

Written Exam at the Department of Economics winter 2019-20

Science of Behavior Change

Final Exam

December 17, 2019

(2-hour closed book exam)

Answers only in English.

This exam question consists of 3 pages in total

Falling ill during the exam

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.
- leave the examination.
- contact your GP and submit a medical report to the Faculty of Social Sciences no later than five (5) 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

- a) Define Average Treatment Effect (ATE).
- b) Discuss the limitations of ATE.
- c) When researchers cannot obtain the ATE due to noncompliance, they can instead estimate the “Policy Relevant Treatment Effect”. Explain the differences between Intention to Treat Effect (ITT) and Local Average Treatment Effect (LATE).

Question 2

During the second part of the course (lecture on “Education”) we have seen and discussed the paper “*Using behavioral insights to increase parental engagement: The parents and children together (PACT) intervention*” written by Mayer, Kalil, Oreopoulos, and Gallegos (2015). The following table (modified) shows the main result(s) of this paper.

	Dependent Variable		
	(1) Minutes Read	(2) Number of Books	(3) Any Reading
Treatment	88.32*** (18.79)	16.66*** (4.50)	0.12** (0.05)
Constant	63.34*** (9.49)	14.78*** (3.00)	0.84*** (0.04)
Standard Deviation of the Control Group	87.48	27.68	0.37
Effect Size	1.01	0.60	0.31
Observations	169	169	169

- a) Describe the intervention and the three behavioral tools used.
- b) Explain the main result(s) reported in the table above.
- c) Did the authors report any “heterogeneous effect”? In particular, did they explore if *patient* parents respond less to the intervention?

Question 3

Design an intervention to encourage participation in cancer screening tests.

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