Written Exam for the M.Sc. in Economics summer 2013

The Psychology of Choice

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Experimental Theory and Methods

Final Exam/ Elective Course/ Master's Course

June 4, 2013

(3-hour closed book exam)

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e. if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title which was followed by "eksamen på dansk" in brackets, you must write your exam paper in Danish.

This exam question consists of 3 pages in total including this page.

(1) Attention

When faced with a multitude of choice options, information processing becomes a significant player in the choices we make. Processing resources are scarce and consequently not all information that we have access to through our senses reaches our awareness. In the following questions you will be asked to consider which components influence selection for awareness and how these components are related to choice situations.

a. Theeuwes introduced the additional singleton paradigm as a method for investigating what? Describe the additional singleton paradigm and two main findings of "Theeuwes, J. (1992) "Perceptual Selectivity for Color and Form", Perception and Psychophysics, 51(6), 599–606"

a. Discuss evidence in favor of task-based allocation of attention.

b. Reutskaja et al, 2012 investigated the effects of visual search dynamics of consumer choice. Explain the effects of increasing the set size (i.e. the number of choice options):
   "Reutskaja, E., Nagel, R., Camerer, C.F. and Rangel, A. (2011) "Search Dynamics in Consumer Choice under Time Pressure: An Eye-Tracking Study", American Economic Review, 101(2), 900–926."

c. Explain the principles guiding biased competition as described by Desimone, R. and Duncan, J. (1995) "Neural Mechanisms of Selective Visual Attention", Annual Review of Neuroscience, 18, 193–222.

(2) Heuristics

During the course we have seen that people's evaluation of likelihoods and uncertain values might be affected by different heuristics.

a. Please explain the three heuristics which we have talked about in the course and provide an example for each of them

b. Please explain Experiment 1, i.e. the experimental design, procedure and results, of the article "Ariely, D., Loewenstein, G. and Prelec D. (2003) "Coherent Arbitrariness: Stable Demand Curves without Stable Preferences", The Quarterly Journal of Economics, 118(1), 73-105" and explain with the help of it the concept of "coherent arbitrariness"

c. In their article "Tversky A. and Kahneman, D. (1974) "Judgment under Uncertainty: Heuristics and Biases", Science, 185(4157), 1124-1131" Kahneman and Tversky argue that judgments based on the representativeness heuristic are insensitive to "prior probability of outcomes". Explain what they mean with this.

d. What are the 3 biases that Kahneman and Tversky describe in association with the availability heuristic in the article "Tversky A. and Kahneman, D. (1974) "Judgment under Uncertainty: Heuristics and Biases", Science, 185(4157), 1124-1131"

(3) Framing

Explanations and predictions of people's choices are often founded on the assumption of human rationality. The definition of rationality has been much debated, but there is a general agreement that rational choices should satisfy some elementary requirements of consistency and coherence. In the following questions you will be asked to describe systematic violations to the requirement of consistency, and trace these violations to the psychological principles that govern the perception of decision problems and the evaluation of options.

a. Kahneman and Tversky introduced the idea of framing of choice options (or acts) as a way of investigating the violation of which assumption of rationality?

b. Consider the following framing of acts experiment and results from Tversky and Kahneman (1981):
Imagine that you face the following pair of concurrent decisions. First examine both decisions, and then indicate the options you prefer.

Decision (i). Choose between:
    A. *A sure gain of $240 [84 percent]*
    B. *25% chance to gain $1000, and*
        75% chance to gain noting [16 percent]
Decision (ii). Choose between:
    C. *A sure loss of $750 [13 percent]*
    D. *75% chance to loss $1000, and*
        25% chance to loss noting [87 percent]

Discuss the design, results, and intuition of this experiment.

c. Tversky and Kahneman (1981) combined the experiment above in the following way:
Choose between:
    A&D. *25% chance to win $240, and*
           75% chance to lose $760 [0 percent]
    B&C. *25% chance to win $250, and*
          75% chance to lose $750 [100 percent]

Discuss the difference in the two framings and why everyone now chooses B&C.

d. In the experiment above the outcomes have been elementary, such as gains or losses in a single attribute. In many situation, however, an action gives rise to a compound outcome, which joins a series of changes in a single attribute, such as a sequence of monetary gains or losses, or a set of concurrent changes in several attributes.

Give a simple example where the evaluation of compounded outcomes matters.