Science of Behavior Change

Suggested answers

Febraury 15, 2016

(2 hours, closed book, written exam at computers)

Answer to Question 1:

Question 1 aims to assess the following two learning objectives:

- *Students will review the most recent developments and theories of human decision-making both from Economics and Psychology.*
- *Students will analyze the tools of behavioral science (namely incentive, regulation, persuasion and nudging) and they will compare their effectiveness to change specific behaviors.*

a) The framing effect is an example of cognitive bias, in which people react to a particular choice in different ways depending on how it is presented. People tend to avoid risk when a positive frame is presented but seek risks when a negative frame is presented. Gain and loss are defined in the scenario as descriptions of outcomes (e.g. lives lost or saved, disease patients treated and not treated, lives saved and lost during accidents, etc.).

b) Incentives and Education: Fryer et al. (2012) investigate if it is possible to increase teachers' efforts by giving them performance pay framed as a loss instead of a reward. They find that the students taught by teachers, who received performance pay framed as a loss, perform better than both the control group and those taught by teachers , who received performance pay framed as a gain.

Answer to Question 2:

Question 2 aims to assess the following two learning objectives:

- *Student will reflect on how experiments and randomized controlled trials work and why this methodology is critical for making inference about causal relationships.*
- *Student will debate and discuss critically several interventions that have been conducted to change people's behavior in the domain of energy efficiency, health and well-being, dishonesty, charitable giving, education and work performance.*

a) This experiment was designed to study how the work effort for a simple, meaningless and repetitive task could be changed by superficial manipulations of meaning. The subject was handed a sheet of paper with a random sequence of letters and had to find 10 instances where the letters 's' appear consecutively. The subject was paid $0,55 for the first complete sheet and was then asked if he or she would like to complete another sheet for 5 cents less. This procedure continued until the subject wasn't willing to complete any more sheets. The subjects were assigned to one of 3 conditions:

1. In the acknowledged condition the subjects were instructed to write their name on each sheet and were told that when they handed in their completed sheet it would be examined and filed in a folder.
2. In the ignored condition the subjects were not instructed to write their name on the sheets but were told that when they handed in each sheet it would be placed on a high stack of paper without being examined.
3. In the shredded condition the subjects were only told that each completed sheet would be immediately put through a paper shredder.

All the subjects in the three conditions had the possibility to cheat as none of their efforts were monitored.

b) Subjects in the shredded condition worked harder, gained more and demanded the highest reservation wage even though they had the possibility to cheat without ever being caught. The subjects in the acknowledged condition had the highest average completion of sheets of the three conditions. The authors claimed that 'Subjects exhibit a reservation wage that is almost twice as large when their work is not acknowledged'.

c) The paper suggests that what seems a trivial meaning or purpose can significantly affect the likelihood that we will supply our labour, when compared to situations where there is no meaning or purpose present.
As we discussed in class, the internal and external validity of this finding is rather controversial.

Answer to Question 3:

Question 3 aims to assess the following two learning objectives:

- *Student will examine cases where people make decisions that are inconsistent with the assumptions of rational decision making and they will identify the consequences of this irrational behavior for the society.*
- *Students will design experiments and develop policy intervention aiming at ameliorate societal well-being and improve people's life.*

This question has not a correct answer *a priori*. This question gives the student the possibility to show that s/he can use the knowledge for solving practical problem.

Students should:

1. define the context in which the nudging is going to happen (when and where).
2. briefly think through the behavior change and articulate the specific behavior that you want to change as a result of the nudge (specific and measurable behavior).
3. map the decision making process: different stages that people go through; various frictions and bottlenecks; identify nudges that would actually help you address those bottlenecks.
4. make a linkage between that map that you've just drawn, the process that you've just identified, and some of the concepts that you've talked about in this class.
5. describe the intervention and/or the nudge (precision)
6. describe the design of an experiment that can test the nudge and briefly how to do the data analysis (internal and external validity).