

E2040

Week 14 Practice

1.

From

Salerno, J., Coughlin, S. S., Goodman, K. W., & Hlaing, W. M. (2023). Current Ethical and Social Issues in Epidemiology. Annals of Epidemiology, 80, 37-42.

Genetic epidemiology

“Genetic epidemiology investigators study the role of genes, environmental and lifestyle exposures, and their interactions (i.e., gene–gene and gene environment) in human populations, and is the backbone for identifying individualized health solutions for patients, also referred to as ‘precision medicine.’ The ability of genetic epidemiological research to contribute to novel therapies and public health involves the development and implementation of large-scale prospective cohort epidemiological studies such as the U.K. Biobank (<https://www.ukbiobank.ac.uk/>) and the U.S. ‘All of Us’ (<https://allofus.nih.gov/>) research programs. These large-scale research studies exemplify ‘big data research’ and are feasible due the widespread availability of genomic sequencing methods and other scientific advancements (i.e., the various omics technologies) and the increase in digital technologies used in healthcare (e.g., electronic medical records) and outside of healthcare (e.g., social media, mobile health trackers)—all coupled with reduced costs. These rapidly evolving scientific and technological advances have underscored several ethical concerns for individuals and populations.”

- a. What can be the benefits of genetic epidemiology research for participants and society?
- b. What are the risks of genetic epidemiology research for participants and society?

2.

From

Kramer, A. D., Guillory, J. E., & Hancock, J. T. (2014). Experimental evidence of massive-scale emotional contagion through social networks. Proceedings of the National Academy of Sciences of the United States of America, 111(24), 8788.

Abstract

Emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. Emotional contagion is well established in laboratory experiments, with people transferring positive and negative emotions to others. Data from a large real-world social network, collected over a 20-y period suggests that longer-lasting moods (e.g., depression, happiness) can be transferred through networks [Fowler JH, Christakis NA (2008) *BMJ* 337:a2338], although the results are controversial. In an experiment with people who use Facebook, we test whether emotional contagion occurs outside of in-person interaction between individuals by reducing the amount of emotional content in the News Feed. When positive expressions were reduced, people produced fewer positive posts and more negative posts; when negative expressions were reduced, the opposite pattern occurred. These results indicate that emotions expressed by others on Facebook influence our own emotions, constituting experimental evidence for massive-scale contagion via social networks. This work also suggests that, in contrast to prevailing assumptions, in-person interaction and nonverbal cues are not strictly necessary for emotional contagion, and that the observation of others' positive experiences constitutes a positive experience for people.

From NPR (<https://www.npr.org/sections/alltechconsidered/2014/06/30/326929138/facebook-manipulates-our-moods-for-science-and-commerce-a-roundup>):

“Scientists published a paper revealing that in 2012, Facebook researchers conducted a study into "emotional contagion." The social media company altered the news feeds (the main page users land on for a stream of updates from friends) of nearly 700,000 users. Feeds were changed to reflect more "positive" or "negative" content, to determine if seeing more sad messages makes a person sadder.

The bottom line is news feeds were tweaked without warning because Facebook users agreed to the social giant's general terms of data use, and researchers tracked emotional responses of test subjects by judging any subsequent changes in their use of language. It's unclear if you, or I, were tested. As users, the check-box agreement gave permission for this kind of psychological experimentation.

- a. Identify potential benefits for participants in the Facebook emotion study.
- b. Identify potential risks to participants in the Facebook emotion study.