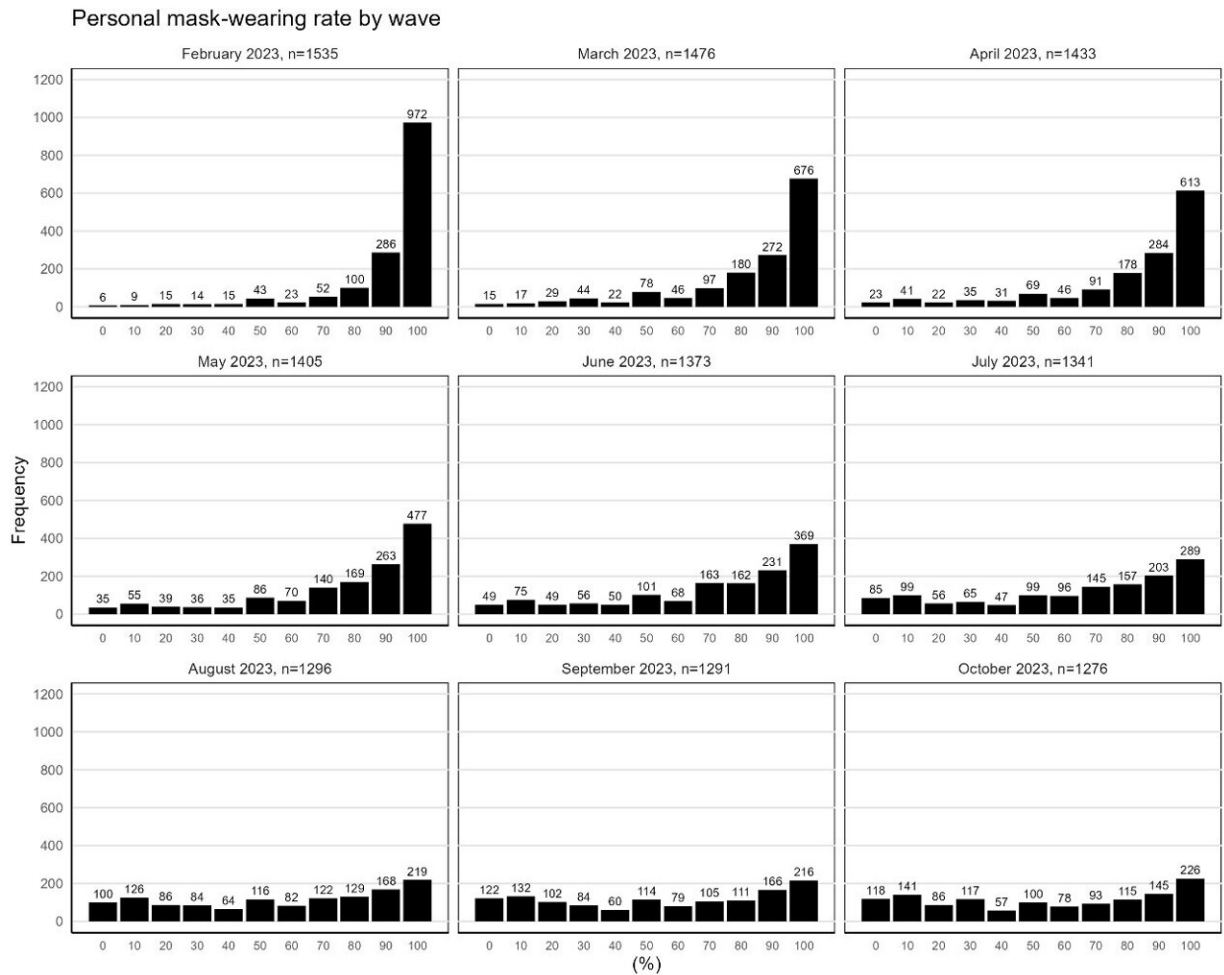# To mask or not to mask? Understanding public health behaviors during COVID-19

April 24 2024, by Professor Asako Miura

Personal mask-wearing rates (from February to October 2023). Credit: 2024 Asako Miura

Historically, we have tried to learn from our responses to large-scale health emergencies to prevent future health crises, but the factors influencing public health behavior are deeply complex.
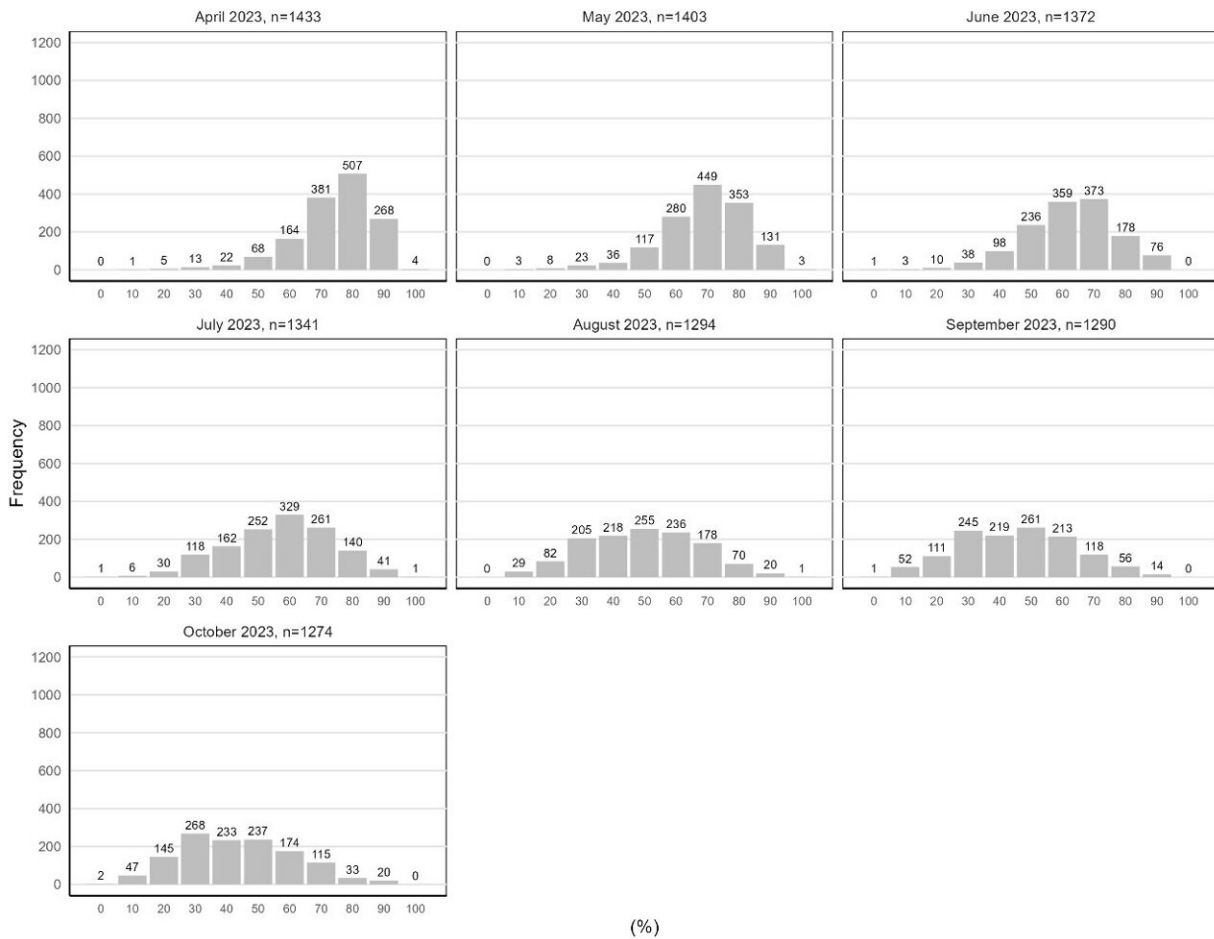
In a study recently [published](link) in *Japanese Psychological Research*, researchers from Osaka University examined how specific types of contextual changes, such as government recommendations and the perceived behaviors of others, influenced mask-wearing behavior during the COVID-19 pandemic. They examined the influence of two different types of social norms: injunctive norms and descriptive norms.

Injunctive norms relate to social standards about appropriate behaviors, such as legal regulations, while descriptive norms are based on ideas about the typical behaviors of others. Research has shown that these norms have played a critical role in encouraging people to engage in [preventative measures](link) during the COVID-19 pandemic.

However, little is known about how contextual changes modulate the influence of each norm on mask-wearing behavior, which the researchers at Osaka University aimed to address.

"We expected that individuals who were more motivated to conform with injunctive norms, referred to as system justification motivation, would be more likely to comply with government recommendations regarding mask wearing," says lead author of the study Asako Miura. "To verify this, we examined the impact of such [government recommendations](link) and the mask-wearing behavior of others on mask-wearing choices during the pandemic."

Estimated mask-wearing rates in Japan (from April to October 2023). Credit: 2024 Asako Miura
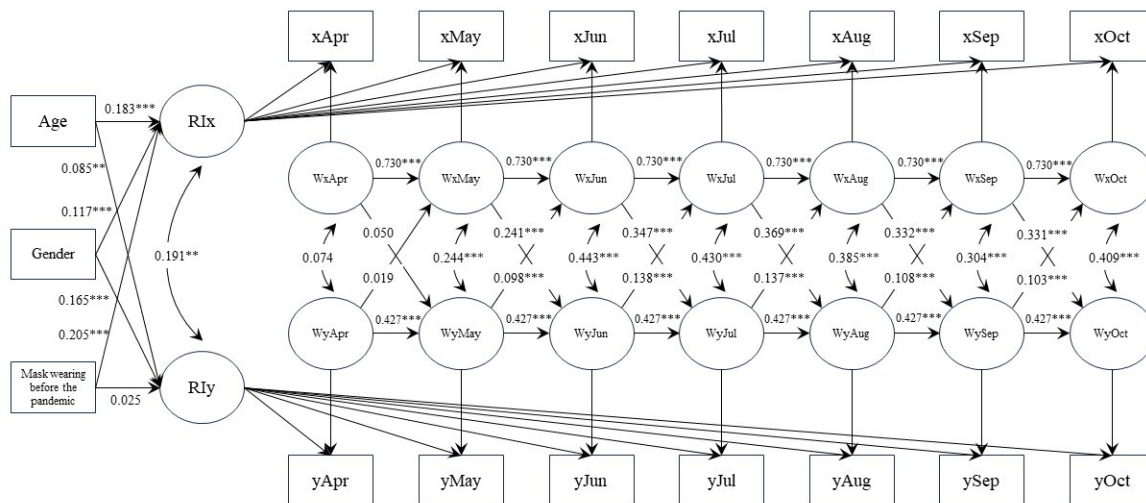
To do this, the researchers collected [survey data](link) from 1988 Japanese residents between February 2023 and October 2023. This period included significant moments of transition in injunctive norms, as well as the downgrading of COVID-19's classification under infectious disease law.

"The results were surprising," explains Hideya Kitamura, senior author.

"Contrary to our expectations, we found no [significant relationship](link) between system justification motivation and individual mask-wearing rates, before or after the relaxation of governmental recommendations in March 2023."

Furthermore, the relationship between descriptive norms and individual mask-wearing behavior was smaller than anticipated.

"We found that people in Japan, where mask wearing is a common behavior, continued to wear masks even after the public guidance was relaxed," says Miura. "Given the large number of social and psychological influences at play, the COVID-19 pandemic is an important case study for examining the complex influence of specific circumstances on social behavior.

Notes. RIx = Intercept of personal mask-wearing, RIy = Intercept of estimated societal mask-wearing rate, Wx = Within-person fluctuations of personal mask-wearing rate, Wy = Within-person fluctuations of estimated societal mask-wearing rate, xApr–xOct are personal mask-wearing rate in April–October 2023, yApr–yOct are estimated societal mask-wearing in April–October 2023; *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Goodness of fit index: $\chi^2(103) = 545.440$, $p < .001$, $CFI = 0.974$, $TLI = 0.966$, $RMSEA = 0.054$, $SRMR = 0.045$

Random intercept cross-lagged panel model showing temporal changes in the association between mask-wearing behavior and descriptive norms. Credit: 2024

Asako Miura

The techniques used in this study were able to reveal the intricacy of the relationship between mask-wearing behavior and [social norms](#) during the COVID-19 public health crisis, both in terms of system justification motivation and the mask-wearing behavior of others.

Furthermore, this study contributes to our understanding of factors influencing compliance and behavioral adaptation in public health in a [pandemic](#) context. These factors should be considered when developing future public health strategies.

More information: Asako Miura et al, Behind the Mask: Analyzing the Dual Influence of Social Norms on Pandemic Behavior in Japan1, *Japanese Psychological Research* (2024). [DOI: 10.1111/jpr.12520](#)

Provided by Osaka University

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