

Chapter 9

Thinking about Firearm Control

From time to time, passionate debates arise about firearm commerce due to mass killing motivated by social or religious issues in many societies around the world. Ten years ago, Brazil held a referendum about firearm commerce prohibition.

Voting is mandatory in Brazil, and political campaign takes advantage of Radio/TV free propaganda 40 days before election. Two political alliances arouse in the Brazilian Congress to run the campaign for the Yes (favoring prohibition of firearm commerce) and No (against the prohibition of firearm commerce) voting. The media campaign stressed the benefits and costs of each decision, trying to oppose the benefits of one decision against the risks of the opposite one.

Rocha *et al.* (2010, 2014) recorded the electroencephalogram (EEG) activity of 32 individuals one week before the election day, while they declared their vote intention and provide information if six of most arguments used by media propaganda were trustful and would influence their vote.

Here, the results of these studies, described in the EEEG books *EEE_Voting* and *EEG_Marketing* available at <http://www.eina.com.br/software/>, are used to discuss how EEG may be used to study collective decision-making and how brain processes media propaganda.

9.1 Experimental Design

Thirty-two subjects, 16 female and 16 male adults (Table 9.1), had their EEG registered with 20 electrodes placed according to the 10/20 system; impedance $< 10 \text{ k}\Omega$; low band passing filter 50 Hz;