

SUMMARY

Sophia Popova, Class of 2011

The Economic Behavior of Non-Human Primates **Professor Keith Chen**

This summer, my goal was to examine choice-making and its effect on future preferences. To begin, I looked at a broad range of literature on cognitive dissonance¹.

My research focused around mathematically assessing the validity of the free choice paradigm. To do this, I designed the Nudge Experiment in which subjects were “nudged” to make a choice that went against their preferences. My goal was to establish a nudge² that affects choice without affecting preference, and then use that nudge to quantify how much people’s choices affect their preferences (ie cognitive dissonance) if at all.

My experiment worked as follows: subjects were asked to rank fifteen Romantic-era paintings by placing them in a vertical row with the favorite at the top. Subjects were then asked to choose between the painting that ranked 7 and the one ranked 9, where the #9 painting was given a very cumbersome name (in French with foreign accents and symbols). By exploiting people’s natural insecurity with foreign languages, we nudged them to choose a painting with a more familiar name even when it may not have been preferred. Finally, all subjects were asked to re-rank the same fifteen paintings. The way in which the rankings changed would be analyzed for evidence for or against cognitive dissonance.

Although my Nudge Experiment has not been run yet, Professor Chen helped me write up more formally the theoretical backbone of my experiment by using concepts in statistics and math. In addition, he introduced me a huge range of literature in this field and taught me about the concept of order statistics as a way to think about many different situations in economics. Such knowledge of order statistics helped me in my final summer project in which I had to think of a way to prove that low-performing individuals prefer to compete against a small number of competitors n in order to maximize performer’s chance of scoring in a given top percent. This final project gave me the opportunity to use Mathematica.

Overall, my SRO experience was wonderful. Not only did I learn how to apply the in-class knowledge I had acquired as an Econ&Math major to research in a relevant field, but I also learned many *new* concepts and problem-solving techniques that I’ll be able to use inside and outside of class for the rest of my life. In addition, I was able to experience a more academic, research-oriented career, which is something I’ve wanted to learn more about since I came to Yale. SRO introduced me to the broad range of things I can do with my textbook knowledge from class.

¹ First coined by Leon Festinger in 1957, cognitive dissonance is said to arise when individuals alter their beliefs in order to prove to themselves that they are acting consistently. Relating such cognitive dissonance to choice-making, J. W. Brehm created the free choice paradigm in which individuals try to naturally create cohesion in their decision making process. In Brehm’s free choice paradigm, individuals are asked to choose between goods A and B, and then asked to choose between goods B and C. Brehm found that if subjects reject B in the first stage, then they are more likely to reject B again in the second stage. However recent work by Professor Chen has found that some free choice paradigm tests may have fundamental flaws.

² I define nudge to be an act which forces subjects (at least most of the time) to make a given choice without affecting their actual preferences.