Framing & Covid-19 Vaccine Hesitancy: Experimental Evidence from India

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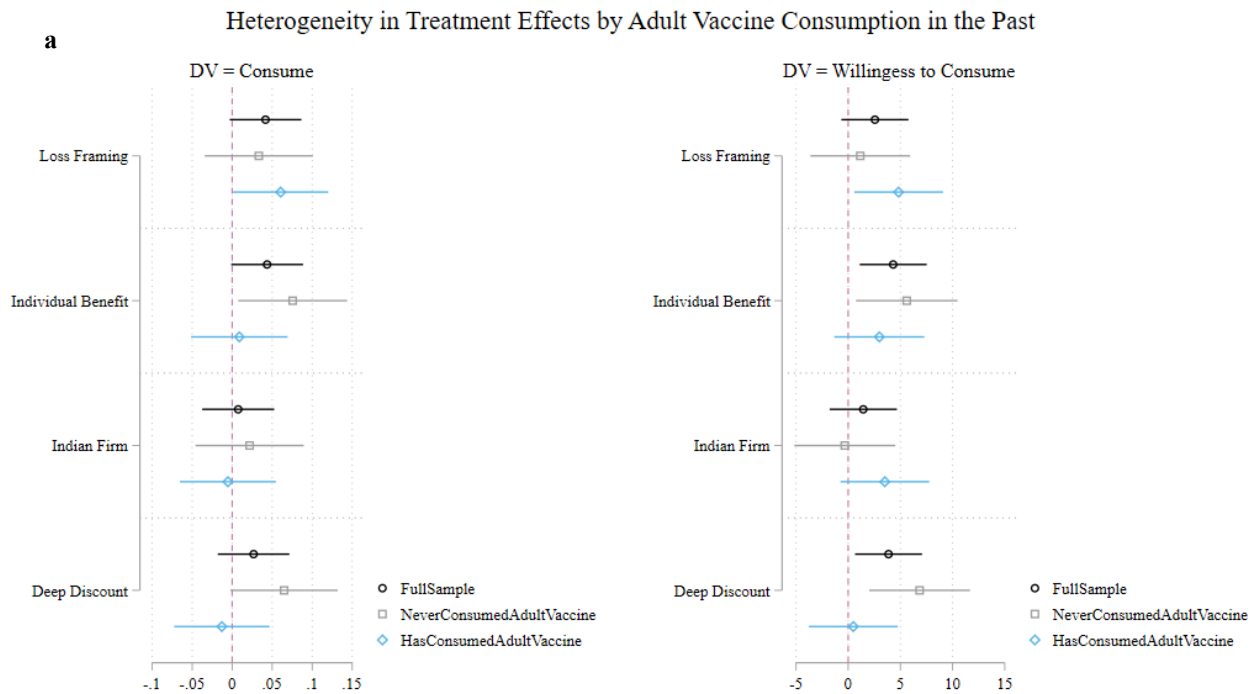
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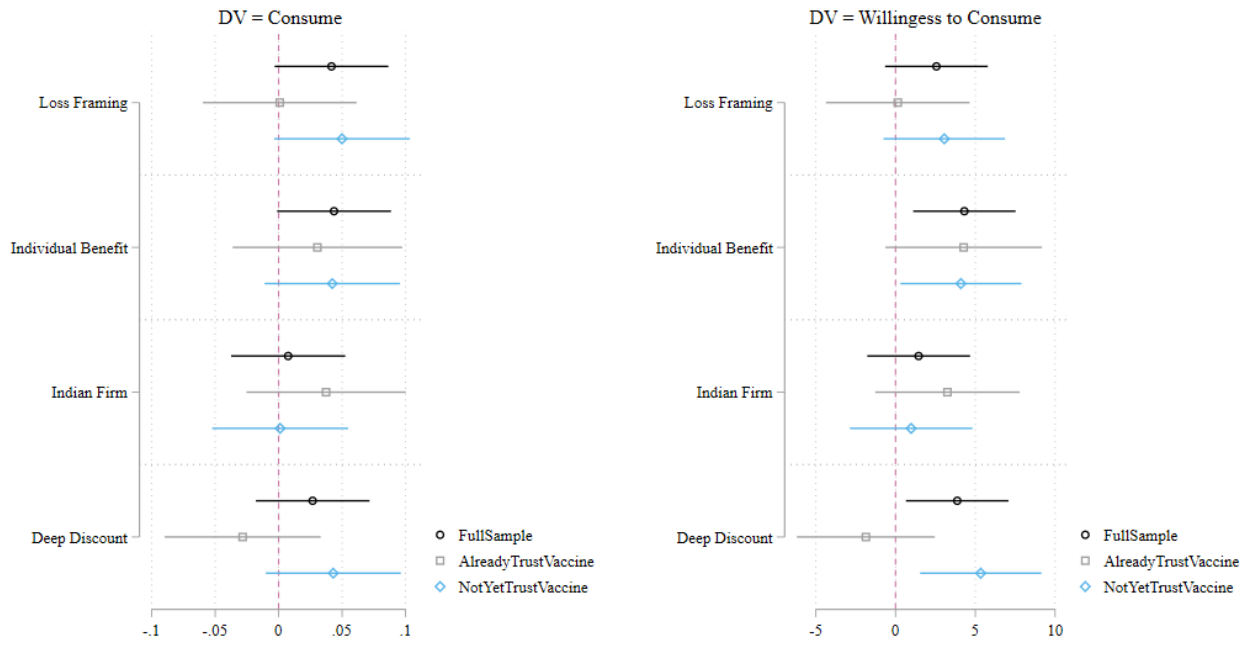
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Supplementary Material

Figure S1. Estimates of Heterogeneity in Treatment Effects

b

Heterogeneity in Treatment Effects by Trust in Vaccine

DV = Consume

DV = Willingess to Consume
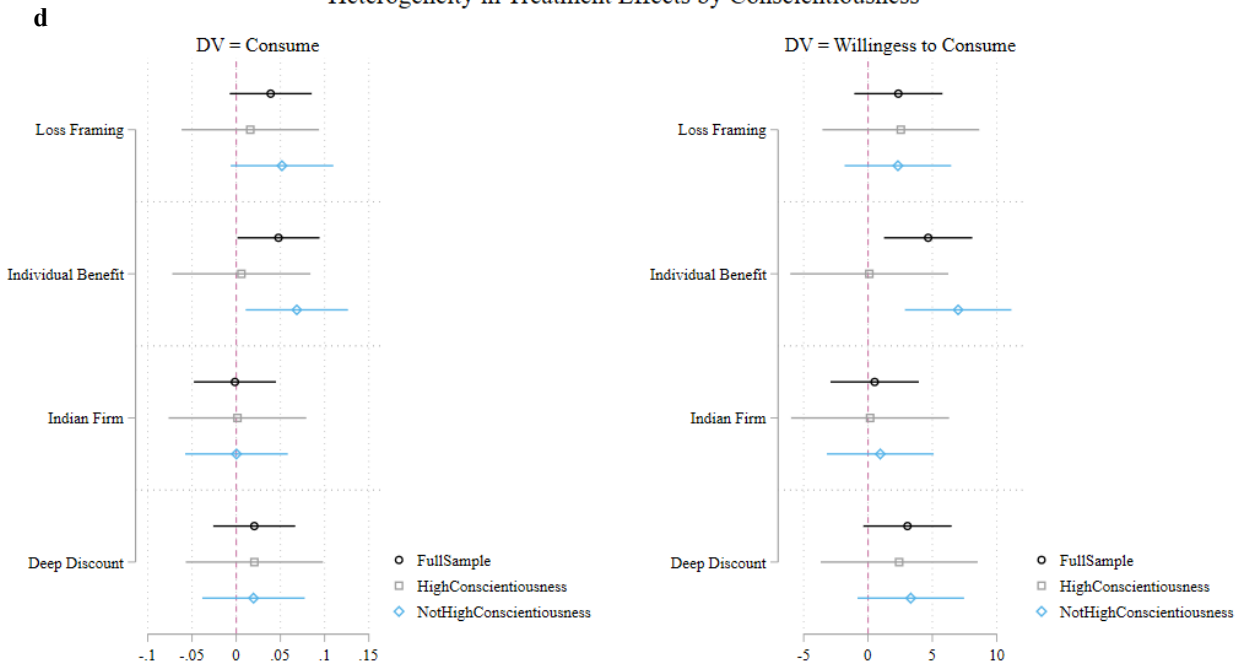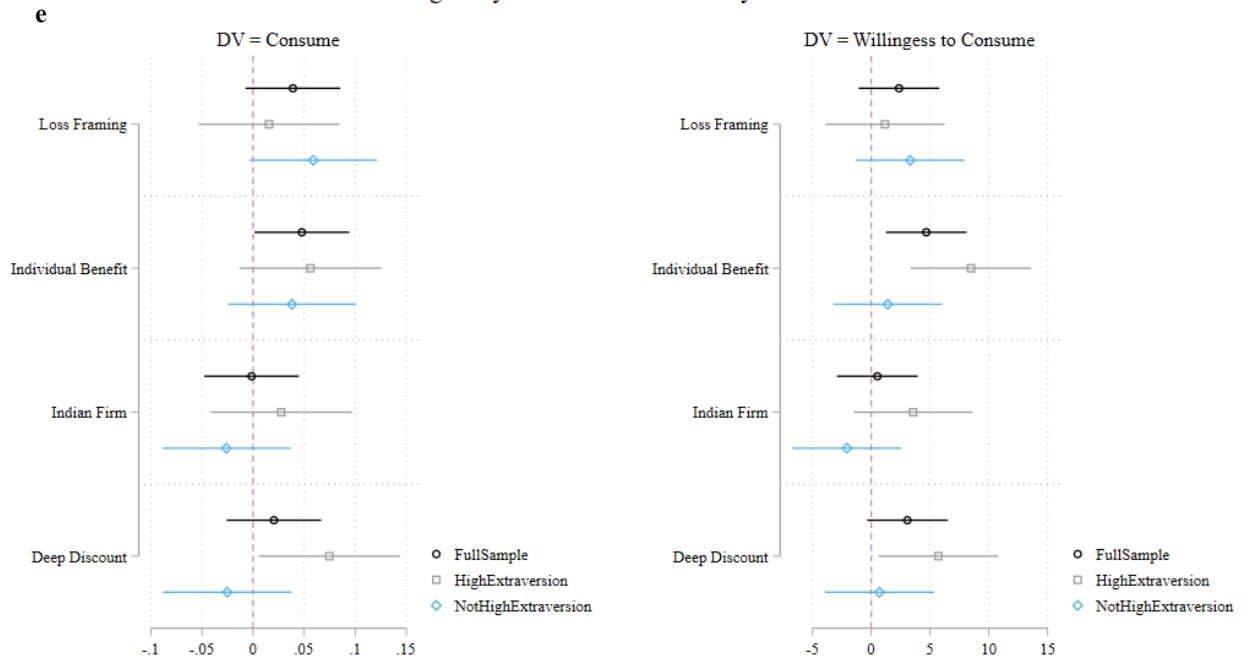
○ FullSample
□ AlreadyTrustVaccine
◇ NotYetTrustVaccine

Heterogeneity in Treatment Effects by Agreeableness
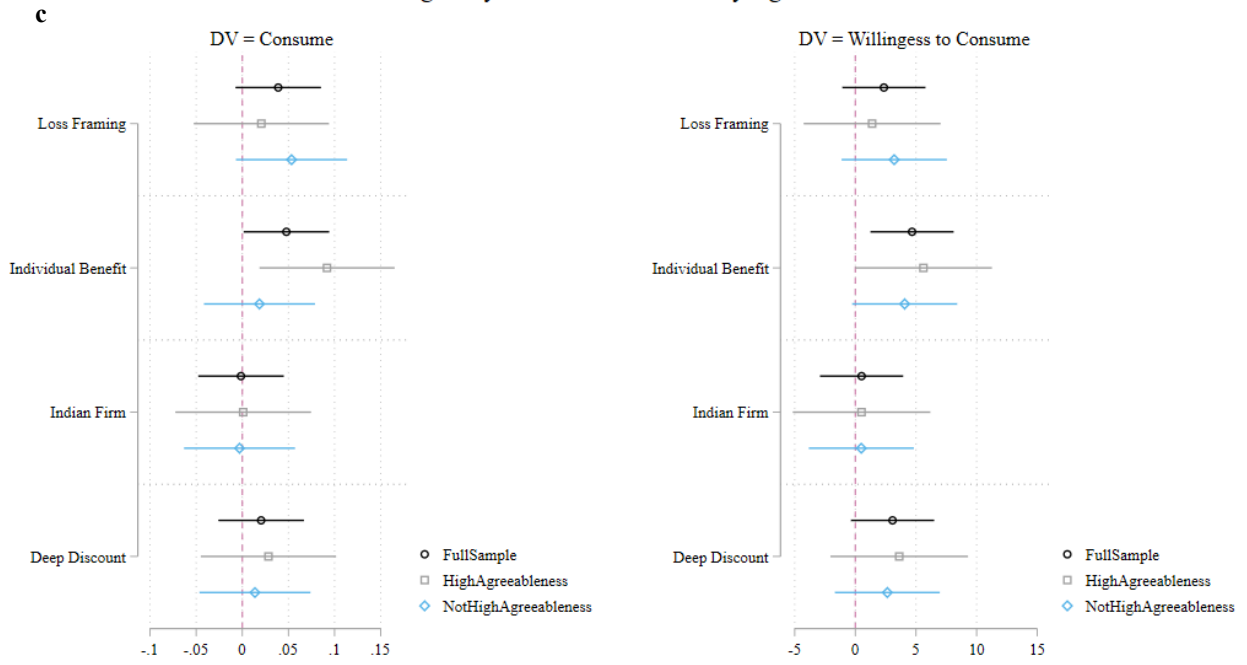
Heterogeneity in Treatment Effects by Conscientiousness

Heterogeneity in Treatment Effects by Extraversion

e

DV = Consume

DV = Willingess to Consume

Legend (left): ○ FullSample · □ HighExtraversion · ◇ NotHighExtraversion

Legend (right): ○ FullSample · □ HighExtraversion · ◇ NotHighExtraversion

Heterogeneity in Treatment Effects by Emotional Stability

f

DV = Consume

DV = Willingess to Consume

Legend (left): ○ FullSample · □ HighEmotionalStability · ◇ NotHighEmotionalStability

Legend (right): ○ FullSample · □ HighEmotionalStability · ◇ NotHighEmotionalStability
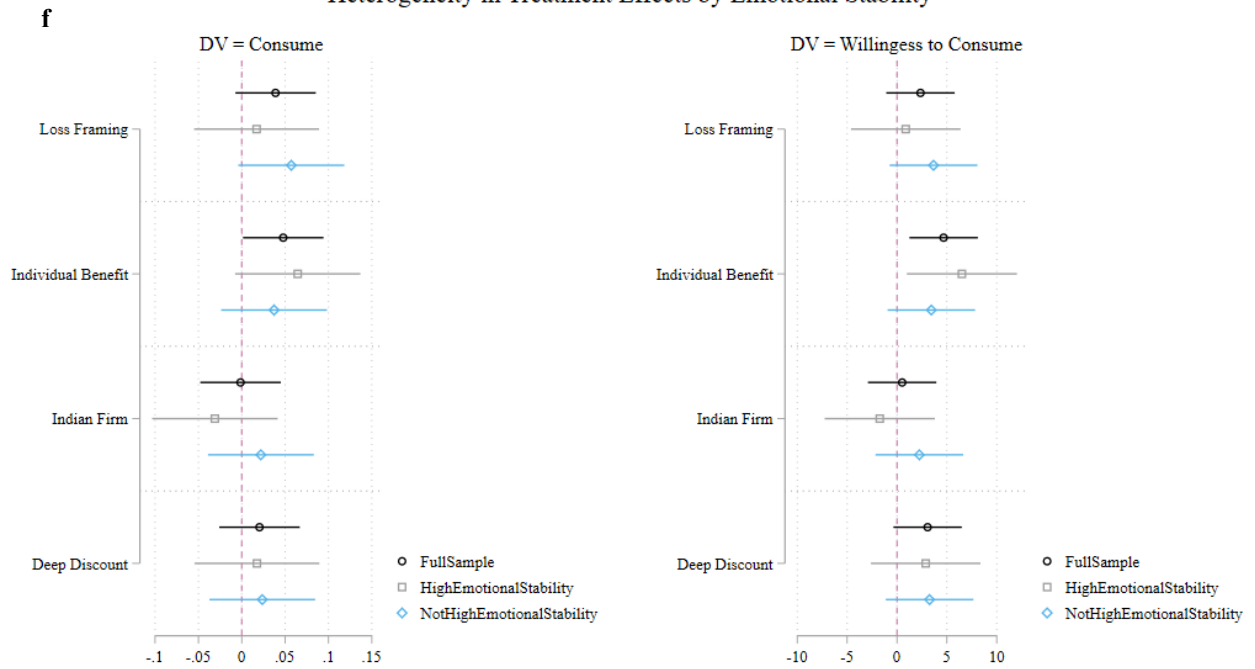
Heterogeneity in Treatment Effects by Openness to Experiences

g

DV = Consume

DV = Willingess to Consume
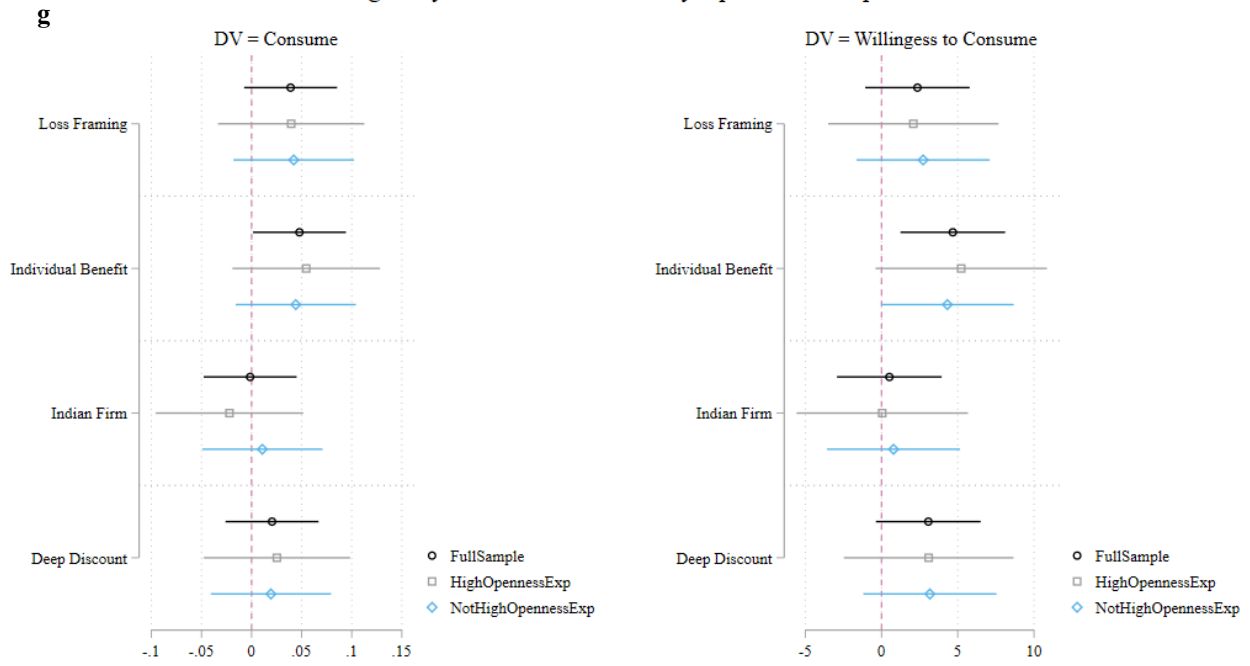
Heterogeneity in Treatment Effects by Education

h

DV = Consume

DV = Willingess to Consume
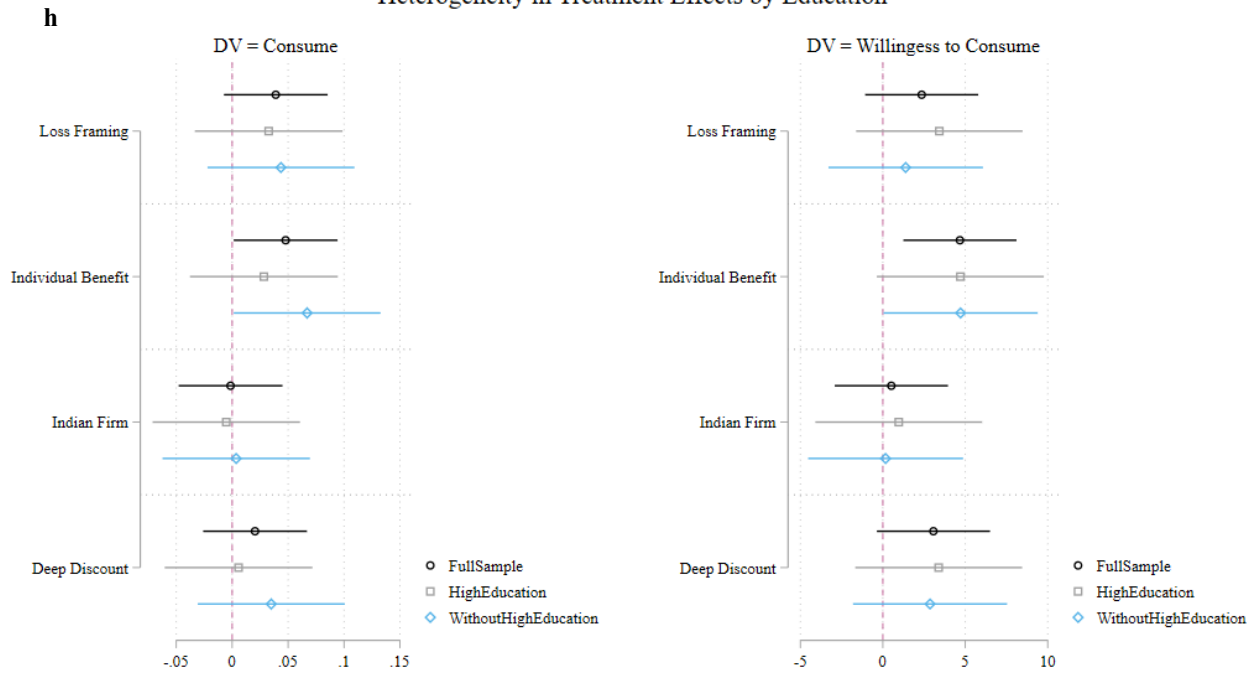
i

Heterogeneity in Treatment Effects by Young vs Old

DV = Consume

DV = Willingess to Consume
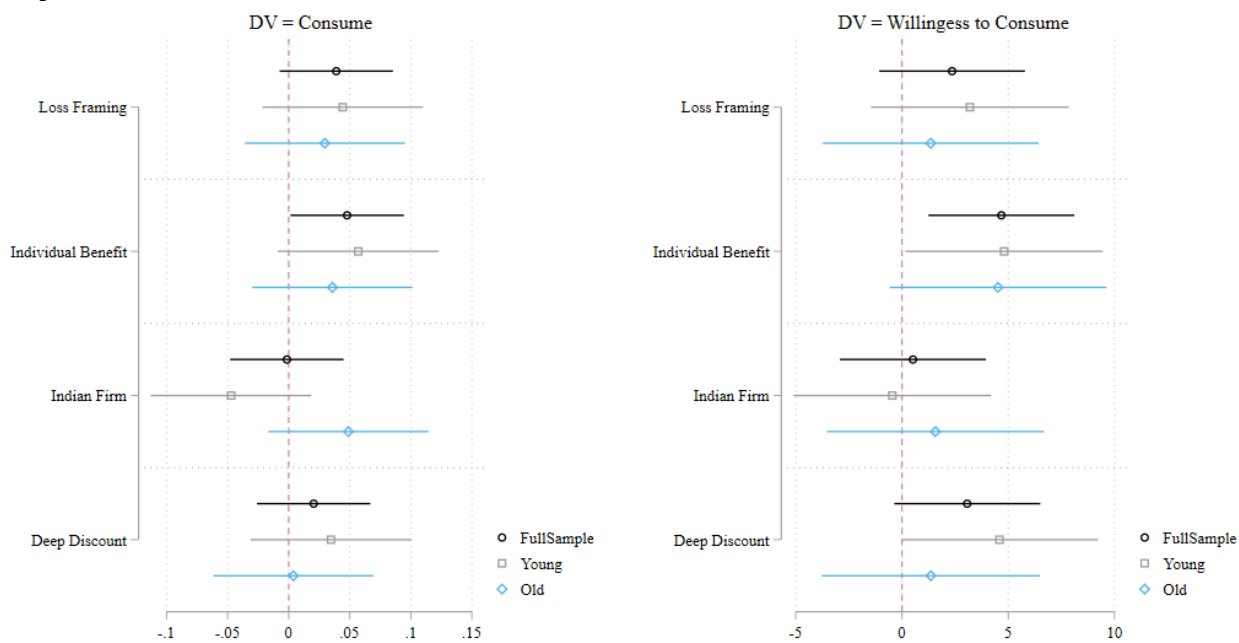
j

Heterogeneity in Treatment Effects by Gender

DV = Consume

DV = Willingess to Consume
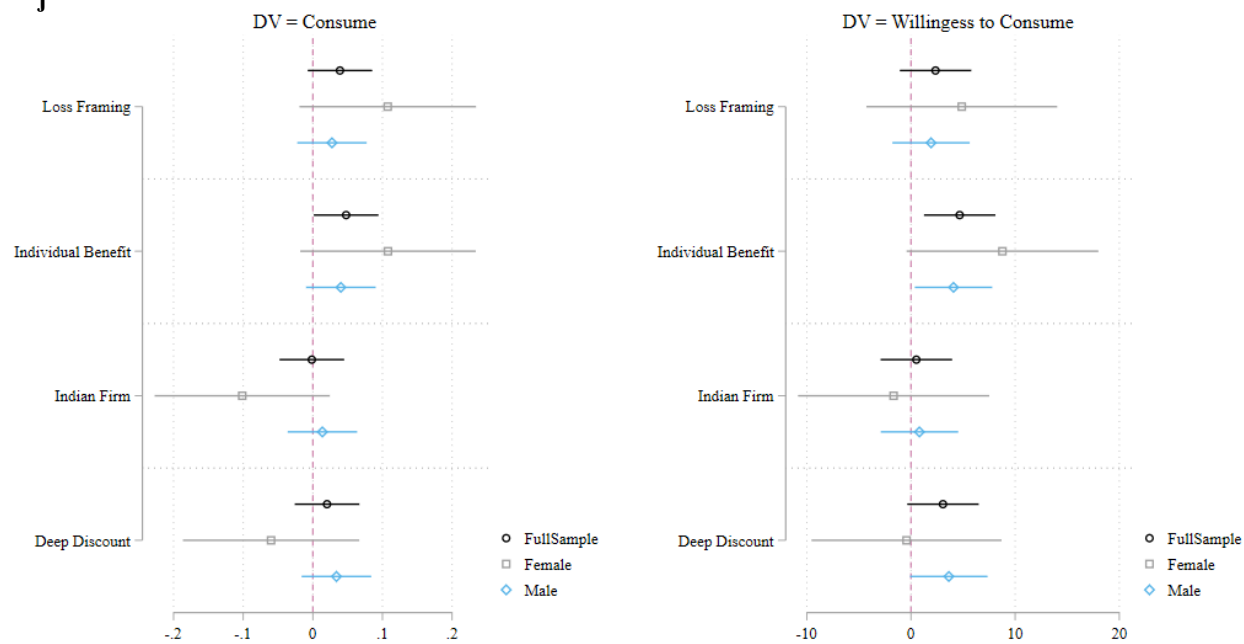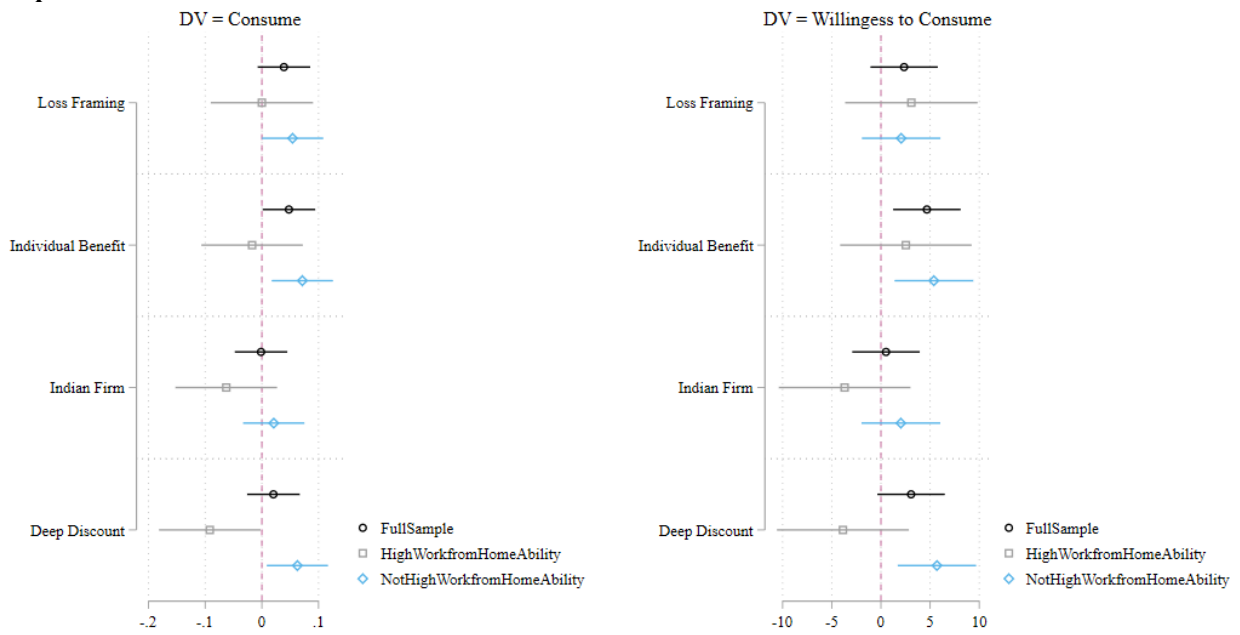
Heterogeneity in Treatment Effects by Exposure to COVID-19
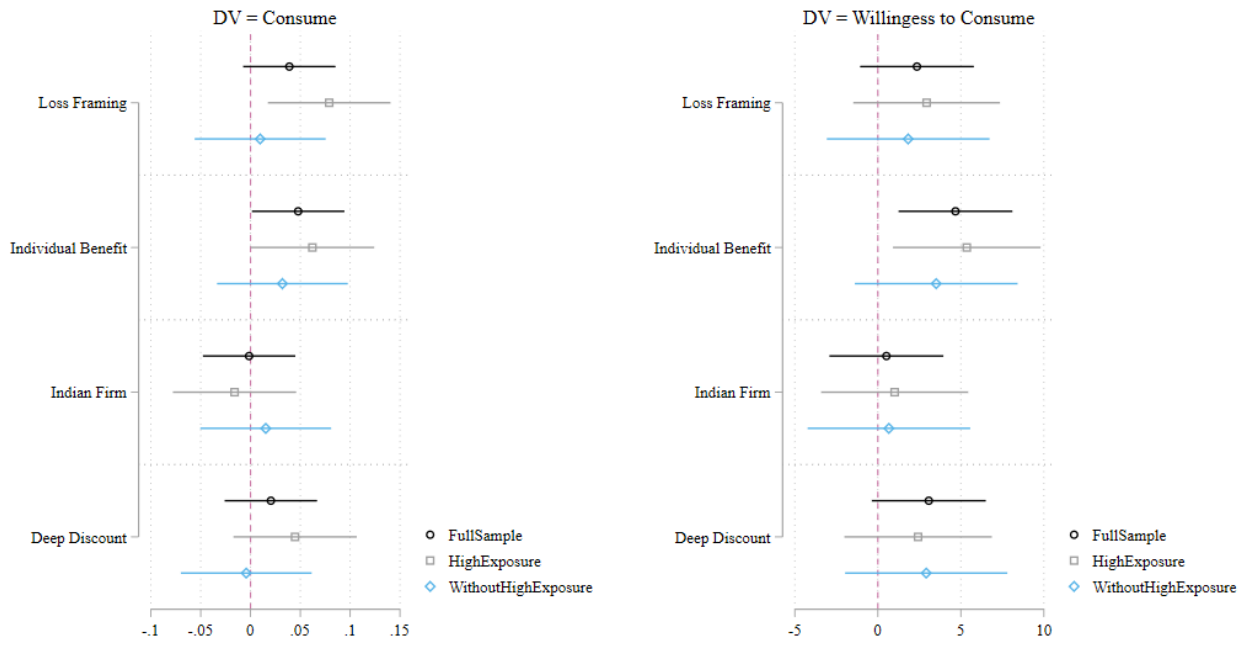
Heterogeneity in Treatment Effects by Work from Home Ability

Notes. Plots show the coefficient estimates with 90 % confidence intervals obtained from OLS regression models.

Table S1. Variables Description

Variables	Description
Consume	Indicator set to 1 if the participant stated that she or he will consume the COVID-19 vaccine, and 0 if the participant stated that she or he will not consume the COVID-19 vaccine
Willingness to Consume	Participant's willingness to consume the COVID-19 vaccine on a scale from 0 to 100, where 100 refers to 100% willingness to consume the vaccine
Loss Framing	Indicator set to 1 if the participant received loss framing message, and 0 if the participant received gain framing message
Individual Benefit	Indicator set to 1 if the participant received individual benefit emphasis message, and 0 if the participant received societal benefit emphasis message
Indian Firm	Indicator set to 1 if the participant received a message stating an Indian firm, and 0 if the participant received a message stating an American firm
Deep Discount	Indicator set to 1 if the participant received a message with 80% discount, and 0 if the participant received a message with 20% discount
Age	Age in years
Female	Indicator set to 1 if the participant is female, and 0 otherwise
High Education	Indicator set to 1 if the participant's highest educational degree is a Master's degree, a Doctoral degree, or a Professional degree (JD, MD), and 0 otherwise
Duration	Survey completion time in minutes
Never Consumed Adult Vaccine	Indicator set to 1 if the participant has never consumed any adult vaccine in the past
Already Trust Vaccine	Indicator set to 1 if the participant already trusts the vaccine
Current Exposure to COVID-19	Current exposure to COVID-19 from 0 to 100, where 0 denotes minimum exposure and 100 denotes maximum exposure
Work from Home Ability	Participant's assessment of their work type enabling an ability to work from home on a scale from 1 to 7, where 1 denotes the work cannot be done from home and 7 denotes the work can be done from home
Extraversion	Participant's extraversion measured on a 1 to 7 scale using the ten-item personality inventory
Agreeableness	Participant's agreeableness measured on a 1 to 7 scale using the ten-item personality inventory
Conscientiousness	Participant's conscientiousness measured on a 1 to 7 scale using the ten-item personality inventory
Emotional Stability	Participant's emotional stability measured on a 1 to 7 scale using the ten-item personality inventory
Openness to Experiences	Participant's openess to experiences measured on a 1 to 7 scale using the ten-item personality inventory

Notes. The table describes the key variables used in the study.

Table S2. Average Treatment Effects using OLS Regression Models

Variables	(1) OLS Consume	(2) OLS Consume	(3) OLS Consume	(4) OLS Consume	(5) OLS Consume	(6) OLS Willingness to Consume	(7) OLS Willingness to Consume	(8) OLS Willingness to Consume	(9) OLS Willingness to Consume	(10) OLS Willingness to Consume
Loss Framing	0.038 (0.111)				0.039* (0.099)	2.192 (0.211)				2.357 (0.178)
Individual Benefit		0.047** (0.046)			0.048** (0.043)		4.662*** (0.008)			4.676*** (0.008)
Indian Firm			-0.001 (0.959)		-0.001 (0.952)			0.557 (0.751)		0.517 (0.768)
Deep Discount				0.020 (0.409)	0.020 (0.388)				3.020* (0.085)	3.070* (0.080)
Constant	0.723*** (0.000)	0.718*** (0.000)	0.743*** (0.000)	0.732*** (0.000)	0.689*** (0.000)	70.120*** (0.000)	68.883*** (0.000)	70.939*** (0.000)	69.691*** (0.000)	65.892*** (0.000)
Observations	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365
R-squared	0.002	0.003	0.000	0.001	0.005	0.001	0.005	0.000	0.002	0.009

Notes. Heteroskedasticity-robust standard errors; exact p-values are reported in parentheses; two-tailed tests have been used. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table S3. Average Treatment Effects using Logit and Tobit Regression Models

Variables	(1) Logit Consume	(2) Logit Consume	(3) Logit Consume	(4) Logit Consume	(5) Logit Consume	(6) Tobit Willingness to Consume	(7) Tobit Willingness to Consume	(8) Tobit Willingness to Consume	(9) Tobit Willingness to Consume	(10) Tobit Willingness to Consume
Loss Framing	0.197				0.205*	3.680				3.933
	(0.112)				(0.099)	(0.177)				(0.147)
Individual Benefit		0.247**			0.251**		7.491***			7.492***
		(0.046)			(0.044)		(0.006)			(0.006)
Indian Firm			-0.006		-0.008			1.112		1.121
			(0.959)		(0.951)			(0.683)		(0.680)
Deep Discount				0.102	0.107				4.498*	4.540*
				(0.409)	(0.387)				(0.099)	(0.095)
Constant	0.961***	0.937***	1.060***	1.006***	0.786***	78.261***	76.359***	79.549***	77.824***	71.544***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365

Notes. Heteroskedasticity-robust standard errors; exact p-values are reported in parentheses; two-tailed tests have been used. *** p<0.01, ** p<0.05, * p<0.1.

Table S4. Average Treatment Effects excluding Outliers based on Task Completion Duration

Variables	(1) OLS Consume	(2) Logit Consume	(3) OLS Willingness to Consume	(4) Tobit Willingness to Consume
Loss Framing	0.035	0.179	2.078	3.543
	(0.167)	(0.167)	(0.263)	(0.217)
Individual Benefit	0.042*	0.214*	4.228**	6.977**
	(0.100)	(0.100)	(0.023)	(0.015)
Indian Firm	-0.001	-0.008	0.707	1.247
	(0.953)	(0.951)	(0.704)	(0.664)
Deep Discount	0.029	0.152	2.941	4.248
	(0.242)	(0.242)	(0.114)	(0.139)
Constant	0.683***	0.756***	65.587***	71.094***
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	1,229	1,229	1,229	1,229
R-squared	0.005		0.007	

Notes. Heteroskedasticity-robust standard errors; exact p-values are reported in parentheses; two-tailed tests have been used. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Number of observations is 1,229 instead of 1,365 because outliers (i.e., respondents who took less time than 5th percentile or more time than 95th percentile) have been dropped from this additional analysis (in accordance with the preregistered plan).