536-537.

[42] Carolyn M. Shaw, "Designing and Using Simulations and Role-Play Exercises," *The International Studies Encyclopedia*, (2010): 4.

[43] Rei Shiratori, *Gaming, Simulations, and Society Research Scope and Perspective*, (Tokyo: Springer 2005): 12-13.

these innovations have created dynamic changes between participants in game, the implications outside of it are less clear. Studies conducted on participants after a simulation has concluded have been few and far between, however some data on the subject has been gathered. Network based games tend to lead to polarization both in and out of simulation fostering homogeneous behavior and simplistic archetypes.[44]

These game-based implications shine a new light on what makes a particular outcome to a simulation successful. "Cognitive roadblocks" that develop over the course of one's life can, in some cases, become accelerated in a game; causing people difficulties when trying to absorb concepts for use in a conflict scenario.[45] Simulations are often complex and require flexibility from people who have passionate pre-existing beliefs and political ideals. Relationships and motivations that already exist outside of the game can help temper certain conflict schemas and political worldviews. Even though those game parameters can artificially prompt someone to make a particular decision, motivation usually comes from pre-existing cognitive frames.[46]

There are six different depths, identified by Bloom, that represent the process of cognitive learning, including: knowledge, comprehension, application, analysis, synthesis, and evaluation.[47] This process is something scientists believe mirrors the

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[44] Vinsent Buskens, et al., "Consent or Conflict: Coevolution of Coordination and Networks," 219.

[45] Jeremy Youde, "Crushing Their Dreams? Simulations and Student Idealism," 349.

[46] Agnieszka Golec and Christopher M. Federico, "Understanding Responses to Political Conflict: Interactive Effects of the Need for Closure and Salient Conflict Schemas," 759.

learning approach used in simulations. To capitalize on this particular way of learning, there are several different levels of simulations, which help prepare people for complex decision-making in real life. There are both high and low level games based on the amount of imagination having to be used when role-playing.[48] Simulations of human subjects are imperfect in capturing the feeling of actual conflict, but they could still be necessary in order to find out more information pertaining to a war.[49]

Summary

Games, a particular type of simulation, have had a long history in the use of warfare. It started around the time of the Chinese war game wei-hai and they have been used to help grasp the chaotic motivations of certain real-life situations ever since.[50] International relations simulations have their origins in war-gaming due to the evolution of tactical decisions on the field of battle. Simulations that have become prominent recently in conflict relations deal with negotiations and the process of diplomatically resolving violence.[51] Most nations around the world have come to employ the use of war games in their training exercises in order to simulate armed conflict for their military

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[47] Chris Silvia, "The Impact of Simulations on Higher Level Learning," *Conference Papers at the American Political Science Association*, (2010): 6-8.

[48] Susan Hurley, "Understanding Simulation," 761.

[49] Dennis J.D. Sandole, *Capturing the Complexity of Conflict: Dealing with Violent Ethnic Conflicts of the Post-Cold War Era*, (New York, NY: Routledge, 1999): 47-48.

[50] William W. Bostock, "Using Global Simulation to Study Ethnic Conflict," *Academic Exchange Quarterly* 12, no. 4 (2008): 192.

[51] Brigid A. Starkey and Elizabeth L. Blake, "Simulation in International Relations Education," *Simulation and Gaming* 32, no. 4 (2001): 539.

forces. The heyday of this for the United States government establishment has seemingly passed.[52] One of the reasons these types of simulations are no longer used throughout the Federal Government is due to the complicated definition used for what a 'war game' actually is. The most agreed upon definition includes: a model or simulation whose operation does not involve the use of actual military forces and whose actions undertaken will affect players on the opposing side. With all the complexities associated with modern day war games and general international relations simulations the behavioral effects--which are lacking explanation in the literature--need to be explored.

What this experiment is examining are claims that simulations like war games tend to sanitize conflict. Most see them as opportunities to "relive the playful moments of their childhoods."[53] Game theoretic approaches have been applied extensively in international relations over the past four decades. Most players assume their decisions take place in an environment filled with rational, amoral, unitary players.[54] War games have only risen in popularity in recent years, however they are consistently misunderstood and denounced by those they do not participate in them.[55] To examine whether or not simulations have long-term effects on those who participate in them and if games involving roleplaying in a tense and aggressive situation make those who engage

[52] Philip Sabin, *Simulating War: Studying Conflict through Simulation Games*, (New York, NY: Continuum International Publishing Group 2012): xvii.

[53] Ibid., 5.

[54] Ibid., 12.

[55] Peter P. Perla, *The Art of Wargaming*, (Annapolis, MD: United States Naval Institute 1990): 1-2.

in decision-making more inclined to choosing more violent courses of action, the effects of simulation will be tested.

CHAPTER THREE: SURVEYING APPROACH

Studying the effects of a conflict simulation on the level of behavioral aggressiveness and willingness to seek violent solutions is an important, but understudied aspect of political science. It is because of this that an experiment was conducted in order to discover if there is a strong correlation between gaming and participants' attitudes and if causality can be inferred from the results. This particular paper focuses quantitatively on the effects of simulations by conducting a survey experiment. Missouri State University Institutional Review Board (IRB) approval was obtained (April 21, 2015; approval #15-0435) and information on participants who took part in the simulation survey was collected, but only with their expressed permission. A survey was written and administered to a randomized assortment of paintball participants both before and after a match. The survey contained twenty-five questions ranging from a participant's age and gender to queries worded in a more complicated fashion. Even though treatment conditions were randomized as much as possible, some participant characteristics had to be controlled for. Randomization is important since even though simulation participants may personally disagree with a position they have to defend, they resist the urge to break character and step outside their roles. Having a participant bring in experience from a similar situation or an existing predisposition to aggression can color the results and hinder the effectiveness of the simulation.

The study was conducted on people who were at the paintball destination, Paintball Outpost. The goal of the study was to get a wide range of participants from different backgrounds. All participants were aged eighteen or older.

Experimental Design

This particular questionnaire contained, as stated previously, closed-ended questions with answers being tailored to fit on a four-point scale ranging from peaceful inclinations to strong tendencies for violence. A four-point scale was used because this is a common range when determining a person's particular ideological leanings or behavioral tendencies regarding a particular subject.[56] The researcher, to differentiate between the varying behavioral tendencies in order to make sure the meaning of each answer can be clear and uniformly interpreted by respondents, used a rating system. The wording of the survey questions was very precise and did not employ rhetoric that leads the respondent towards choosing one answer over another.[57] Precision is extremely important when dealing with role-playing, as simulations are hard to quantify and measure, since changes in attitude and other affective outcomes are hard to differentiate.[58] The survey respondents were given after participation in a paintball game was similar to the one they filled out prior to the simulation. However, several changes were made to avoid someone answering a survey question a particular way out of habit.[59] The language used in the two questionnaires was different, and the order of questions was

[56] Josh Pasek and Jon A. Krosnick, "Optimizing Survey Questionnaire Design in Political Science: Insights from Psychology," *The Oxford Handbook of American Elections and Political Behavior* (Oxford: Oxford University Press, 2010), 29.

[57] Jason Barabas and Jennifer Jerit, "Are Survey Experiments Externally Valid," *American Political Science Review* 104, no. 2 (2010): 231.

[58] Baylouny, "Seeing Other Sides: Nongame Simulations and Alternative Perspectives of Middle East Conflict," 214-215.

[59] Pasek and Krosnick, "Optimizing Survey Questionnaire Design in Political Science: Insights from Psychology," 30.

randomized so someone could not have easily repeated their answers in the previous survey.

Question wording is very important in a survey experiment as many questions are designed based on the expectations of the researchers.[60] To make sure that this thesis used the optimal measurement tools in analyzing the effect of conflict simulations on a person's level of aggressiveness, the survey used wording methods developed by the American National Election Studies (ANES).[61] This style avoided the use of open-ended formats and provided adequate variation in question design so as to grab the attention of the respondent filling out the survey. Without the focus on making each question distinct and unique the questionnaire ran the risk of succumbing to survey satisficing, (accepting a result after searching through answers and reaching a certain experimental threshold) leading to the accumulation of unsatisfying data on the subject being tested.[62] This also avoided the problem that often crops up in the use of Likert scales, which use agree-disagree questions and answer formats that in the past were favored by both designers and respondents. Whether they mean to or not, there is a tendency for ten to twenty percent of participants to agree with the statement without fail, even when in any other situation they would tend to disagree with such a statement.[63]

The questions posed to respondents were not obvious in nature, as giving away the aim of measuring a simulation's effect on a participant's inclination for favoring

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[60] Barabas and Jerit, "Are Survey Experiments Externally Valid," 234.

[61] Pasek and Krosnick, "Optimizing Survey Questionnaire Design in Political Science: Insights from Psychology," 27.

[62] Ibid., 32.

[63] Ibid., 38.

violence might have biased the respondents' answers. Instead, they were worded in a way that referred to certain international situations involving the use of military force. The survey was described to respondents as an experiment to measure political attitudes both before and after conflict simulation.[64]

Conflict Simulation Test. This study took place at Paintball Outpost at 310 Karnage Lane, Springfield, Missouri 65802. Paintball was chosen as the combat simulation for testing differences in decision-making for several reasons. The first major consideration was willingness to allow the survey to be distributed. Other paintball businesses were questioned as to their willingness to participate in this experiment, but the one with the best clientele selection and willingness to allow a study on simulations to go on in their place of business was Paintball Outpost.

The second main consideration deals with the suitability of having paintball as the simulation in the first place. Paintball has several gaming aspects, which make it a suitable parallel to military war gaming. First, it simulates the real-time pressures of military combat through the use of guns, ammunition, and the real consequences of being potentially hurt if one does not play to the best of their ability. Second, it is a military-type setting with obstacles, it necessitates wearing protection to avoid being hurt, and the use of strategy and military-type tactics to obtain an objective are key components of the game. Other similar games, such as airsoft and laser-tag, would not be as effective of a conflict simulation as the consequence of being hit are only tied to the score and the object of the game rather than pain or scars. There is also the added benefit of this being

[64] See Appendix A and B for questions provided in pre and post paintball surveys.

a group simulation. Group thinking can lead to dynamic group conditions, as participants in role-play have to make defensible decisions in a volatile situation.[65]

The simulation continued over the course of five weeks taking place every Saturday from 11:00 am to 5:00 pm and on Sunday's from 1:00 pm to 5:00 pm. While it may not have netted an extremely large sample of people from which to gather data, it should be enough time to be able to draw some sort of conclusion from the survey information. One of the limitations of doing this experiment at this time of year is the cold and erratic winter weather, which might discourage people from playing paintball out of fear that the temperatures will freeze the ammunition and make the game extremely painful to play. There is also a high likelihood that people who would tend to play the game for the first time would be hesitant to do so in the winter time which would also reduce the chance of gathering an adequate sample size.

Quantitative Analysis. After gathering all the data from paintball participants, the surveys were analyzed and the information regarding people's foreign policy tendencies were entered into an excel spreadsheet. The demographic questions and answers were entered into the computer with 'one' representing a, 'two' representing b, and so on. The political questions given at the beginning of the questionnaire were ranked ordinally with 'a' equaling one all the way to d being represented by four. Answer 'a' was the most passive of political choices and 'd' was the most aggressive. The scoring of answers on the political side of the questionnaire were as follows:

1. Passive

[65] Victor Asal and Elizabeth Blake, "Creating Simulations for Political Science Education," *Journal of Political Science Education* 2, no. 1 (2005): 2-3.

2. Neutral
3. Aggressive
4. Extremely Aggressive

Once all the information was entered into the computer the spreadsheets were imported into a Statistical Package for the Social Sciences (SPSS) data sheet and several statistical tests were used to see if any of the results gathered showed anything of significance for the study. The demographic data were coded into the following variables:

Gender=Gender
Age=Age
Frequency playing paintball=Participation
Emotional state=Emotion
Emotional state after playing paintball=EmotionAfter
Amount of time playing paintball=PlayTime

To compare the two sets of results gathered from before and after the participants' played paintball, a Wilcoxon signed-rank test was used to analyze the data. Normally a dependent t-test would be used when comparing a matched group, however as this particular form of statistical analysis is not appropriate for the ordinal data I collected, I decided to use the other method instead; apart from measuring the changes in the participant's emotional state after paintball. The last test that was used was a Kruskal-Wallis H test to determine if the independent variable, 'Participation' influenced the survey results in any significant manner.

CHAPTER FOUR: SIMULATION RESULTS

Descriptives

The goal of this experiment was to see if participating in a combat simulation, such as paintball, would influence general political behaviors by making them more aggressive. The results of the simulation were interesting and some aspects of them did conform to what I predicted would happen. A total of forty people participated in the experiment and when looking at the frequency table, containing the demographic metrics broken down, I saw that the vast majority of people who played paintball were both male and between the ages of nineteen to twenty-five (Tables 1 and 2).

Table 1. Frequency table results for gender.

Gender	Frequency	Percent	Cumulative Percent
Male	37*	92.5	92.5
Female	3	7.5	100
Total	40	100	

Table 2. Frequency table results for age.

Age	Frequency	Percent	Cumulative Percent
16-18	3	7.5	7.5
19-25	20*	50	57.5
26-30	9	22.5	80
31-40	6	15	95
51-60	2	5	100
Total	40	100	

It was almost impossible with the time I had and the number of people that participated in paintball to garner an appropriate sample size containing only people who have never participated in the activity before; however the majority of participants only played paintball sparingly before filling out the simulation survey (Table 3).

Table 3. Statistical descriptives for frequency of paintballing.

Participation	Frequency	Percent	Cumulative Percent
Often	3	7.5	7.5
Regularly	3	7.5	15
Sparingly	21*	52.5	67.5
Not at all	13	32.5	100
Total	40	100	

The majority of the people who answered the survey tended to be in an emotionally happy state prior to playing paintball, with only three people total expressing that they were either frustrated or fearful (Table 4).

Table 4. Statistical descriptives for prior emotional state.

Emotion	Frequency	Percent	Cumulative Percent
Happy	37*	92.5	92.5
Frustrated	2	5	97.5
Fearful	1	2.5	100
Total	40	100	

The majority of people who participated in paintball and filled out the survey also responded that they remained happy even after they participated in the simulation (Table 5).

Table 5. Statistical descriptives for emotional state post-paintball.

EmotionAfter	Frequency	Percent	Cumulative Percent
Happy	37*	92.5	92.5
Angry	2	5	97.5
Surprised	1	2.5	100
Total	40	100	

The majority of people played over 121 minutes of paintball in order to use up all of their purchased time at the paintball course (time slots were doled out in three hour chunks) (Table 6).

Table 6. Statistical descriptives for paintball playing time.

Participation	Frequency	Percent	Cumulative Percent
< 30	2	5	5
31-60	1	2.5	7.5
61-120	12	30	37.5
> 121	25*	62.5	100
Total	40	100	

The foreign policy questions answered, in the pre-paintball survey, with the highest means and thus in the most aggressive manner dealt with frequency of drones and military presence overseas. The means for these two questions were 3.25 and 3.20 respectively. The foreign policy decision-making question that received the most passive answer pertains to the United States' military response to the Arab Spring. The post-paintball questions reflected similar attitudes with drones strikes and overseas military involvement containing the most aggressive responses on the survey with means of 3.03 and 3.14 respectively.

Question Comparison

My scores gathered from the two sets of survey data were matched against my independent variable, which consisted of the same participant group both before and after paintball. I had to make sure the results were symmetrical before testing my data with a Wilcoxon signed-rank test otherwise a paired-samples sign test would have been more appropriate. While the risk of the experimental results appearing non-symmetrical was small, since the two groups of participants were the same and not just matched-pairs, I proceeded, using SPSS, to create a variable listing the difference between the pre-paintball results and the post-paintball results. Then after that variable was created using the transform function, I proceeded to input that information into a simple boxplot.

After observing the results I concluded that the Wilcoxon signed-rank test was the appropriate way to measure and compare these two sets of data as the results appeared symmetrical. The purpose behind this test was to examine if the null hypothesis, which stated that the average signed rank of two dependent samples was zero, was true; or in

other words, to see if the change in responsiveness from before and after participating in the simulation was significant. After running the test, with a p value of .05 considered statistically significant, the results showed only one significant relationship between decision-making behaviors pre and post paintball; the change between 'Ques7' and 'PostQues7' (Table 7).[66]

Table 7. Statistical results of Wilcoxon signed-rank test.

Variables	Z-score [1,2]	Asymp. Sig. (2 – tailed) p value < .05
PostQues1 – Ques1	-.164b	.870
PostQues2 – Ques2	-.832b	.405
PostQues4 – Ques 3	-1.359b	.174
PostQues5 – Ques 5	-.296b	.767
PostQues6 – Ques6	-.323b	.747
PostQues7 – Ques7	-2.182c	.029*
PostQues8 – Ques8	-.469b	.639
PostQues9 – Ques9	-.551b	.581
PostQues10 – Ques10	-.852c	.394
PostQues11 – Ques11	-.205b	.838
PostQues12 – Ques12	-.269c	.788

[1] b. Based on positive ranks

[2] c. Based on negative ranks

While the results shown with the Wilcoxon signed-rank test were interesting, this same method of analyzing matching data sets could not be used for the variable Emotion;

[66] See Appendix C for full list of ranked results from Wilcoxon signed-rank test.

since data were collected and measured in a nominal fashion. Instead, a simple dependent t-test was used, showcasing a statistically significant relationship between a participant's emotional state before and after paintball as the p value showed to be less than .05 (with a correlation coefficient of .788).

Frequency of Paintballing

The last statistical test done for the purposes of this experiment was a Kruskal-Wallis H test to try and control the validity problems associated with surveying people that had already participated in paintball, prior to the experiment. This rank-based nonparametric test, similar to a one-way ANOVA, is useful to group ordinal data and determine if the groups being tested are statistically distinct from one another. By running this test, the goal is to examine if the variable Participation had a measurable effect on those taking the survey; with results varying depending on how many times people have previously played a game of paintball.[67] After looking at the results of the test, none of the questions showed to have a significant relationship with the group variable of paintball outing frequency (Table 8). The implications of this are far reaching, but it also meant that the sample size could be widened to include those that have participated in paintball on more than one occasion.

[67] See Appendix D for Kruskal-Wallis mean rank results.

Table 8. Statistical results of the Kruskal-Wallis H test.

Variables	Chi-Square	Asymp. Sig. p value < .05
Ques1	4.168	.244
Ques2	.425	.935
Ques 3	3.156	.368
Ques 5	4.182	.242
Ques6	7.741	.052
Ques7	2.428	.489
Ques8	2.166	.539
Ques9	4.289	.232
Ques10	4.712	.194
Ques11	3.652	.302
Ques12	2.736	.434
PostQues1	1.475	.688
PostQues2	.550	.908
PostQues4	3.926	.270
PostQues5	.333	.954
PostQues6	.345	.951
PostQues7	3.725	.293
PostQues8	3.525	.317
PostQues9	.392	.942
PostQues10	.483	.923
PostQues11	1.009	.799
PostQues12	1.014	.798

CHAPTER FIVE: DISCUSSION AND RECOMMENDATIONS

The purpose of this study was, through the use of surveying, to see if there was any measurable effect on foreign policy behavior and general levels of aggression from participating in a combat simulation. The questionnaires contained a list of questions with foreign policy situations and a set number of possible responses that could range from passive to aggressive with regards to attitudinal inclinations. After finishing the survey and analyzing the results, there were a number of outcomes that were out of the ordinary.

Survey Response Differences

After looking at the results of the Wilcoxon signed-rank test, several things stood out. First, the majority of the results did not seem significant at a 95% confidence interval. From previous experiences participating in these simulations, a larger change between answers pre and post survey was expected. Several things could account for this lack of change. The first would be that little cognitive change actually takes place during a combat simulation. This would mean we accept the null hypothesis and recognize that simulations do not influence those who participate in them. Coming to this conclusion would be appropriate, however there was one question in the survey which gave me pause. The results of the Wilcoxon signed-rank test showed Ques7 and PostQues7 to have a statistically significant relationship with each other. Not only was there an implied correlation between the two variables, but the responses showed a marked increase in aggression after the subject played at least one round of paintball. The

question that showed an increase in aggression pertained to the United States response to the Arab Spring. None of the provided answers in the survey list military force as an appropriate response to the upsurge of democratic movements. This begs the question as to why this particular survey response showed the only significant correlation between the two questionnaires handed out. While the majority of people who responded in the survey before paintball stated diplomatic engagement was the appropriate response to Middle East conflict, after paintball, an increased willingness to use sanctions was indicated.

There does not seem to be an obvious direct connection between the combat simulation and the Arab Spring. The only possible connection I could find is that this pressing issue was recent and prominent in the news. By remaining prominent in people's consciousness, the effect of participating in the paintball game allowed this event to be re-evaluated. Other more obscure questions in the survey, such as the one discussing Russia's invasion of the Crimea, may not have been known by the respondents so the paintball game's effect might have been minimal. If the direction of the level of aggressiveness went the opposite direction (people chose less hostile choices when responding after paintball) then the effect of the combat simulations would be non-existent. This was not the case, however, as the mean changed from 2.08 to 2.53, indicating a more aggressive stance towards events occurring in the Middle East. The analysis of the results may mean that instead of simulations having an effect on any foreign policy belief, that the event itself must be of a high profile nature in the minds of the participants for the game to engender a cognitive change.

Aside from behavioral changes present in the Wilcoxon signed-rank test there seemed to be a significant change between a participant's emotional state before participating in paintball and after the game has concluded. The dependent t-test, used to measure this change, indicated a higher on average mean with a strong correlation at a .000 significance level. These results showed a positive correlation between people's emotional state and the act of playing paintball. This was the clearest indicator present in the results that conflict simulations had any effect on people's attitude and behavioral tendencies. This points towards the theory that subject knowledge plays a large factor in whether or not someone's decision-making tendencies are influenced by simulation. If there would not have been a strong correlation between measured emotional states before and after paintball then the relationship between Ques7 and PostQues7 could be considered a statistical aberration. This significant change in a participant's emotional state, leads to some interesting lines of thought regarding the real world influence of combat simulations. One variable in particular seemed intriguing, Participation.

Participation and Experimental Validity

After running a Kruskal-Wallis H test to determine if there was any influence from the frequency of people participating in paintball, the results showed that no statistically significant difference existed between those that played frequently and those that have never played before. This helped show if there were any validity problems that arose from those that have participated in the simulation more than once. While helping with experimental design, it also poses an interesting research topic that needs more investigation. Traditional cognitive learning techniques stress repetition in the simulation

in order to train and shape behavior in a way that sticks with the participant. With that literature in mind, it seems odd that there were no effects present. One reason this could be the case is that the traditional cognitive learning effects are flawed for war game scenarios. Instead of behavioral training taking place as a continuous process, participants are instead re-trained every time they play the game. This would have important implications, not only for military training and simulation purposes, but general understandings about learning as well. A separate experiment testing this theory would be to measure the time it takes for the simulation's behavioral effect to wear off from the participant. How that experiment would be constructed would be difficult to say, but it is definitely something that should be investigated for the behavioral sciences in the future. Despite everything that was learned over the course of the experiment, there are definitely some experimental design issues that could have affected the final results.

Location was an issue that might have affected people's survey responses as Springfield, MO and Greene County in general tends to run a little more conservative than even other parts of Missouri. Republicans and those who are considered ideologically conservative are generally considered to favor more aggressive military action abroad, which could have potentially impacted the experimental results. Despite this predicted inclination towards favoring more aggressive action, these results were not born out in the experiment. Overall average mean of the foreign policy responses in the questionnaire hovered between a 2.00 and a 3.00. This indicates a shift away from foreign policy passivity and neutrality, yet it usually did not advocate for a full-blown military operation to take place overseas. Paintball is also a niche sport, drawing a

particular type of person that is willing to participate in a combat simulation in the first place. The time people spent in the simulation also varied, meaning the effect of one's playing time could have skewed the results either more or less aggressively. Luckily after controlling for frequency and length of playing time in the statistical model, the data it did not seem to have any adverse effect on the experiment's results. The type of simulation itself was chosen with careful consideration, but it could also have failed in providing the desired behavioral effects.

There are a variety of different games that could be used to simulate combat with three being readily accessible to people in Springfield, MO. The first game, laser tag, was immediately ruled out as the punishment received for losing, or 'getting out' was relatively minor. Beyond a flashing light on one's laser tag armor, there are no real consequences for losing and no behaviors would actually be reinforced over the course of the simulation. Participants could generally play in a reckless manner and succeed in the game, making it a poor substitute for war game scenarios. Airsoft was another option that could serve as a mirror to small war game skirmishes, however very few people tend to play this sport in Missouri, which would have limited my pool of participants immensely. It is for this reason I ultimately settled on paintball and although it was the best choice for Springfield, if I would have relocated to a region that participates in games mirroring more closely military training exercises the results might have been different.

Conclusions

In summation, the results of the study showed a slight effect on levels of political aggression when it came to deciding on the course United States foreign policy should take. A significant effect was seen on people's attitudes towards the Arab Spring after playing paintball, which was seemingly due to people wanting a more aggressive and decisive action to be undertaken. While there was not a large measurable change with every question, the significant difference in emotional attitudes leads me to reject the null hypothesis. Combat simulations might have a measurable effect on people's behavior, however, any influence that might exist will not only be relatively short-lived, but it will also depend on the length and type of simulation the person participates in. This could have larger implications for people that participate on a regular basis in various types of combat simulations or war games. Those in the military that utilize simulations in order to plan and prepare for an operation overseas may have their attitudes change in ways that may be initially imperceptible. Even if someone's political choices may not deviate during the course of a game, their emotional state may change and affect a situation in unpredictable ways.

This is a topic deserving further research and experimentation as very little is currently being done to examine the impact simulations have on political attitudes and behaviors. It would be interesting to see how the results would differ if one were to survey people at multiple different locations or if people in the military were given the questionnaire after they participated in a simulation. The length of game time is another aspect, which could be studied as the effect of game time one someone's behavioral choices was not the intended focus of the study and thus was not examined. There is a

strong possibility that a more violent or aggressive simulation would elicit a stronger response and so future studies may want to explore behavioral influences using a game mechanic similar to airsoft.

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APPENDICES

Appendix A. Pre-Paintball Survey

Please circle the one answer that best applies.

1. **Your gender is?**
    a. Male
    b. Female

2. **Your age falls within this range.**
    a. 0-10
    b. 11-15
    c. 16-18
    d. 19-25
    e. 26-30
    f. 31-40
    g. 41-50
    h. 51-60
    i. 61>

3. **How often have you participated in paintball or paintball prior to this?**
    a. Often
    b. Regularly
    c. Sparingly
    d. Not at all

4. **What would you consider your emotional state to be before participating in paintball?**
    a. Happy
    b. Frustrated
    c. Angry
    d. Surprised
    e. Fearful

Now there will be a series of questions pertaining to the United States' current international and political climate

5. **How militarily involved should the United States be abroad?**

a. Not at all
b. Rarely involved
c. Steady presence
d. Heavily involved

6. **How militarily engaged do you feel the United States currently is overseas?**
    a. Not at all
    b. Rarely involved
    c. Steady presence
    d. Heavily involved

7. **How frequently should the United States utilize drone strikes to combat military threats abroad?**
    a. Never
    b. Seldom
    c. Regularly
    d. As often as necessary

8. **The most apt way for the United States to address international terrorism is to _____?**
    a. Withdraw from military and political engagements abroad
    b. Utilize propaganda to showcase the United States' values and policies
    c. Support allies abroad who are fighting terrorists
    d. Utilize military force to fight terrorists abroad

9. **What should the United States do when tackling the situation in Syria?**
    a. Leave Syria alone and observe changing state and regional dynamics
    b. Build a regional coalition to diplomatically engage with the Syrian opposition and Assad
    c. Arm various opposition movements fighting the Assad regime with military aid and democratic assistance
    d. Utilize American military force against the Assad regime

10. **Was the U.S. justified in militarily intervening in Libya?**
    a. Not justified at all
    b. Tenuously justified
    c. Justified
    d. Was justified in doing more than it did

11. How should the U.S. government respond to the "Arab Spring" in the Middle East?

a. Simply observe governmental changes taking place in Middle Eastern countries
b. Support democratic movements in the region
c. Condition aid on foreign government policy changes
d. Strongly threaten governments which reject democratic norms

12. How should the United States have responded to the invasion of the Crimea by Russia in 2014?

a. Provide monetary and political inducements to make Russia stop what is doing
b. Diplomatically engage with Russia to change its behavior
c. Enact sanctions and strongly condemn Russia for invading neighbors
d. Take military action to halt Russian expansionism

13. What do you think of America's current response towards Russian expansionism?

a. Strong
b. Average
c. Weak
d. Non-existent

14. China is seen as a quickly rising power in international politics. What do you believe should be done about this?

a. Nothing
b. Engage with China economically to assure continued peaceful relations
c. Engage with China economically but also try to contain Chinese power
d. Do whatever is necessary to contain expanding Chinese power.

15. What is the likelihood of the United States coming into conflict with China in the near future?

a. Non-existent
b. Not likely
c. Likely
d. Very likely

16. When a conflict breaks out and several options are presented for the U.S. government to undertake, which one is the most appropriate?

a. Stay out of the conflict and remain a neutral party
b. Reach out to the United Nations and try to bring the parties in conflict to peace talks

c. Utilize various forms of economic and international pressure to try and force a cessation of hostilities
d. Undertake a military action to forcefully stabilize the world

Appendix B. Post-Paintball Survey

Please circle the one answer that best applies.

1. **What would you consider your emotional state to be after participating in paintball?**
    f. Happy
    g. Frustrated
    h. Angry
    i. Surprised
    j. Fearful

2. **What length of time did you play paintball for?**
    a. <30 minutes
    b. 31 to 60 minutes
    c. 61 to 120 minutes
    d. > 121 minutes

3. **To what extent do you feel the United States should embroil themselves in conflict abroad?**
    a. Not at all
    b. Rarely involved
    c. Steady presence
    d. Heavily involved

4. **How involved militarily do you feel the United States is on foreign soil?**
    e. Not at all
    f. Rarely involved
    g. Steady presence
    h. Heavily involved

5. **How often should the United States escalate the number of drone strikes used in military missions?**
    e. Never
    f. Seldom
    g. Regularly

h. As often as necessary

6. **What should the United States do when tackling the situation in Syria?**
    e. Leave Syria alone and observe changing state and regional dynamics
    f. Build a regional coalition to diplomatically engage with the Syrian opposition and Assad
    g. Arm various opposition movements fighting the Assad regime with military aid and democratic assistance
    h. Utilize American military force against the Assad regime

7. **Was the U.S. justified in militarily intervening in Libya?**
    e. Not justified at all
    f. Tenuously justified
    g. Justified
    h. Was justified in doing more than it did

8. **What should the United States have done to respond to the "Arab Spring" in the Middle East?**
    e. Simply observe governmental changes taking place in Middle Eastern countries
    f. Support democratic movements in the region
    g. Condition aid on foreign government policy changes
    h. Strongly threaten governments which reject democratic norms

9. **How should the United States have responded to the invasion of the Crimea by Russia in 2014?**
    e. Provide monetary and political inducements to make Russia stop what is doing
    f. Diplomatically engage with Russia to change its behavior
    g. Enact sanctions and strongly condemn Russia for invading neighbors
    h. Take military action to halt Russian expansionism

10. **How strong do you consider America's military response to Russian Expansionism to be?**
    e. Strong
    f. Average
    g. Weak
    h. Non-existent
11. **China is seen as a quickly rising power in international politics. What do you believe should be done about this?**
    e. Nothing
    f. Engage with China economically to assure continued peaceful relations

g. Engage with China economically but also try to contain Chinese power
h. Do whatever is necessary to contain expanding Chinese power.

12. What is the chance that China and the United States would come into conflict in the near future?

e. Non-existent
f. Not likely
g. Likely
h. Very likely

13. When a conflict breaks out and several options are presented for the U.S. government to undertake, which one is the most appropriate?

e. Stay out of the conflict and remain a neutral party
f. Reach out to the United Nations and try to bring the parties in conflict to peace talks
g. Utilize various forms of economic and international pressure to try and force a cessation of hostilities
h. Undertake a military action to forcefully stabilize the world

Appendix C. Wilcoxon Signed-Rank Test Ordered Results

Ranks

		N	Mean Rank	Sum of Ranks
PostQues1 - Ques1	Negative Ranks	10[a]	8.90	89.00
	Positive Ranks	8[b]	10.25	82.00
	Ties	22[c]		
	Total	40		
PostQues2 - Ques2	Negative Ranks	15[d]	14.73	221.00
	Positive Ranks	12[e]	13.08	157.00
	Ties	13[f]		
	Total	40		
PostQues4 - Ques3	Negative Ranks	14[g]	12.93	181.00
	Positive Ranks	9[h]	10.56	95.00
	Ties	17[i]		
	Total	40		
PostQues5 - Ques5	Negative Ranks	16[j]	18.53	296.50
	Positive Ranks	17[k]	15.56	264.50
	Ties	7[l]		
	Total	40		
PostQues6 - Ques6	Negative Ranks	14[m]	12.39	173.50
	Positive Ranks	11[n]	13.77	151.50
	Ties	15[o]		
	Total	40		
PostQues7 - Ques7	Negative Ranks	7[p]	15.79	110.50
	Positive Ranks	21[q]	14.07	295.50
	Ties	12[r]		
	Total	40		
PostQues8 - Ques8	Negative Ranks	16[s]	14.91	238.50

	Positive Ranks	13[t]	15.12	196.50
	Ties	11[u]		
	Total	40		
PostQues9 - Ques9	Negative Ranks	17[v]	16.15	274.50
	Positive Ranks	14[w]	15.82	221.50
	Ties	9[x]		
	Total	40		
PostQues10 - Ques10	Negative Ranks	11[y]	11.09	122.00
	Positive Ranks	13[z]	13.69	178.00
	Ties	16[aa]		
	Total	40		
PostQues11 - Ques11	Negative Ranks	13[ab]	10.19	132.50
	Positive Ranks	9[ac]	13.39	120.50
	Ties	18[ad]		
	Total	40		
PostQues12 - Ques12	Negative Ranks	11[ae]	9.82	108.00
	Positive Ranks	10[af]	12.30	123.00
	Ties	19[ag]		
	Total	40		

Appendix D. Kruskal-Wallis Test Ranks for Participation

Ranks

	Participation	N	Mean Rank
Ques1	Often	3	23.50
	Regularly	3	17.67
	Sparingly	21	18.07
	Not at all	13	24.38
	Total	40	
Ques2	Often	3	23.33
	Regularly	3	22.00
	Sparingly	21	19.62
	Not at all	13	20.92
	Total	40	
Ques3	Often	3	30.50
	Regularly	3	17.17
	Sparingly	21	20.50
	Not at all	13	18.96
	Total	40	
Ques5	Often	3	15.83
	Regularly	3	9.17
	Sparingly	21	22.07
	Not at all	13	21.65
	Total	40	
Ques6	Often	3	26.00
	Regularly	3	10.67
	Sparingly	21	17.86
	Not at all	13	25.77
	Total	40	
Ques7	Often	3	24.50
	Regularly	3	11.50
	Sparingly	21	21.19
	Not at all	13	20.54
	Total	40	
Ques8	Often	3	26.00
	Regularly	3	23.00
	Sparingly	21	21.33

	Not at all	13	17.31
	Total	40	
Ques9	Often	3	19.67
	Regularly	3	31.33
	Sparingly	21	20.98
	Not at all	13	17.42
	Total	40	
Ques10	Often	3	22.00
	Regularly	3	8.00
	Sparingly	21	20.69
	Not at all	13	22.73
	Total	40	
Ques11	Often	3	30.17
	Regularly	3	15.17
	Sparingly	21	19.17
	Not at all	13	21.65
	Total	40	
Ques12	Often	3	11.00
	Regularly	3	21.33
	Sparingly	21	20.52
	Not at all	13	22.46
	Total	40	
PostQues1	Often	3	23.33
	Regularly	3	24.50
	Sparingly	21	20.81
	Not at all	13	18.42
	Total	40	
PostQues2	Often	3	18.50
	Regularly	3	18.50
	Sparingly	21	20.33
	Not at all	13	21.69
	Total	40	
PostQues4	Often	3	11.33
	Regularly	3	24.50
	Sparingly	21	22.71
	Not at all	13	18.12
	Total	40	
PostQues5	Often	3	18.50

	Regularly	3	20.33
	Sparingly	21	21.40
	Not at all	13	19.54
	Total	40	
PostQues6	Often	3	20.83
	Regularly	3	23.83
	Sparingly	21	20.26
	Not at all	13	20.04
	Total	40	
PostQues7	Often	3	12.00
	Regularly	3	19.33
	Sparingly	21	19.45
	Not at all	13	24.42
	Total	40	
PostQues8	Often	3	10.67
	Regularly	3	27.00
	Sparingly	21	21.12
	Not at all	13	20.27
	Total	40	
PostQues9	Often	3	23.50
	Regularly	3	18.00
	Sparingly	21	20.43
	Not at all	13	20.50
	Total	40	
PostQues10	Often	3	22.67
	Regularly	3	20.50
	Sparingly	21	21.10
	Not at all	13	19.04
	Total	40	
PostQues11	Often	3	19.83
	Regularly	3	19.83
	Sparingly	21	22.02
	Not at all	13	18.35
	Total	40	
PostQues12	Often	3	19.00
	Regularly	3	15.67
	Sparingly	21	21.86

Not at all	13	19.77
Total	40	