

## Chapter 8

# Games for Peace: Empirical Investigations with PeaceMaker

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### ABSTRACT

*This chapter presents an investigation on decision-making in a dynamic and complex situation, the solution of international conflict, and the achievement of peace. The authors use an award winning video game to collect behavioral data, in addition to questionnaire surveys given to players. The Israeli-Palestinian conflict is one of the most difficult political problems of our times, and PeaceMaker represents the historical conditions of the conflict and provides players with an opportunity to resolve the conflict. Students in an Arab-Israeli history course played PeaceMaker from the perspectives of the Israeli and Palestinian leaders at the beginning and end of the semester. The authors recorded and analyzed their actions in the game and information on their personality, religious, political affiliation, trust attitude, and number of gaming hours per week. Results indicate the number of actions taken in the game alone cannot distinguish between good and bad performers. Rather, individual identity variables such as religious and political affiliation, personal affiliation to the conflict, and general trust disposition relate to the scores obtained in the game. They discuss the implications for policy and general conflict resolution and present their ideas for future research.*

### INTRODUCTION

Dynamic decision making (DDM) is a field of research dedicated to the study of how individuals make decisions in dynamic, complex environments involving multiple components: alternatives, events,

and outcomes; high uncertainty; and many constraints, including time, workload, and resources (Brehmer, 1992). In the Dynamic Decision Making Laboratory (<http://www.cmu.edu/ddmlab/>), we have studied human decision making in dynamic tasks across a variety of contexts including military command and control, medical decision-making, and supply chain management, among others.

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Conflict resolution can be conceptualized as a dynamic decision making process, in which the resolution of the problem is obtained by making a series of interdependent decisions in the face of changing realities, interests, and relationships between the conflicting parties (Kelman, 2008). One of the psychological concepts useful in understanding conflict resolution is experience: decision makers often tend to adhere to past decisions and rely on established procedures and technologies as the safest course of action (Kelman, 2008). In fact, in DDM research, it is known that decision makers often make decisions from experience, based on what is learned from past decisions and their consequences (Edwards, 1962; Gonzalez, Lerch, & Lebiere, 2003).

Unfortunately, little is known about the socio-psychological aspects that influence DDM and the use of experience in addressing a conflict. For example, a concept useful in the understanding and amelioration of the violent manifestation of international conflict is identity, or the need for belonging to an ethnic or national group (Shamir & Sagiv-Schifter, 2006). It is well known in several socio-psychological theories that conflict increases people's attachments to their "own" group and generates hate for the "other" group, because people tend to think in terms of social categories or groups. Thus, group membership provides security at many levels, but it is also the source of many conflicts (Gartzke & Glenditsch, 2006). For example, other versus self accountability is an antecedent to anger, and often this emotional reaction is foreseeable when the self moral values and beliefs are jeopardized by the "other" (Cheung-Blunden & Blunden, 2008).

In this research, we investigate the effects of identity variables on the aspects of conflict resolution as they relate to experience. We are interested in determining the effects of these identity variables as an individual becomes more familiar with a conflict. Our research follows an innovative approach to the study of conflict, by executing controlled laboratory experiments using a video

game. The video game used in this research is *PeaceMaker*, developed by ImpactGames (Impact Games, 2008). *PeaceMaker* simulates realistic Israeli-Palestinian interactions, with the player assuming the role of either the Israeli Prime Minister or the President of the Palestinian Authority. In each case, the leaders attempt to make effective policy choices leading to peace, while having to respond to external events like suicide bombings, army raids, and the demands of public opinion. The goal of the game in either role is to establish a stable two-states solution to the conflict.

The research reported here will present the use of *PeaceMaker* in an example of conducting empirical investigations with video games to build theoretical models of socio-psychological variables that influence DDM. In what follows, we describe *PeaceMaker* and a laboratory study conducted to analyze participants' decision making strategies and socio-psychological factors that relate to the solution of the conflict in the game. We will present some of the results from this study and discuss their implications for future directions in using video games for behavioral research.

## **BACKGROUND**

The popularity of video games worldwide is undeniable. Specifically, the use of interactive videogames for conducting research and improving learning in the classroom is becoming very common. Psychology has adopted video games as research tools for quite some time (Donchin, 1995), but more recently, other disciplines are adopting simulations and games for teaching and research, including Engineering (Foss & Eikaas, 2006), Business and Management (Zantow, Knowlton, & Sharp, 2005), Medicine (Bradley, 2006; Griffiths, 2002), and Political Science (Kelle, 2008; Malaby, 2007; Mintz, Geva, Redd, & Carnes, 1997).

A key characteristic of DDM research is the use of *interactive* problem solving tools (i.e., Micro-worlds or Decision Making Games [DMGames])

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