

Written Exam at the Department of Economics winter 2018-19

**Science of Behavior Change**

Final Exam

February 7, 2019

(2-hour closed book exam)

Answers only in English.

**This exam question consists of 3 pages in total**

*NB: If you fall ill during an examination at Peter Bangs Vej, you must contact an invigilator who will show you how to register and submit a blank exam paper. Then you leave the examination. When you arrive home, you must contact your GP and submit a medical report to the Faculty of Social Sciences no later than seven (7) days from the date of the exam.*

**Be careful not to cheat at exams!**

- You cheat at an exam, if during the exam, you:
- Make use of exam aids that are not allowed
- Communicate with or otherwise receive help from other people
- Copy other people's texts without making use of quotation marks and source referencing, so that it may appear to be your own text
- Use the ideas or thoughts of others without making use of source referencing, so it may appear to be your own idea or your thoughts
- Or if you otherwise violate the rules that apply to the exam

## Question 1

- Define “counterfactual”.
- Summarize the techniques we can use to mimic the counterfactual. Use an example.
- Explain (briefly) the evaluation-driven effects we saw in class (Hawthorne effect, John Henry effect, resentment effect, demand effect, anticipation effect and survey effect).

## Question 2

During the second part of the course (lecture 20) we have seen and discussed the paper “*Orchestrating Impartiality: The Impact of "Blind" Auditions on Female Musicians*” written by Goldin and Rouse (2000). The following table shows one of the main results of this paper.

TABLE 5—AVERAGE SUCCESS AT AUDITIONS BY SEX AND STAGE OF AUDITION FOR THE SUBSET OF MUSICIANS WHO AUDITIONED BOTH BLIND AND NOT BLIND

	Blind		Not blind	
	Proportion advanced	Number of person-rounds	Proportion advanced	Number of person-rounds
Preliminaries without semifinals				
Women	0.286 (0.043)	112	0.193 (0.041)	93
Men	0.202 (0.026)	247	0.225 (0.031)	187
Preliminaries with semifinals				
Women	0.200 (0.092)	20	0.133 (0.091)	15
Men	0.083 (0.083)	12	0.000 (0.000)	8
Semifinals				
Women	0.385 (0.061)	65	0.568 (0.075)	44
Men	0.368 (0.059)	68	0.295 (0.069)	44
Finals				
Women	0.235 (0.106)	17	0.087 (0.060)	23
Men	0.000 (0.000)	12	0.133 (0.091)	15
“Hired”				
Women	0.027 (0.008)	445	0.017 (0.005)	599
Men	0.026 (0.005)	816	0.027 (0.005)	1102

- Summarize how the authors were able to evaluate the two types of auditions.
- Explain the main result summarized by the figure above.
- During the course we have seen many other factors that may produce biases in decision making, for instance, cognitive fatigue. Discuss how cognitive fatigue may affect discrimination.

**Question 3**

Design an intervention to encourage volunteering (involvement in voluntary activities) among seniors (elderly people).

Remember to use the scheme we have used in class:

- a) Brief description of context and target agent
- b) Behavior change desired
- c) Decision mapping (bottlenecks)
- d) Relevant phenomena, principles and concepts you use
- e) Description of the intervention
- f) Design, plan for data analysis and predictions