

Effects of personal attributes, risk perception and risk literacy on COVID-19 vaccination

Daisuke Kudo (Tokaigakuin University) & Yang Li (Nagoya University)

mail: dkudo@tokaigakuin-u.ac.jp, URL: <http://dicek.net/>



Background

- a. Vaccination has been progressing under the COVID-19 pandemic.
- b. Vaccination may play a role in controlling COVID-19 pandemics, but negative attitudes toward vaccines are as prevalent as they have been for other vaccines (e.g., influenza).
- c. According to the IPSOS (2020) international survey, Japan ranked 4th highest aversive attitude among the countries participating in the survey, following Russia and France.
- d. Some previous studies focused on the attributes of participants (Tsuchida et al., 2021), and others examined them from the perspective of social class and personality (Murphy et al., 2021), but the total number of such studies is small.

Objectives

- a. Based on previous research on reputational risks after the Tohoku Earthquake (Kudo and Nakayachi, 2014), in this study, we considered the aversive attitude toward vaccination as overestimation of risk.
- b. We focused on risk perception and risk literacy based on the dual process theory (e.g., Stanovich & West, 2001) and its related theories.
- c. The purpose of this study is to examine the impact of these factors (e.g., risk perception of COVID-19/COVID-19 vaccine, optimism, risk aversion, knowledge of COVID-19 vaccine, risk literacy) on vaccination.

Methods

- a. In December 2020, when the discussion of vaccination among Japan attracted attention, we conducted an online survey of 425 Japanese general adults.
- b. Independent variables included demographic variables, risk perception of COVID-19 infection, risk perception of the COVID-19 vaccine, optimism about COVID-19, risk aversion, and risk literacy.
- c. Dependent variable is intention to vaccinate with COVID-19 vaccine.

Results & Discussions

Variables	β	95% Lower	95% Upper	VIF
Gender	.008	-0.085	0.102	1.373
Age	.019	-0.081	0.119	1.516
Residence Area	.000	-0.075	0.074	1.036
Education	-.018	-0.092	0.057	1.089
Marital Status	.093+	-0.015	0.200	2.402
Child/Children	.046	-0.061	0.153	2.281
Income	.036	-0.048	0.119	1.280
Use of public transportation	.056	-0.021	0.133	1.105
Risk perception of COVID-19	.066	-0.050	0.182	2.436
Knowledge of COVID-19 Vaccine	-.038	-0.120	0.043	1.199
Risk perception of COVID-19 Vaccine	-.589**	-0.668	-0.511	1.193
Media contact	.067+	-0.013	0.146	1.193
Optimism for COVID-19	-.189**	-0.300	-0.077	2.459
Risk aversion	-.080*	-0.158	-0.003	1.116
Risk literacy: Zero risk	-.017	-0.133	0.100	2.180
Risk literacy: Benefit tradeoff	.122*	0.020	0.225	1.427
Risk literacy: Risk tradeoff	.078	-0.024	0.181	1.345
Risk literacy: Risk paradox	-.053	-0.142	0.037	1.616
Risk literacy: Basic knowledge	.083+	-0.009	0.175	1.334
Risk literacy: Risk bias	-.063	-0.179	0.054	2.000

$R^2 = .449^{**}$

† $p < .10$, * $p < .05$, ** $p < .01$

- a. Risk perception of COVID-19 did not directly promote vaccination intention, but risk perception of the vaccine suppressed vaccination intention.
- b. In terms of risk literacy, the more basic knowledge one has on risk, and the more familiar one is with the trade-off between risk and benefit, the higher the vaccination intention is.
- c. Optimism for COVID-19 and perceived risk of the vaccine were suggested as negative incentive for COVID-19 vaccination.