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Learning to Stand in the Other's Shoes: A Computer Video Game Experience of the Israeli–Palestinian Conflict

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Abstract

We examined the role of experience, religion, and political affiliation in learning to resolve a conflict through the video game, *PeaceMaker*, which simulates the Israeli–Palestinian conflict by modeling the factors contributing to it. The hypothesis was that practice in the video game would diminish the initial effects of religious views and political affiliations on how people resolve the conflict within the game. Students played several rounds of *PeaceMaker* and responded to questions about their religious and political beliefs. Results revealed an improvement in students' game scores and a reduction in the correlations between scores and religion, political affiliation, and game performance across games played. Results suggest that the understanding of the conflict that is provided by the game simulation combined with practice may make it possible to reduce personal bias and learn to stand in another's shoes when engaging in conflict resolution exercises.

Keywords

video games, conflict resolution, learning, identity, in-group, out-group

Introduction

Many disciplines are now adopting simulations and video games to enhance learning experiences: Engineering (Foss & Eikass, 2006), Business and Management (Zantow, Knowlton, & Sharp, 2005); Medicine (Bradley, 2006; Griffiths, 2002), and Political Science (Kelle, 2008; Mintz, Geva, Redd, & Carnes, 1997). In conflict resolution, the use of video games and simulations is particularly useful, given that this is a dynamic decision making process in which leaders attempt to make decisions within their own internal cognitive and social limitations in the context of external events with accompanying time pressure and stress (Geva, Redd, & Mintz, 1997; Kelman, 2008; Mintz et al.,

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1997). Given the complexity of the process, interactive computer games that encompass the primary features of a real-world environment without sacrificing experimental control are ideal for the study of conflict resolution (Gonzalez & Czlonka, 2010).

In this article, we present the results of an innovative approach to the study of conflict resolution wherein participants were given repeated experiences with a video game called *PeaceMaker* (ImpactGames, 2006). *PeaceMaker* simulates Israeli–Palestinian interactions, with the players assuming the role of either the Israeli Prime Minister or the President of the Palestinian Authority. Our hypothesis was that practice in the video game would reduce the initial effects of religious views and political affiliations on conflict resolution strategies by allowing players to see the conflict from different viewpoints.

Religion, Political Beliefs, and Experience

Political affiliation comes from value commitments that people derive from their religions, nationalities, races, and so on (Levi, 2007). Social psychology research has shown that conflict increases our attachment to our “own” group and generates hate for the “other” group, because we tend to think in terms of social categories or groups (Shamir & Sagiv-Schifter, 2006). Thus, group membership may provide security at many levels, but it is also the source of many conflicts (Gartzke & Gleditsch, 2006): War is often justified by the religious and political ideologies that one is seeking to defend or promote. Unfortunately, basic research on the influence of religion on adversarial behavior and conflict resolution is very scarce (Tarakeshwar, Stanton, & Pargament, 2003). The Terror Management Theory (TMT) research has shown that when one’s self-esteem or cultural worldview is threatened, anxiety increases and death-related thoughts become more accessible, thus making conflict more likely (Greenberg, Pyszczynski, & Solomon, 1986; Pyszczynski, Rothschild, & Abdollahi, 2008). TMT is limited, however, in its ability to explain the roles of experience and knowledge in the relationship between prior beliefs and conflict resolution.

In dynamic decision-making research, it is known that decision makers often make decisions based on what they learned from past decisions and their consequences (Edwards, 1962; Gonzalez, Lerch, & Lebiere, 2003). Decision-making starts with an attempt to “match” current situations to those previously experienced, and when the situations are found to be similar, the solutions that worked before are retrieved from memory. Similarly, Mintz (2004) showed that the procedures and strategies used to make foreign policy decisions are influenced significantly by the decision maker’s familiarity with the task. Thus, we expect that experiencing both sides of a conflict and increasing a person’s familiarity with a conflict will lead to a broader view of the conflict and a higher likelihood of taking actions that promote conflict resolution.

The PeaceMaker Video Game

PeaceMaker (ImpactGames, 2006) is an educational, interactive computer video game that explores the negotiations between Israelis and Palestinians. The game, described in detail in other publications (Gonzalez & Czlonka, 2010; Gonzalez, Kampf, & Martin, 2012), enables a user to play the role of the Israeli Prime Minister or the Palestinian President and to negotiate peace by making political, economic, and security decisions while the game presents the players with unexpected events [AI (Artificial Intelligence) actions] such as Palestinian suicide bombings or Israeli air strikes. Players accumulate points according to the actions they take. A player wins if the scores from both sides are balanced and loses if the score results in too low of an approval rating from either his/her own people (as rated by satisfaction polls, called ScoreOwn) or the other side’s constituents (called ScoreOther). Thus, winning the game requires appeasing constituents on both sides. The video game can be played in three levels of difficulty: Calm, tense, and violent. The difficulty levels

differ in the frequency and consequences of turbulent events that are beyond the player's control, but not in the possible actions available to the player. The structure of the game is the same across all difficulty levels, but the frequency of AI actions is highest for the violent level and lowest for the calm level. Using the information about these events and the information that is available by clicking on regional maps and polls, the user can formulate a strategy and take actions from three main categories: Security, political, and construction.

Methods

Undergraduate students ($N = 42$, 38% female, ages 18–23 years [$M = 20$ years, $SD = 1.08$]) participated in this study as part of an Arab–Israeli Conflict and Peace Process class activity. Students were asked to play the game in each of the two roles, the Palestinian President and the Israeli Prime Minister, in each of two sessions at the beginning and end of the semester. The independent variables in the experiment were: (1) the difficulty level of the game (calm vs. violent) manipulated between-subjects, (2) the role played (Palestinian President vs. Israeli Prime Minister) manipulated within-subjects, and (3) the test session (beginning of the semester vs. end of the semester), a within-subjects factor. Participants were randomly assigned to one of the two difficulty levels. A total of 22 participants played at the calm level (50% were female, $M = 19.9$ years, $SD = .80$) and 20 participants played at the violent level (25% were female, $M = 20.3$ years, $SD = .86$). Students were counterbalanced on the order in which they played the role of the Israeli Prime Minister or the Palestinian President for both sessions.

A questionnaire was designed to gather background information, including academic major, gender, age, and average number of weekly hours spent playing computer games. It also gathered personal, political, and religious affiliations. The questionnaire asked students to indicate whether they had any personal identification with Israel, Palestine, other Middle Eastern countries. Our sample included 35.7% of students with strong personal identification with Israel, 9.6% of students with strong personal affiliation with Palestine or other Middle Eastern countries, and 54.7% of students with no personal affiliation with either side. We also queried their U.S. political affiliation, coded as Republican (3), Democratic (2), and Other (1), which included those with other or no political affiliations. The sample involved 64.3% of Democratic affiliated participants, 11.9% of Republican, and 23.8% of other or no political affiliation. Finally, we requested the students' religious belief, coded as Judaism (3), Christianity (2), and Other (1), which included Atheism, Hinduism, and no religion (no students indicated Islamic affiliation). Of the sample, 35.7% were affiliated to Judaism, 21.4% to Christianity, and 42.9% to other religions or none.

Dependent Measures

The main dependent measure used in our analyses was *balance*, a measure we calculated based on the scores (ScoreOwn and ScoreOther) for each game played by each participant in the study. A high level of *balance* requires achieving of high final scores for both sides in the game and represents a required equilibrium that one must attain in order to resolve the conflict. It measures how close a player came to appeasing constituents on both sides. It is defined with the following formula:

$$\text{Balance} = 1 - \left[(100 - \text{ScoreOwn}) + (100 - \text{ScoreOther}) \right] / (\text{Range between highest and lowest score observed on either side})$$

A balance value of one indicates that both ScoreOwn and ScoreOther were 100 at the end of the game, and thus, the player won the game. A balance value of zero indicates that both ScoreOwn and ScoreOther had the maximum negative value at the end of game. Based on the results from this study, 324 was the maximum range of the ScoreOwn and ScoreOther scores (i.e., $100 - (-62) = 162 \times 2 = 324$).

Other dependent variables included the time to complete each game (in minutes) and the proportion of actions taken by the participants during game play (construction, political, and security). The proportion of actions were expected to give information about the strategies followed, because someone might win the game by following a political strategy while others might choose to follow a security strategy.

Procedure

In the first session, students completed the questionnaires, were given a general introduction to the goals and the controls of the game, and completed the same game tutorial. Participants played the game twice, once in each role. It took participants approximately 2 hours to complete the first session. The second session at the end of the semester took place 2 months following the first session. In the interim, students had no contact with the game, but learned about the history of the Israeli–Palestinian conflict in class. In the second session, students again played the game twice, once in each role.

Results

Balance

Balance was very low overall. Across difficulty levels, sessions, and roles, the mean balance was .36, $SE = .03$, such that participants were generally far from winning the game (i.e., balance of 1.00). Thirty-eight percent of participants never won a single game after four opportunities, 48% won one of the four games, 12% won two of the four games, and 2% (one participant) won all four games.

An analysis of variance (ANOVA) showed a clear effect of the difficulty level in which students played the game, $F(1, 40) = 10.38, p < .01$. Playing in the violent condition made it more difficult to reach balance ($M = .28, SE = .03$) than playing in the calm condition ($M = .43, SE = .04$). The effect of difficulty also interacted with the session, $F(1, 40) = 11.08, p < .01$. In the first session, the balance was equally low, regardless of the difficulty level. In the second session, however, the balance was significantly higher in the calm condition, but showed no difference in the violent condition. Because there appeared to be a ceiling effect on progress in the violent condition, we present results related to the calm condition only from this point on.

Game Activity by Role

The role played (Israeli or Palestinian) had a significant effect on the time students spent in the game, $F(1, 21) = 9.99, p < .01$. Students spent more time in the game when playing the Palestinian role ($M = 32.24$ min, $SE = 3.66$ min) than when playing the Israeli role ($M = 17.99$ min, $SE = 2.26$ min). The session and the interaction of role and session had no effect on the time spent playing the game.

The mean proportions of actions of each type were calculated for each game, and the results of the ANOVAs are shown in Table 1. Role was important for the strategies participants used in the game. The proportion of political actions was higher when playing the Palestinian than the Israeli role, and the proportion of construction actions was higher when playing the Israeli than the Palestinian role.

There was also an effect of session on the use of construction and security actions. The proportion of construction actions was greater in the second than in the first session, and the proportion of

Table 1. Experiment 1: ANOVA Source Table: Mean Proportion of Actions, Standard Error, and Results From Repeated Measures ANOVA in the Calm Condition.

Source	Session		
	1 Mean, SE	2 Mean, SE	Tot Mean, SE
Political (N = 22)			
Role $F(1, 21) = 15.04^{**}$			
Session $F(1, 21) = .02$			
Role \times Session $F(1, 21) = 16.80^{**}$			
Role			
Israeli	.30, .03	.47, .02	.39, .03
Palestinian	.54, .02	.46, .02	.50, .02
Total Mean, SE	.42, .03	.47, .02	
Construction (N = 22)			
Role $F(1, 21) = 9.19^{**}$			
Session $F(1, 21) = 11.06^{**}$			
Role \times Session $F(1, 21) = 20.43^{***}$			
Role			
Israeli	.29, .03	.30, .02	.30, .03
Palestinian	.18, .02	.31, .01	.25, .02
Total Mean, SE	.24, .03	.31, .02	
Security (N = 22)			
Role $F(1, 21) = .14$			
Session $F(1, 21) = 5.34^*$			
Role \times Session $F(1, 21) = .51$			
Role			
Israeli	.30, .03	.22, .02	.26, .03
Palestinian	.29, .03	.23, .02	.26, .03
Total Mean, SE	.30, .03	.23, .02	

* $p < .05$. ** $p < .01$. *** $p < .001$.

security actions was greater in the first than in the second session. In addition, role and session interacted for political and construction actions. In both cases, the proportions started at different levels for the Israeli and Palestinian roles, but ended up very similar in the second session. As can be seen in Table 1, the proportion of political actions was higher for the Palestinian than the Israeli role in the first session but about equal in the second one. Similarly, the proportion of construction actions was higher for the Israeli than the Palestinian role in the first session but about equal in the second session.

Correlations with Religion and Political Beliefs

We ran a correlation analysis between the dependent variables: balance, time, and proportion of actions and the general background variables of age, gender, video game experience, religious and political affiliation. There were no significant correlations between the dependent variables and general variables such as age, gender, and video game experience. The participants' religious and political affiliations were the only two factors that correlated significantly with the dependent variables.

Across roles, religious affiliation correlated significantly with the balance score in the first session ($r = -.48, p < .05$), but not in the second one ($r = .16, p = \text{n.s.}$). In the first session, those that reported "Other" as their religion achieved the highest balance, followed by those that reported Christianity and then those that reported Judaism. This relationship disappeared in the second

session. Similarly, across roles, political affiliation correlated significantly with the proportion of political actions ($r = -.51, p < .05$), the proportion of construction actions ($r = -.54, p < .05$), and the time spent in the game ($r = -.49, p < .05$) in the first session; and these correlations were not significant in the second session (political actions: $r = .13, p = \text{n.s.}$; construction actions: $r = -.40, p = \text{n.s.}$; time spent in game: $r = .03, p = \text{n.s.}$). Those reporting "Other" political affiliation had the highest proportion of political actions in the first session, followed by those reporting Democratic and Republican political affiliation. There was no significant difference between political groups in proportion of political actions in the second session. This relationship disappeared by the end of the semester. Also, those reporting "Other" political affiliation have the highest proportion of construction actions in the first session, followed by those reporting Democratic and Republican political affiliation. Again, this relationship disappeared by the end of the semester. Finally, those with "Other" political affiliation spent more time in the game, followed by those reporting Democratic and Republican political affiliation. This relationship also disappeared by the end of the semester.

Discussion

Our interpretation of these results is that as students learned about the history of the conflict throughout the semester, their own religious and political affiliations had less effect on the way they played the game. Thus, we speculate that information and experience may help overcome the effects of religion and political affiliation on conflict resolution strategies.

Conflict resolution in this game depended on the role that was played, the type of actions taken, and the level of game difficulty. Students spent more time in the game and performed better when playing the Palestinian role than the Israeli role. This result is not an artifact of the game, as the game is symmetric in the change of scores produced by actions taken within the Israeli and Palestinian roles. But it is possible that in our pool of U.S. students, there is greater familiarity with the Israeli than the Palestinian sides (35.7% of our participants reported strong personal identification with Israel and only 9.6% with the Palestine or other Middle Eastern countries), and thus playing the Palestinian role might have been more challenging.

Participants also executed more political actions under the Palestinian than the Israeli role, more construction actions under the Israeli than the Palestinian role, and the same proportion of security actions under the two roles. But our results also indicate that participants changed the strategy they played in the game based on the role they played and their experience with the game. Participants learned to take more construction actions and fewer security actions as they gained experience in the game. The strategies they took under the different roles seemed to be directed to appeasing constituents on both sides, thus winning the game.

Finally, our results indicate that in the calm level, students were able to improve balance from the first to the second session, while students playing the violent level were not. It is possible that there was a ceiling effect on how well they could do with limited practice. It is also possible that given the difficulty of the game, students simply gave up in the second session.

In agreement with past research, our results indicate that peoples' desire to belong to a group and to feel attached to that group determines how they perceive conflict and address its resolution (Gartzke & Gleditsch, 2006; Jackson, 2006; Levi, 2007; Lugo, 2007; Shamir & Sagiv-Schifter, 2006). As suggested by TMT, we found that individual behaviors differed according to religious and political beliefs, and that this influenced their ability to resolve a conflict (Pyszczynski et al., 2008). Importantly, however, we found that experience—either through acquiring knowledge and background about the conflict or through repeated practice in the game—leads to a reduction or elimination of the correlation between individuals' beliefs and their success in conflict resolution (Gonzalez et al., 2003).

In this experiment, students were able to stand in the shoes of the relevant actors and understand each one's perspective by the semester's end, regardless of their own sympathies. One potential explanation for the results is that participants of the experiments were incentivized to "win" the game and they may have no reason to act on their religious or political beliefs once they learn how to play the game. It is difficult to determine what are the long-term effects of practice on identities, however both knowledge and practice in the game alone appear to be powerful ways to reduce the effects of beliefs. A possible question for future research involves the effect of practice on the participants' long-term beliefs. An experimental study in which the rewards are manipulated may help answer this question.

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Declaration of Conflicting Interests

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