

Name (Last, First): \_\_\_\_\_

HUID: \_\_\_\_\_

TF/Day/Time (e.g. Takada M 4p): \_\_\_\_\_

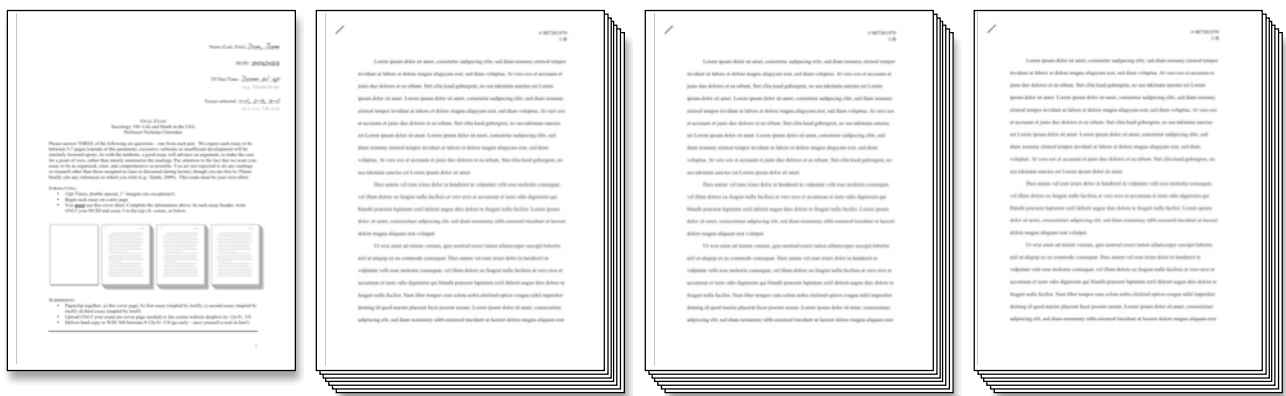
Essays selected (e.g. 1-A, 2-B, 3-A): \_\_\_\_\_

**Final Exam**  
**Sociology 190: Life and Death in the USA**  
**Professor Nicholas Christakis**

Please answer **three** of the following six questions, **one from each pair**. We expect each essay to be between 5-7 pages (do not write more than 7 pages, as we may well not read beyond the seventh page, and verbosity is not appreciated). A good essay will advance an argument, or make the case for a point of view, rather than merely summarize the readings. While you are expected to present a cogent argument, your essay should also address potential criticisms or limitations to your argument. Pay attention to the fact that your essay should be as organized and clear as possible. Remember, your exam will be evaluated with reference to three criteria: (1) **organization**, (2) **argument**, and (3) **evidence**. Some of the questions below make use of readings from outside the course, but citations are provided. You are **not** expected to do any other readings or research other than those assigned in class or discussed during lecture, though you are free to. A good answer, however, will indeed refer to several readings in order to support your argument. Please briefly cite any references to which you refer (e.g.: Smith, 2009) and supply a list of references you cite or rely on at the end of each of your answers. A good answer also addresses all parts of the questions (that is, be sure not to overlook any of the sub-questions). **This exam must be your own effort; you may not get assistance from any other person or discuss these questions with anyone else. Any questions during the exam should be addressed to: [Keren.Soc190@gmail.com](mailto:Keren.Soc190@gmail.com).** The teaching staff thanks you for a great semester, and wishes you good luck with this exam, and a happy summer.

**FORMATTING:**

- 12pt Times New Roman, double spaced, 1” margins
- Begin each essay on a new page; use page numbers.
- You must use this cover sheet. Fill in the information above. In each essay header, write *ONLY* your HUID and essay # in the top right hand corner, as below.



**SUBMISSION:**

- **Paperclip** together: a) this cover page; b) first essay (**stapled by itself**); c) second essay (**stapled by itself**); d) third essay (**stapled by itself**)
- **Deliver hard copy** to WJH 501 between 2:00-5:00pm Thursday, May 5 (go early – save yourself a wait in line!) **EXAMS WILL NOT BE ACCEPTED AFTER 5:00PM.**
- **Upload ONLY** your exam (no cover page needed) to the **Isites** dropbox by 7 pm Thursday, May 5 (it locks automatically at 7 pm); you can upload your exam before or after you deliver the hardcopy.

**1A** The US obesity epidemic has spurred both public health and medical responses. The Center for Disease Control and Prevention (CDC) has issued guidelines for school-based programs aimed at preventing obesity. While the effectiveness of such programs is still debated, Veugelers et al found that students from schools participating in a well designed program exhibited significantly lower rates of overweight and obesity, had healthier diets, and reported more physical activity than students from schools without a program [Veugelers P.J. and Fitzgeralds, A.L. Effectiveness of school programs in preventing childhood obesity: A multilevel comparison. *Am J Public Health*, 2005; 95: 432-435].

As a separate development, bariatric operations (major abdominal surgery to treat “morbid obesity,” BMI>40) have become increasingly common in the US; the number of such surgeries performed annually for severe obesity increased from 16,000 in the early 1990s to 103,000 in 2003. A meta-analysis (a specific type of statistical analysis that compares findings across multiple studies) showed that bariatric surgery is effective in getting patients to lose weight and in reversing medical problems associated with severe obesity, such as diabetes [Buchwald, H., Avidor, Y., Braunwald, E; et al. Bariatric Surgery: A systematic review and meta-analysis. *JAMA*, 2004; 292: 1724-1737].

Discuss proposed explanations for the obesity epidemic covered in the lectures and readings. How would the two foregoing interventions serve to counteract these determinants (in other words, which obesity-related factors would each intervention target)? What do the interventions imply about the role of structure versus agency in the obesity epidemic? How might the coverage and social acceptability of each intervention be shaped by this structure/agency dichotomy, and how might this therefore affect the extent to which these two interventions are socially acceptable?

**1B** Transport for London (the London equivalent of the MBTA) has begun a marketing campaign to decrease the rate of traffic accidents involving teenagers. Examine the posters and view the TV ad at the following link. These posters are found on subway stations and on the street.

[http://www.tfl.gov.uk/corporate/projectsandschemes/roadsandpublicspaces/2297.aspx#Marketing\\_campaigns](http://www.tfl.gov.uk/corporate/projectsandschemes/roadsandpublicspaces/2297.aspx#Marketing_campaigns)

Their website states, “Many of these accidents could have been avoided if the victim had been more aware of the risks of London's roads. That's why we're working to get young people to take extra care and pay more attention when using roads.”

Grundy and colleagues reported in a recent article in the British Medical Journal that the introduction of 20 mph zones was associated with a 50% reduction in the numbers of killed or seriously injured children, after adjustment for underlying time trends. Read the full article here: <http://www.bmj.com/content/339/bmj.b4469.long>.

What does the campaign imply regarding the role of structure and agency in road traffic accidents with teenagers? And what does the article imply?

Given what you know about the effects of social networks, neighborhoods, and socioeconomic status on health behaviors and outcomes, do you think that Transport for London’s campaign would be effective in decreasing road traffic accidents? Why or why not? What are some of the mechanisms by which this campaign might work, and who might be most affected?

**2A** Although many human enhancements discussed in John Harris' *Enhancing Evolution* are far in the future, human embryos have been successfully created and implanted in women for over two decades using in vitro fertilization (IVF) technology. At first, this technology and its use gave rise to several moral debates, including whether infertile women and couples should be limited to adoption and/or childlessness as a result of the natural lottery that dealt them the inability to conceive children "naturally." Today, while IVF is commonly accepted and used by many women and couples, new questions are emerging as other technologies become available that can test embryos for genetic diseases and traits. At present, all pregnant women are offered pre-natal testing for Down's syndrome and neural tube defects as a matter of course, and they may choose to abort fetuses with such defects.

Should women or couples using IVF be able to decide which embryos, from among those they create, they want to implant by using genetic testing? Should parents be allowed to avoid having babies with whatever they perceive as any "defects" that are detected by such genetic testing? What processes would you put in place to regulate this?

Discuss how the very definition of what is and is not a "defect" or an "enhancement" is a form of social construction. Describe how, if at all, the distinction between defects and enhancements might be made. Finally, discuss the extent to which such technology medicalizes the process of reproduction.

**2B** In his last lecture, Prof. Christakis made the claim that we may be reaching the "end of medicine." In the first (shorter) part of your essay, briefly outline why this is plausible, and summarize the argument Christakis made. In the second (longer) part of your answer, argue against this position. That is, articulate at least three reasons – supported by evidence – as to why, in your opinion, this is not a tenable position.

**3A** Binge drinking has been recognized as a public health problem on college campuses. Imagine that you have been hired by a public health policy firm to advise senior administrators at Harvard. Taking advantage of your knowledge of the various kinds of social factors that contribute to this unhealthy behavior, describe two interventions (of your choice) to decrease binge drinking at Harvard. Explain why you believe that they would be effective, and whom they are likely to influence most (and least). Be sure to define “binge drinking” and to discuss the impact of the interventions you suggest on the students and on the broader college environment. Be sure to support each of your arguments with scientific concepts and evidence from the readings. Position your recommendations in some of the broad themes of the course.

**3B** Several years ago, Soc 190 students completed a class survey in which they described their health habits and also their friendships within the class. On the following page you’ll find a social network graph with your predecessors’ exercise patterns. Lines between nodes represent friendships, and node colors represent the importance of exercise in students’ lives (red= “not important,” orange= “somewhat,” green= “very”). [If you print these images with a black and white printer, be sure to pay attention to the color of the nodes on the screen.]

Imagine that you’ve been charged with writing a report to University Health Services (UHS) on ways to improve student health. This report should be framed in three parts, with the first two parts being analyses, and the last part making connections between this analysis and broader course themes.

a) For the first part, consider the possibility of an intervention designed to improve the health of the class population by “seeding” key class members with better exercise habits; possible key people are denoted by A, B, C, and D in Figure 1. Assume that the behavioral intervention you use to seed the network does work in the individual, and also assume that a change in this individual definitely affects others – like a contagion which spreads from person to person.

To answer this question, you should trace network paths two steps (degrees) away from the focal individuals (ego). With a *yellow* highlighter, identify 1<sup>st</sup>-degree alters connected to that ego; in *some other color*, identify 2<sup>nd</sup>-degree alters (the nodes directly connected to 1<sup>st</sup> degree alters).<sup>1</sup> Then, report on how seeding nodes A, B, C, or D might differentially improve the population health, ranking the nodes in terms of how many people might be reached within two degrees of ego.

b) For the second part of your report to UHS, consider Figure 2, in which two people, A and B (who are not – please note – the same A and B as in Figure 1), have an equal number of friends. Who would be a better candidate for a behavioral intervention to improve exercise habits in terms of who will be more responsive? Why? Feel free to use your knowledge of Harvard University and the value of social support or network structure in order to ground your argument.

c) For your conclusion, integrate results from (a) and (b) with lessons on social connectivity from the course (relevant themes might include, but are not limited to: social capital, structure and agency, etc.), and make an argument either for or against this type of social-network based intervention as a health policy matter. Would understanding social network ties be useful for public health interventions?

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<sup>1</sup> You should make four photocopies of Figure 1 (one for each key node) to aid in your analysis. Be sure to staple your work to your answer so we can assign partial credit if needed.

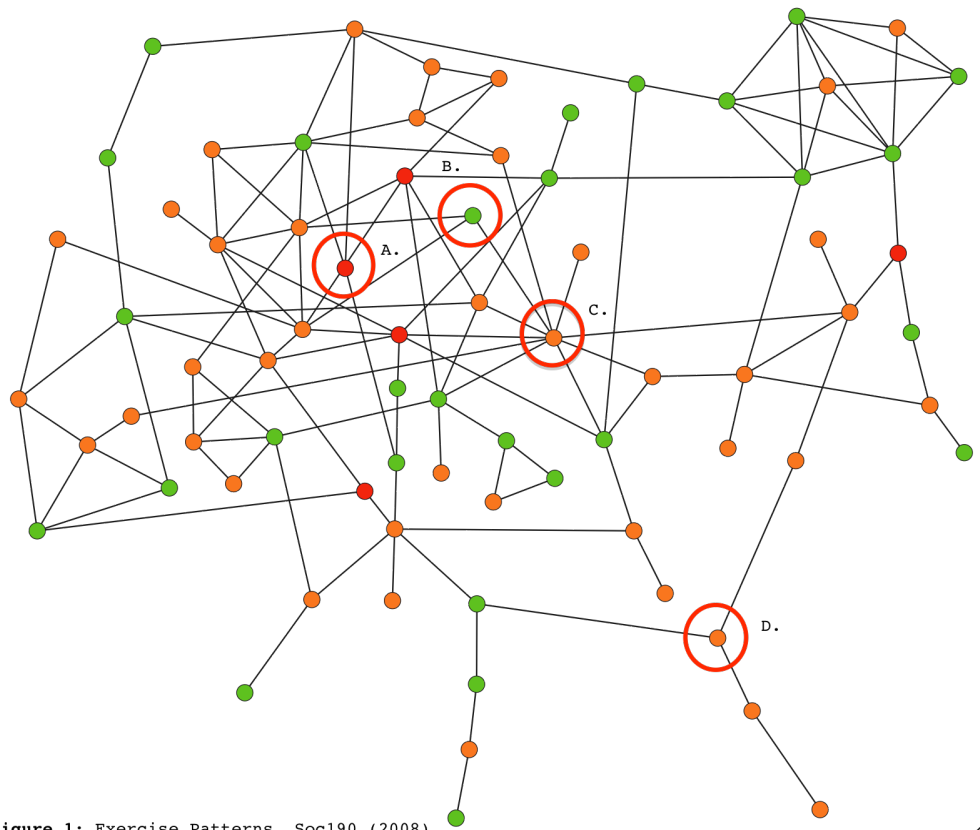


Figure 1: Exercise Patterns, Soc190 (2008)

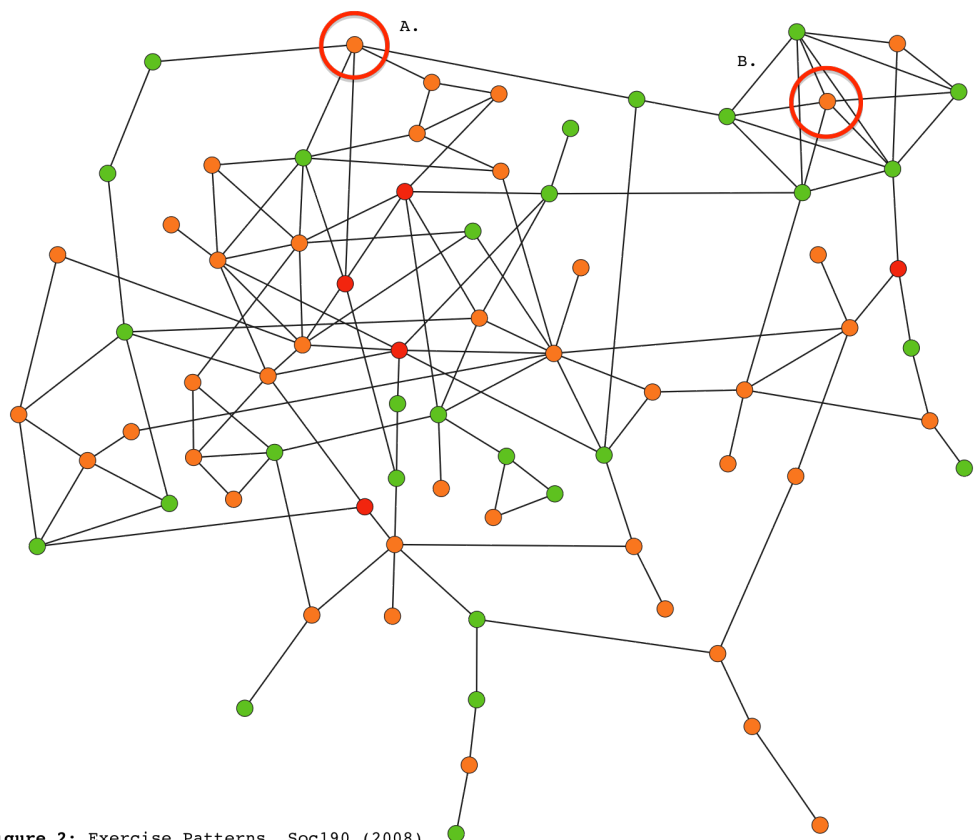


Figure 2: Exercise Patterns, Soc190 (2008)

