
NEWSLETTER

My method and COVID-19: Complexity science by Francisco Olivos



A pandemic cannot be reduced to infected individuals. Instead, it emerges as the aggregation of interdependent agents. It matches the definition of a complex system in contemporary social sciences. A complex system is a set of interrelated agents that interact, adapt, and learn dynamically within a boundary. COVID-19 is transmitted in a system, where heterogeneous agents interact at different levels (e.g. pathogens, humans, transnational organizations). These agents behave following rules, and the system exhibits aggregated characteristics. Therefore, declaring a global pandemic depends upon the aggregation of these components and their interactions.

Since Durkheim, sociologists have attempted to understand the sui generis properties of a social system that emerge from individuals' interactions. Thus, a pandemic is not analytically different from collective action or urban segregation; all of them also considered emergent. Therefore, one way in which sociologists could contribute to the modeling the pandemic is providing expectations of human behavior, and how it shapes and is shaped by culture, social structure, and formal institutions.

In practice, complexity sciences rely on computers to simulate, model, and analyze complex systems. Thus, complexity partners computational social sciences. Moreover, agent-based models are one of the most important theoretical tools to computationally model agents and the macro-level consequences of their interactions. If we aim to simulate the spread of the COVID-19, we can define a set of agents that interact in a network with certain characteristics (e.g. clustering) following specific rules provided by the theory (e.g. homophily). Thus, we can manipulate these rules and characteristics to determine how fast the virus could spread. The macro-level effects of interventions in the system, such as universal mask-wearing or social distancing, could be also estimated. In a nutshell, complexity sciences could complement and integrate existing methods in sociology to move forward the boundaries of our discipline. Let's use them!

Supplementary readings:

- Page, S. E. 2015. "What sociologists should know about complexity." *Annual Review of Sociology*, 41, 21-41.
- Sawyer, R. K. 2002. "Durkheim's dilemma: Toward a sociology of emergence." *Sociological Theory*, 20(2), 227-247.

PUBLICATIONS

Gan, Yumei. 2020. "Video analysis as research method: Looking backward and looking forward." *Journalism and Communication Studies*, 27(2), 25-41. [in Chinese] ([see the article](#))

Lai, Yintong and Eric Fong. 2020. "Work-related aggression in home-based working environment: Experiences of migrant domestic workers in Hong Kong." *American Behavioral Scientist*. Advanced Online. ([see the article](#))

My sub-field and the COVID-19 pandemic

Aging

Everyone is fragile, but not everyone is equally impacted by the transmission of COVID-19. Health inequality should be considered in response to the pandemic. Studies have shown that the fatality rate increases by age, and patients with poor immune function, including older adults, people with chronic co-morbidities, bear the highest risks of mortality. Moreover, older adults are more likely to endure mental health problems for lack of social contacts under social distancing policies. For people with functional disabilities or living in long-term facilities, their dependencies on caring services make self-quarantine impossible. Meanwhile, we need to pay special attention to low- and middle-income countries, which have most older adults in absolute terms in the world, and where the health care systems are weaker.

Chen Dan



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Social control

The modification of mask-wearing guidelines in western countries reflects how labels attached to people who wear masks have changed. The original label attached to mask-wearing people was patient status, which is a kind of deviance. In western culture, only sick people or people who care for sick persons should wear masks. Moreover, this is related to racial discrimination. Since the outbreak of the epidemic started in China, Asians who wear masks undergone stigmas and attacks. Wearing masks was attached with a negative label. Since the change of guidelines because of the evidence of asymptomatic carriers, people who wear masks are normal people who are considerate by protecting others from being infected. The meaning of wearing masks has changed because of “reactions of the majority” have changed. In this case,

scientific discourses own the definitional power to define what is regarded as normal or abnormal.

Link to background: Why don't westerners wear face masks? WHO and U.S. CDC's initial guidelines suggest that people do not need to wear masks unless they are sick or they are caring for sick persons. The inefficiency of protection and the shortage of masks are overt reasons for this direction. However, near the beginning of April, official guidelines changed. Now, the general public are suggested to wear masks and make homemade masks. This is due to the increasing evidence of the ability of “silent carriers” to transmit the virus. In China, many cases are found to be asymptomatic individuals.

Yao Wei

Cybercrime

The birth of technology has greatly influenced online connectivity; intensifying the use of internet and rapid growth in digital trade. Billions of people have access to the internet; moving trade transactions from physical interactions between sellers and buyers to cyberspace without requiring direct interactions. However, with this level of connectivity, the use of internet has become a double-edged sword, providing opportunities for individuals and businesses, and concurrently raising a spectre of new criminal activities, cybercrime.

With the wake of COVID-19 pandemic where everyone is trying to 'survive', but public gathering and physical interactions are almost banned everywhere, online buying has become the norm of the day. Millions of people engage in cyberspace for the basic necessities for survival. However, cybercriminals capitalize on the vulnerability of the innocents (panic buying, being ignorant, phishing, and smishing attack, etc.) trying to survive daily by buying health products, particularly, face masks. Americans have lost more than US\$13.4 million and in Hong Kong not less than HK\$200,000 a week, just to mention but few, since this pandemic.

Hence, as much as and as long as we try to overcome this pandemic and stay safe, each one of us should be vigilant in online transactions. There have been wolves among the sheep; cybercriminals shouldn't be allowed to have a field day. Together we will overcome; this one too shall pass!



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Teaching art online

The pandemic of coronavirus disease 2019 (COVID-19) spreading across the world has extensively influenced our schedules, habits, and lives. Teaching, mostly done in face-to-face configurations, were turned online through video-mediated communication technologies. For example, teaching art online is particularly challenging, given artistic classes often involve considerable coordination between materiality and body. I build on my own research on video-mediated communication to explore how teachers and young children coordinate with each other to achieve the transfer of artistic knowledge or experiences in the time of COVID-19.

Yumei Gan



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Causal inference

The pandemic COVID-19 is wreaking havoc all around the world. What can quantitative researchers in sociology do to help understand the social mechanisms underneath the calamity? Like the famous work by Klinenberg, E. (2015): "Heat wave: A social autopsy of disaster in Chicago", it's meaningful to compare the difference in infection and mortality rate among people and figure out the social determinants behind that, which may reveal the stretching inequality of opportunity in disasters. On the other hand, the pandemic as a shock can be regarded as a natural experiment to uncover causal relationships between many sociological variables, e.g., remote teaching and educational inequality, staying at home and family relations, among others. Many quantitative methods about causal inference can be applied with this shock, such as Regression Discontinuity Design (RD), Difference-in-Difference (DID), and Instrumental variables. Disaster is horrible, while we may understand the society more clearly through it and avoid any more misfortune.

Wang Peng



Photography from SCMP

Migrant domestic workers

Amid the current coronavirus outbreak, people are urged to remain at home to prevent the spread of the disease. However, for migrant domestic workers (MDWs) in Hong Kong who both work and reside at their employers' residence, staying "home" puts pressure on them, especially for those who do not have their own room, and it may leave them at risk of abusive behavior by their employers. Based on a recent survey¹, 40% of the 1,127 MDWs interviewed did not go out during the past month due to the pandemic. Almost 20% were deprived of rest days or got less than what they should get in the past month. The restrictions on leaving the house pose problems such as overworking, lack of rest and sleep, intrusion into private lives, prolonged isolation from community and family, and even abuse. Some MDWs also reported that they were asked to resign if they insisted on going outside.

Yingtong Lai

¹Asian Migrants Coordinating Body. 2020. *Result of the online survey on the Situation of Migrant Domestic Workers during COVID-19 outbreak*, March 16

ANNOUNCEMENTS

✓ **Publication opportunity:**

- Special Issue of Sociological Perspectives: COVID-19 and Society. **Deadline: May 21, 2020.** ([see the ad](#))

✓ **Job ads:**

- Postdoctoral Fellows - Renmin University of China. Applicants must submit their CV via email to postdoctor@ruc.edu.cn. **Deadline: May 11, 2020.** ([see the ad](#))
- Research Assistant Professor/Post-doctoral Fellow in the Department of Psychiatry at Hong Kong University. **Deadline: June 15, 2020.** ([see the ad](#))