

## **UC Merced**

# **Proceedings of the Annual Meeting of the Cognitive Science Society**

### **Title**

Folk theory of epidemics: insights from a 14-day diary study during COVID-19

### **Permalink**

<https://escholarship.org/uc/item/7t26p2j9>

### **Journal**

Proceedings of the Annual Meeting of the Cognitive Science Society, 43(43)

### **ISSN**

1069-7977

### **Authors**

Lu, Yilong  
Lu, Yangfan  
Han, Zhuo Rachel  
et al.

### **Publication Date**

2021

Peer reviewed

# Folk theory of epidemics: insights from a 14-day diary study during COVID-19

**Yilong Lu**

Peking University, Beijing, China

**Yangfan Lu**

Peking University, Beijing, China

**Zhuo Han**

Department of Psychology, Beijing Normal University, Beijing, China

**Shaozheng Qin**

Beijing Normal University, Beijing, China

**Xin Zhang**

Peking University, Beijing, Beijing, China

**Li Yi**

Peking University, Beijing, China

**Hang Zhang**

Peking University, Beijing, China

## Abstract

To cope with the pandemic, we need first to predict it. How does the human brain model epidemic dynamics? In February and March 2020, we conducted an online diary study, where each participant completed 14 days of predictions about the ongoing COVID-19 epidemic in China. Over 400 Chinese adults participated in our study, spanning a total of 40 days. On the group level, we find participants' predictions of the ending date of the epidemic are correlated with daily new cases. Modeling analysis shows that participants' predictions agree with a Gaussian process model that generalizes observed case numbers to the future by similarity-based function learning, but deviate from an ideal epidemic model. On the individual level, we find individuals' pandemic predictions are correlated with their psychological traits or states, such as future time perspective and negative emotions (anxiety, depression, and stress).