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CSE 463

Professor Atkinson

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Research Article Review

**Reference**

Celso de Melo, Stacy Marsella, and Jonathan Gratch. 2016. People do not feel guilty about exploiting ma- chines. ACM Trans. Comput.-Hum. Interact. 23, 2, Article 8 (May 2016), 17 pages.

**Introduction**

Despite earlier research that showed humans treat machines with a similar manner as they would other humans, studies that looked at what regions of the brain activated when humans interacted with machines versus humans showed a significant difference between them. People have also shown less emotion when interacting with machines, as evidenced by a study that involved a participants playing the 'ultimatum game' with either a human or a machine. Guilt and envy are two emotions that play a significant role in human interaction and behavior and the goal of this article was to see how human-machine interaction affects these emotions.

**Method (Experiment 1)**

**Participants**

There were 81 participants recruited from Amazon Mechanical Turk, a crowdfunding platform for individuals to complete online tasks for money. They were 28.4% male. The age distribution was 18-21, 2.1%; 22-34, 55.6%; 35-44, 22.2%; 45-54, 9.9%; 55-64, 8.6%, over 65, 2.5%. Professional backgrounds were diverse.

**Conditions**

The method of testing was a lottery game where the player can choose to help both themselves and their opponent or nobody. The opponent to the player is either another person or a computer. The computer was set to run with a 'tit for tat' script which would encourage mutual cooperation.

**Measures**

The main behavioral variable was how much players allocated to the shared pool. After the task was completed, the participants were asked a series of questions

**Procedure**

The participants were made to play the lottery game with either a human or computer player. The lottery game lets players either help or hinder themselves and their opponent based on how much money they place into a shared pot, which generates tickets for each player. After playing the game, they were asked questions designed to measure their guilt and envy.

**Results and Discussion**

The results showed that humans can treat machines in a social manner. However, players experienced more guilt with a human opponent than a computer opponent. The difference between levels of envy was not significant though. The experiment showed that people preferred interacting with humans and machines.

**Method (Experiment 2)**

**Participants**

Participants were drawn from a pool of Psychology students at the University of Southern California. A total of 165 participants were used. 53% were males. 83% were 21 years old or younger and 17% were 22-34 years.

**Conditions**

Participants were tasked with one of four test, playing either the dictator game or the ultimatum game against either a human or a computer opponent. They were then asked questions to measure their guilt and envy.

**Measures**

How players responded to offers from their opponent during the ultimatum game and when they stopped splitting the pot during the dictator game. They were then asked questions after.

**Procedure**

Participants were tasked to play a game against either a human or a computer. Both the dictator game and the ultimatum game allows each player the ability to either cooperate or compete.

**Results and Discussion**

The results in experiment 2 reinforced the results in experiment 1. Players had greater feelings of guilt towards their human adversaries but rates of envy were not distinct from human to computer.

**Conclusions**

These experiments showed that humans gave social considerations towards computer when playing the lottery game, dictator game, and the ultimatum game. However, humans showed more consideration when playing with humans players, likely because they estimated that they would have a higher mental capacity over the computer. The results of these tests shows that the designers for human-computer interaction systems need to be aware that people treat computers differently than other humans. This issue could be solved by adding more anthropomorphic cues to machines or by stating that the machines are acting on behalf of humans.