

Supplementary Information for

Scarcity, Cognition, and Health Decision-Making: Evidence from a Lab-in-the-Field Experiment in Rural China

Haiou Zhu, Fangzhou You, E Liu, Thorsten Gruber, Hua Dong, Cees De Bont

Corresponding author: Haiou Zhu (haiou.zhu@psych.ox.ac.uk)

This PDF file includes:

Tables S1 to S9
Materials and Methods

Tables

Table S1. Participant characteristics and balance check

	Yunnan		Shaanxi		Yunnan	Shaanxi
	Easy (n=130)	Hard (n=134)	Easy (n=110)	Hard (n=105)	p-value	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Individual Characteristics</i>						
Gender					0.22	0.33
Male	64 (49.2%)	76 (56.7%)	47 (42.7%)	38 (36.2%)		
Female	66 (50.8%)	58 (43.3%)	63 (57.3%)	67 (63.8%)		
Age					0.72	0.32
18-30	15 (11.5%)	10 (7.5%)	15 (13.6%)	9 (8.6%)		
31-40	18 (13.8%)	20 (14.9%)	10 (9.1%)	5 (4.8%)		
41-50	26 (20.0%)	33 (24.6%)	18 (16.4%)	16 (15.2%)		
51-60	26 (20.0%)	29 (21.6%)	27 (24.5%)	37 (35.2%)		
61 and above	45 (34.6%)	42 (31.3%)	40 (36.4%)	38 (36.2%)		
Education					0.30	0.002***
Illiterate	29 (22.3%)	20 (14.9%)	7 (6.4%)	22 (21.0%)		
Primary school	49 (37.7%)	52 (38.8%)	29 (26.4%)	34 (32.4%)		
Middle school	24 (18.5%)	28 (20.9%)	56 (50.9%)	43 (41.0%)		
High school	11 (8.5%)	20 (14.9%)	11 (10.0%)	5 (4.8%)		
Undergraduate and above	17 (13.1%)	14 (10.4%)	7 (6.4%)	1 (1.0%)		
Source of Income					0.027**	0.24
Migrant Works	35 (26.9%)	49 (36.6%)	40 (36.4%)	47 (44.8%)		
Farming	24 (18.5%)	21 (15.7%)	31 (28.2%)	21 (20.0%)		
No Income	30 (23.1%)	14 (10.4%)	24 (21.8%)	17 (16.2%)		
Other sources	41 (31.5%)	50 (37.3%)	15 (13.6%)	20 (19.0%)		
Frequency of Payments					0.32	0.33
Monthly	64 (49.2%)	78 (58.2%)	15 (13.6%)	19 (18.1%)		
Every Three/Six Months	4 (3.1%)	1 (0.7%)	16 (14.5%)	5 (10.5%)		
Annually	4 (3.1%)	4 (3.0%)	8 (7.3%)	12 (11.4%)		
Unfixed	58 (44.6%)	51 (38.1%)	71 (64.5%)	63 (60.0%)		
Annual income	25528.40 (28328.93)	30416.56 (27421.11)	9916.20 (14670.67)	7477.33 (10176.88)	0.16	0.17
Days since last payment	31.69 (30.30)	31.05 (48.69)	96.28 (75.24)	93.03 (73.41)	0.90	0.79
Amount of last payment	3162.50 (3113.28)	2826.39 (2851.43)	2592.36 (5722.44)	2328.86 (2941.57)	0.36	0.67
<i>Household Characteristics</i>						
Household size	4.84 (1.67)	4.66 (1.80)	4.64 (1.52)	4.70 (2.00)	0.40	0.78
Annual household income	57370.00 (38076.88)	61505.12 (41114.03)	25043.06 (26902.27)	23050.00 (22942.83)	0.40	0.56
Annual household income per adult	26502.79 (18122.71)	28813.07 (19241.53)	11703.18 (12568.07)	10881.14 (10515.08)	0.32	0.61
Household debt (>50% of annual household income)					0.73	0.12
Yes	60 (46.2%)	59 (44.0%)	49 (44.5%)	36 (34.3%)		
No	70 (53.8%)	75 (56.0%)	61 (55.5%)	69 (65.7%)		
Physical examination					0.66	0.04**
Yes	82 (63.1%)	88 (65.7%)	38 (34.5%)	23 (21.9%)		
No	48 (36.9%)	46 (34.3%)	72 (65.5%)	82 (78.1%)		

Table 1. Participant characteristics and balance check. Note: Pearson's chi-squared test for binary variables, Fisher's exact test for categorizable variables and two sample t test for continuous variables. All variables include full samples (Yunnan: n=264; Shaanxi: n=215) except for the following variables: days since last payment and amount of last payment restricted to subjects who report their days since payment fewer than 365 days (Yunnan: n=262; Shaanxi: n=154). Annual household income per adult is computed by dividing total annual household income by the square root of household size.

Table S2. Manipulation check

Scenarios and questions	Mean for Hard Scenario		{Easy Scenario}			
	Coefficient		P-value			
	Yunnan	Shaanxi	Yunnan	Shaanxi	Yunnan	Shaanxi
	(1)	(2)	(3)	(4)	(5)	(6)
Scenario 1: Raise money in one week. Imagine that an unforeseen event requires of you an immediate (¥20000/¥1000) expense. You need to raise the money in less than a week.						
Are there ways in which you may be able to raise the money in one week? (Yes/No)	1.43	1.72	-.27	-.39	<.001***	<.001***
To what extent do you agree with the following statements: (a) "Coming up with (¥20000/¥1000) on a very short notice would cause me long-lasting financial hardship."	2.99	3.76	-.52	-.60	.007**	.003**
(b) "Coming up with (¥20000/¥1000) on a very short notice would require me to make sacrifices that have long-term consequences."	3.24	3.93	-.72	-.39	<.001***	.041**
Scenario 2: Income decrease shock. Imagine that the economy is going through difficult times. The income in your family decreases by (50%/5%). To what extent do you agree with the following statements:						
(a) "Given my situation, I would be able to maintain roughly the same lifestyle under those new circumstances."	2.11	2.70	1.51	.56	<.001***	.003**
(b) "The (50%/5%) decrease in our income would strongly impact our daily life."	3.95	3.95	-1.64	-.83	<.001***	<.001***
Scenario 3 Healthcare increase shock. Imaging that due to serve illness, there is an increase in the monthly cost of healthcare by (¥2000/¥100) for your family, which amounts to a total cost increase of (¥24000/¥1200) a year. This increase is not reimbursable by any government funding scheme.						
Would it be difficult to afford healthcare? (Yes/No)	1.32	1.10	.44	.31	<.001***	<.001***
To what extent do you agree with the following statements: (a) "Paying additional (¥2000/¥100) a month for healthcare would require difficult budget cuts and sacrifices every month."	3.87	3.89	-1.42	-.92	<.001***	<.001***
(b) "Paying additional (¥2000/¥100) a month for healthcare would be too costly and it would probably result in forgoing going to the hospital."	3.46	3.86	-1.09	-.88	<.001***	<.001***
Joint test					<.001***	<.001***

Notes: The table investigates hard-easy differences in the primed financial worries measured with 5-item Likert scale, except for two questions with dichotomy answers (yes/no). Columns (1)-(2) show means of perceived worries for the Hard group and Columns (3)-(4) show the coefficient between the Hard and Easy groups. Columns (5)-(6) report the *p*-value of Pearson chi square test for dichotomous questions or t-tests for Likert scale measurements; *** *p*<0.01, ** *p*<0.05, * *p*<0.1.

Table S3. Effects of priming, annual income and distance to payday on cognitive function

	-8.40*** (2.81)	Raven's Progressive Matrices Accuracy			
		Yunnan			Shaanxi
Hard		-8.63*** (2.88)	-7.76** (3.58)	1.20 (3.63)	3.29 (4.18)
Annual income		-1.83 (2.68)			2.63 (3.99)
Hard # Annual income		1.50 (2.43)			3.03 (5.55)
Days since last payment			-3.04 (5.68)		-1.98 (2.93)
Hard # Days since last payment			0.90 (5.66)		1.30 (3.72)
Constant	76.92*** (7.65)	75.96*** (7.56)	74.56*** (8.87)	62.10*** (9.48)	60.32*** (10.33)
Observations	264	263	262	215	209
Adjusted R^2	0.471	0.474	0.464	0.218	0.202
Controls	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

* p < 0.10, ** p < 0.05, *** p < 0.01

Table S4.1 Descriptive results for all outcome variables (Yunnan)

Factor	Easy	Hard	p-value	Test
N	130	134		
Worry about raising money within a week (Yes/No)	21 (16.2%)	58 (43.3%)	<0.001	Pearson's chi-squared
Mean value of Worry1, mean (SD)	2.50 (1.36)	3.12 (1.57)	<0.001	Two sample t
Mean value of Worry2, mean (SD)	2.34 (1.00)	3.92 (1.19)	<0.001	Two sample t
Worry about paying for medical expenses (Yes/No)	31 (23.8%)	91 (67.9%)	<0.001	Pearson's chi-squared
Mean value of Worry3, mean (SD)	2.41 (1.25)	3.66 (1.28)	<0.001	Two sample t
Total Worry Score, mean (SD)	2.42 (1.01)	3.57 (1.12)	<0.001	Two sample t
Raven's Progressive Matrices Score, mean (SD)	7.38 (3.60)	6.55 (3.61)	0.062	Two sample t
Raven's Progressive Matrices Accuracy, mean (SD)	61.54 (29.97)	54.60 (30.12)	0.062	Two sample t test
Monetary Risk Assessment			0.10	Fisher's exact
1	58 (44.6%)	66 (49.3%)		
2	18 (13.8%)	13 (9.7%)		
3	13 (10.0%)	12 (9.0%)		
4	18 (13.8%)	7 (5.2%)		
5	6 (4.6%)	8 (6.0%)		
6	17 (13.1%)	28 (20.9%)		
Health Risk Assessment			0.005	Fisher's exact
Vaccine1	84 (64.6%)	110 (82.1%)		
Vaccine2	18 (13.8%)	4 (3.0%)		
Vaccine3	11 (8.5%)	6 (4.5%)		
Vaccine4	6 (4.6%)	6 (4.5%)		
Vaccine6	11 (8.5%)	8 (6.0%)		
Present Bias Monetary			0.12	Fisher's exact
Present bias	69 (53.1%)	64 (47.8%)		
Not bias	56 (43.1%)	69 (51.5%)		
Inconsistent	5 (3.8%)	1 (0.7%)		
BiasM_b	69 (55.2%)	64 (48.1%)	0.26	Pearson's chi-squared
Present Bias Health			0.69	Fisher's exact
Present bias	49 (37.7%)	51 (38.1%)		
No bias	73 (56.2%)	78 (58.2%)		
Inconsistent	8 (6.2%)	5 (3.7%)		
BiasH_b	49 (40.2%)	51 (39.5%)	0.92	Pearson's chi-squared
Proportion of Grocery Expenditure, mean (SD)	0.60 (0.22)	0.58 (0.21)	0.47	Two sample t test
Proportion of Health Expenditure, mean (SD)	0.29 (0.21)	0.33 (0.19)	0.064	Two sample t test
Proportion of Temptation Expenditure, mean (SD)	0.12 (0.18)	0.09 (0.15)	0.18	Two sample t test
Total Spending, mean (SD)	90.72 (11.98)	98.39 (7.38)	<0.001	Two sample t test

Table S4.2 Descriptive results for all outcome variables (Shaanxi)

Factor	Easy	Hard	p-value	Test
N	110	105		
Worry about raising money within a week (Yes/No)	37 (33.6%)	76 (72.4%)	<0.001	Pearson's chi-squared
Mean value of Worry1, mean (SD)	3.35 (1.39)	3.85 (1.30)	0.008	Two sample t test
Mean value of Worry2, mean (SD)	2.93 (0.90)	3.63 (0.94)	<0.001	Two sample t test
Worry about paying for medical expenses (Yes/No)	66 (60.0%)	95 (90.5%)	<0.001	Pearson's chi-squared
Mean value of Worry3, mean (SD)	2.97 (1.35)	3.87 (1.33)	<0.001	Two sample t test
Total Worry Score, mean (SD)	3.08 (0.93)	3.78 (0.95)	<0.001	Two sample t test
Raven's Progressive Matrices Score, mean (SD)	7.23 (3.36)	7.01 (2.74)	0.60	Two sample t test
Raven's Progressive Matrices Accuracy, mean (SD)	60.23 (28.01)	58.41 (22.84)	0.60	Two sample t test
Monetary Risk Assessment			0.42	Fisher's exact
1	53 (48.2%)	52 (49.5%)		
2	11 (10.0%)	7 (6.7%)		
3	18 (16.4%)	16 (15.2%)		
4	8 (7.3%)	7 (6.7%)		
5	9 (8.2%)	4 (3.8%)		
6	11 (10.0%)	19 (18.1%)		
Health Risk Assessment			0.46	Fisher's exact
Vaccine1	58 (52.7%)	52 (49.5%)		
Vaccine2	8 (7.3%)	17 (16.2%)		
Vaccine3	13 (11.8%)	12 (11.4%)		
Vaccine4	5 (4.5%)	5 (4.8%)		
Vaccine5	5 (4.5%)	3 (2.9%)		
Vaccine6	21 (19.1%)	16 (15.2%)		
Present Bias Monetary			0.66	Fisher's exact
Present bias	31 (28.2%)	32 (30.5%)		
No bias	59 (53.6%)	50 (47.6%)		
Inconsistent	20 (18.2%)	23 (21.9%)		
BiasM_b	31 (34.4%)	32 (39%)	0.53	Pearson's chi-squared
Present Bias Health			0.85	Fisher's exact
Present bias	32 (29.1%)	27 (25.7%)		
No bias	64 (58.2%)	65 (61.9%)		
Inconsistent	14 (12.7%)	13 (12.4%)		
BiasH_b	32 (33.3%)	27 (29.3%)	0.56	Pearson's chi-squared
Proportion of Grocery Expenditure, mean (SD)	0.68 (0.22)	0.69 (0.22)	0.74	Two sample t test
Proportion of Health Expenditure, mean (SD)	0.21 (0.16)	0.17 (0.14)	0.046	Two sample t test
Proportion of Temptation Expenditure, mean (SD)	0.11 (0.13)	0.14 (0.16)	0.12	Two sample t test
Total Spending, mean (SD)	98.61 (4.21)	96.36 (2.68)	<0.001	Two sample t test

Table S5. Effects of priming, annual income and distance to payday on time preferences (present bias)

	Time preferences (present bias)											
	Yunnan						Shaanxi					
	Monetary choices			Health choices			Monetary choices			Health choices		
Hard	-0.52*	-0.58*	-0.50	-0.02	-0.08	-0.24	0.00	-0.15	-0.11	-0.28	-0.21	0.00
	(0.28)	(0.30)	(0.34)	(0.28)	(0.30)	(0.36)	(0.39)	(0.49)	(0.55)	(0.37)	(0.53)	(0.53)
Annual income	-0.06				-0.26			0.04			0.66	
	(0.21)				(0.22)			(0.55)			(0.53)	
Hard # Annual income	0.09				0.27			-0.52			0.12	
	(0.23)				(0.24)			(0.70)			(0.78)	
Days since last payment		0.00				0.15			-0.03			0.08
		(0.45)				(0.48)			(0.36)			(0.26)
Hard # Days since last payment		0.21				-0.49			0.04			0.01
		(0.49)				(0.53)			(0.40)			(0.35)
Constant	2.20**	2.26***	2.28**	0.35	0.27	0.37	-1.83	-1.10	-1.62	0.32	0.07	1.60
	(0.86)	(0.87)	(0.92)	(0.89)	(0.89)	(0.93)	(1.39)	(1.37)	(2.02)	(1.08)	(1.16)	(1.51)
Observations	258	257	256	251	250	249	172	168	126	188	183	130
Pseudo R-squared	0.063	0.067	0.070	0.069	0.073	0.076	0.139	0.162	0.143	0.099	0.104	0.133

Standard errors in parentheses

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Table S6. Effects of priming, annual income and distance to payday on risk preferences

	Risk preferences											
	Yunnan						Shaanxi					
	Monetary choices			Health choices			Monetary choices			Health choices		
Hard	-0.16 (0.26)	-0.21 (0.30)	-0.29 (0.40)	-0.84*** (0.31)	-1.10*** (0.37)	-1.22*** (0.41)	0.30 (0.32)	0.40 (0.32)	0.58 (0.47)	0.11 (0.32)	0.02 (0.49)	0.46 (0.49)
Annual income		0.20 (0.18)			-0.15 (0.24)			-0.19 (0.44)			-0.65 (0.51)	
Hard # Annual income		0.06 (0.23)			0.41 (0.31)			0.38 (0.70)			0.12 (0.70)	
Days since last payment			-0.37 (0.35)			0.95* (0.52)			0.10 (0.18)			0.41 (0.26)
Hard # Days since last payment			-0.33 (0.71)			-0.84 (0.55)			-0.38 (0.33)			-0.77** (0.32)
/												
cut1	-1.82** (0.84)	-1.79** (0.87)	-1.52* (0.83)	-0.14 (0.90)	-0.08 (0.94)	-0.63 (0.93)	-1.30* (0.75)	-1.25 (0.84)	-1.67 (1.02)	1.47 (0.91)	0.92 (0.94)	1.89* (1.09)
cut2	-1.21 (0.84)	-1.18 (0.87)	-0.91 (0.83)	0.42 (0.89)	0.49 (0.93)	-0.08 (0.92)	-0.91 (0.75)	-0.84 (0.84)	-1.27 (1.02)	2.02** (0.91)	1.48 (0.94)	2.30** (1.07)
cut3	-0.70 (0.85)	-0.67 (0.87)	-0.39 (0.84)	0.98 (0.90)	1.07 (0.94)	0.50 (0.93)	-0.11 (0.75)	-0.03 (0.84)	-0.63 (1.01)	2.62*** (0.90)	2.11** (0.93)	2.88*** (1.07)
cut4	-0.12 (0.84)	-0.11 (0.87)	0.17 (0.83)	1.56* (0.94)	1.61* (0.97)	1.08 (0.97)	0.30 (0.75)	0.40 (0.84)	-0.24 (1.01)	2.90*** (0.90)	2.40*** (0.93)	3.24*** (1.07)
cut5	0.26 (0.85)	0.28 (0.88)	0.56 (0.84)				0.75 (0.76)	0.84 (0.85)	0.23 (1.03)	3.16*** (0.90)	2.67*** (0.92)	3.52*** (1.07)
Observations	264	263	262	264	263	262	215	209	154	215	209	154
Pseudo R-squared	0.095	0.097	0.099	0.076	0.080	0.083	0.050	0.051	0.060	0.056	0.057	0.116

Standard errors in parentheses

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Table S7.1 SUR regression results

All SUR models reported joint significance of system equations (χ^2 test) and met standard robustness requirements. Observations ranged from $n = 136$ to $n = 192$ per region. All P values are two-tailed and exact. Variables were standardised prior to analysis, and model assumptions were assessed via residual diagnostics. Data were approximately normally distributed, justifying use of linear estimators.

Effects of priming, annual income and distance to payday on purchase decisions (Yunnan) using OLS regression

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Hard	-0.03	-0.05	-0.14	0.18	0.21	0.22	-0.18	-0.18	-0.08
	(0.13)	(0.12)	(0.14)	(0.14)	(0.13)	(0.15)	(0.13)	(0.11)	(0.12)
Annual income		-0.10			0.10			0.03	
		(0.09)			(0.11)			(0.09)	
Hard # Annual income		0.09			-0.05			-0.06	
		(0.09)			(0.12)			(0.10)	
Days since last payment			0.05			0.19			-0.31**
			(0.15)			(0.16)			(0.15)
Hard # Days since last payment		-0.27			0.11			0.24	
		(0.20)			(0.23)			(0.15)	
Constant	-0.41	-0.45	-0.42	0.01	0.01	0.16	0.57	0.63*	0.39
	(0.34)	(0.34)	(0.35)	(0.30)	(0.30)	(0.31)	(0.37)	(0.37)	(0.38)
Observations	264	263	262	264	263	262	264	263	262
R-squared	0.079	0.088	0.094	0.138	0.139	0.160	0.175	0.181	0.183

Effects of priming, annual income and distance to payday on purchase decisions (Shaanxi) using OLS regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Hard	-0.14	-0.42*	-0.21	-0.14	0.10	-0.01	0.37**	0.48**	0.32*
	(0.14)	(0.23)	(0.19)	(0.11)	(0.18)	(0.15)	(0.14)	(0.20)	(0.19)
Annual income		0.33			-0.22			-0.19	
		(0.24)			(0.21)			(0.18)	
Hard # Annual income		-0.57*			0.44			0.26	
		(0.32)			(0.27)			(0.27)	
Days since last payment			-0.03			-0.02			0.06
			(0.10)			(0.08)			(0.09)
Hard # Days since last payment		0.11			-0.05			-0.09	
		(0.13)			(0.10)			(0.13)	
Constant	0.50	0.86*	0.77	-0.17	-0.48	-0.14	-0.51	-0.63	-0.92
	(0.44)	(0.50)	(0.61)	(0.34)	(0.37)	(0.43)	(0.46)	(0.53)	(0.62)
Observations	191	185	142	191	185	142	191	185	142
R-squared	0.171	0.207	0.177	0.160	0.186	0.199	0.185	0.200	0.197

Table S8.1 Subgroup Analysis of Cognitive Function (Yunnan)

	No income b/se/p	Unfixed income b/se/p	Lower Income b/se/p	Days b/se/p	Last pay b/se/p	Debt b/se/p	Gender b/se/p	Age b/se/p	Education b/se/p	Household number b/se/p	Health exam b/se/p
Hard	-25.58 9.44 0.01	-10.25 4.69 0.03	-9.64 3.93 0.02	-12.35 4.28 0.00	-16.77 3.99 0.00	-5.22 4.68 0.27	-10.70 4.20 0.01	-9.43 3.85 0.02	-2.03 4.96 0.68	-6.62 4.41 0.14	-10.72 5.40 0.05
_cons	78.96 14.89 0.00	69.54 13.97 0.00	64.45 16.27 0.00	68.74 11.65 0.00	57.91 16.10 0.00	73.87 12.62 0.00	82.88 12.73 0.00	61.10 10.59 0.00	96.88 8.90 0.00	82.42 13.51 0.00	62.80 17.74 0.00
Observations	44	122	159	129	136	119	124	142	62	144	94
R-squared	0.57	0.47	0.53	0.50	0.49	0.47	0.60	0.38	0.47	0.42	0.57
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Table S8.2 Subgroup Analysis of Grocery Proportion (Yunnan)

	No income b/se/p	Unfixed income b/se/p	Lower Income b/se/p	Days b/se/p	Last pay b/se/p	Debt b/se/p	Gender b/se/p	Age b/se/p	Education b/se/p	Household number b/se/p	Health exam b/se/p
Hard	-0.12 0.08 0.13	-0.01 0.04 0.86	-0.02 0.03 0.57	-0.06 0.04 0.13	-0.07 0.03 0.04	-0.01 0.04 0.73	-0.06 0.04 0.09	-0.05 0.03 0.12	0.02 0.07 0.77	0.01 0.04 0.81	0.02 0.05 0.67
_cons	0.73 0.19 0.00	0.40 0.16 0.01	0.47 0.14 0.00	0.41 0.12 0.00	0.67 0.12 0.00	0.75 0.10 0.00	0.46 0.11 0.00	0.71 0.08 0.00	0.42 0.13 0.00	0.37 0.15 0.01	0.40 0.14 0.01
Observations	44	122	159	129	136	119	124	142	62	144	94
R-squared	0.42	0.22	0.16	0.23	0.21	0.24	0.22	0.15	0.18	0.12	0.14
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Table S8.3 Subgroup Analysis of Health Proportion (Yunnan)

	No income b/se/p	Unfixed income b/se/p	Lower Income b/se/p	Days b/se/p	Last pay b/se/p	Debt b/se/p	Gender b/se/p	Age b/se/p	Education b/se/p	Household number b/se/p	Health exam b/se/p
Hard	0.12	-0.00	0.05	0.09	0.07	0.05	0.06	0.05	-0.00	0.05	0.04
	0.08	0.04	0.03	0.04	0.03	0.04	0.03	0.03	0.07	0.04	0.04
	0.16	0.95	0.09	0.02	0.03	0.20	0.08	0.11	0.98	0.14	0.30
_cons	0.05	0.42	0.27	0.29	0.04	0.14	0.32	0.22	0.45	0.30	0.35
	0.18	0.13	0.11	0.10	0.12	0.09	0.08	0.10	0.10	0.11	0.09
	0.78	0.00	0.02	0.01	0.75	0.14	0.00	0.03	0.00	0.01	0.00
Observations	44	122	159	129	136	119	124	142	62	144	94
R-squared	0.45	0.24	0.28	0.25	0.23	0.24	0.23	0.17	0.20	0.21	0.35
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Table S8.4 Subgroup Analysis of Temptation Proportion (Yunnan)

	No income b/se/p	Unfixed income b/se/p	Lower Income b/se/p	Days b/se/p	Last pay b/se/p	Debt b/se/p	Gender b/se/p	Age b/se/p	Education b/se/p	Household number b/se/p	Health exam b/se/p
Group	0.01	0.01	-0.03	-0.03	-0.01	-0.03	0.00	-0.00	-0.02	-0.06	-0.06
	0.04	0.03	0.02	0.03	0.02	0.03	0.02	0.02	0.04	0.03	0.04
	0.88	0.74	0.09	0.34	0.74	0.29	0.96	0.98	0.65	0.04	0.19
_cons	0.22	0.17	0.26	0.30	0.29	0.12	0.22	0.07	0.13	0.32	0.25
	0.11	0.09	0.13	0.09	0.09	0.09	0.08	0.06	0.08	0.11	0.12
	0.05	0.06	0.05	0.00	0.00	0.18	0.00	0.25	0.13	0.00	0.05
Observations	44	122	159	129	136	119	124	142	62	144	94
R-squared	0.61	0.32	0.30	0.30	0.41	0.16	0.33	0.25	0.23	0.23	0.31
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Table S9.1 Subgroup Analysis of Cognition (Shaanxi)

	No income b/se/p	Unfixed income b/se/p	Lower Income b/se/p	Days b/se/p	Last pay b/se/p	Debt b/se/p	Gender b/se/p	Age b/se/p	Education b/se/p	Household number b/se/p	Health exam b/se/p
Group	3.07	-1.00	2.96	0.64	2.13	-4.31	2.77	5.44	0.01	-1.33	2.78
	12.54	3.99	3.95	3.89	4.62	4.84	5.36	4.98	6.08	4.94	4.51
	0.81	0.80	0.46	0.87	0.65	0.38	0.61	0.28	1.00	0.79	0.54
_cons	90.93	61.44	61.79	60.97	53.73	58.85	56.70	39.40	37.16	68.26	61.13
	35.80	12.24	12.87	10.88	16.54	19.31	12.98	12.17	25.23	12.95	11.41
	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00
Observations	41	181	186	204	145	85	130	142	24	129	154
R-squared	0.53	0.31	0.25	0.29	0.26	0.44	0.27	0.18	0.94	0.37	0.33
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Table 9.2 Subgroup Analysis of Grocery Proportion (Shaanxi)

	No income b/se/p	Unfixed income b/se/p	Lower Income b/se/p	Days b/se/p	Last pay b/se/p	Debt b/se/p	Gender b/se/p	Age b/se/p	Education b/se/p	Household number b/se/p	Health exam b/se/p
Group	0.01	-0.03	-0.00	0.00	-0.01	-0.08	-0.03	-0.02	0.37	-0.04	-0.01
	0.11	0.04	0.04	0.03	0.04	0.05	0.04	0.04	0.20	0.05	0.05
	0.91	0.36	0.99	0.92	0.80	0.16	0.46	0.63	0.16	0.44	0.90
_cons	0.99	0.62	0.74	0.65	0.62	0.88	0.85	0.80	1.76	0.83	0.76
	0.29	0.15	0.14	0.11	0.17	0.19	0.13	0.12	0.44	0.15	0.13
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
Observations	41	181	186	204	145	85	130	142	24	129	154
R-squared	0.40	0.16	0.17	0.14	0.16	0.33	0.29	0.14	0.93	0.19	0.17
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Table 9.3 Subgroup Analysis of Health Proportion (Shaanxi)

	No income b/se/p	Unfixed income b/se/p	Lower Income b/se/p	Days b/se/p	Last pay b/se/p	Debt b/se/p	Gender b/se/p	Age b/se/p	Education b/se/p	Household number b/se/p	Health exam b/se/p
Group	-0.03	-0.02	-0.03	-0.03	-0.04	0.03	-0.02	-0.01	-0.19	-0.02	-0.04
	0.08	0.03	0.02	0.02	0.03	0.04	0.03	0.03	0.09	0.03	0.03
	0.72	0.38	0.24	0.18	0.11	0.45	0.42	0.80	0.12	0.50	0.24
_cons	-0.13	0.36	0.19	0.22	0.23	0.06	0.10	0.12	-0.70	0.11	0.25
	0.24	0.11	0.09	0.07	0.10	0.13	0.08	0.09	0.47	0.10	0.09
	0.60	0.00	0.04	0.00	0.03	0.64	0.24	0.16	0.24	0.25	0.01
Observations	41	181	186	204	145	85	130	142	24	129	154
R-squared	0.43	0.17	0.16	0.15	0.18	0.29	0.20	0.09	0.83	0.16	0.17
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Table 9.4 Subgroup Analysis of Temptation Proportion (Shaanxi)

	No income b/se/p	Unfixed income b/se/p	Lower Income b/se/p	Days b/se/p	Last pay b/se/p	Debt b/se/p	Gender b/se/p	Age b/se/p	Education b/se/p	Household number b/se/p	Health exam b/se/p
Group	0.02	0.06	0.03	0.03	0.06	0.05	0.05	0.03	-0.17	0.06	0.04
	0.06	0.02	0.03	0.02	0.03	0.04	0.03	0.03	0.14	0.03	0.03
	0.80	0.02	0.26	0.21	0.05	0.21	0.11	0.33	0.30	0.07	0.14
_cons	0.14	0.02	0.07	0.13	0.16	0.06	0.06	0.08	-0.07	0.06	-0.02
	0.17	0.10	0.11	0.08	0.13	0.13	0.11	0.08	0.44	0.12	0.10
	0.43	0.84	0.53	0.14	0.24	0.65	0.59	0.32	0.89	0.64	0.86
Observations	41	181	186	204	145	85	130	142	24	129	154
R-squared	0.54	0.18	0.15	0.13	0.18	0.31	0.23	0.20	0.87	0.22	0.15
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors reported. *** p<0.01, ** p<0.05, * p<0.1

Materials and Methods

Experimental Materials and Procedures

Experimental Materials:

Laptops: 4 units

Smartphones and power banks: 4 each (to connect to mobile hotspots for questionnaire submission to the online survey system)

Printed questionnaires: 100 copies for each, 200 in total

Coins: 4

Token gifts: 240 units

Procedures

Step	Name	Key points
Step 1	Randomisation	1) Randomly select subjects to answer Questionnaire One or Two. 2) Make sure to check the informed consent form.
Step 2	Task 1: Financial scenarios	1) Subjects read the situational questions themselves or the research assistant reads them aloud. 2) Subjects answer questions; multiple-choice questions are mandatory, and open-ended questions should be guided for imagination and description.
	Task 2: Lottery game	1) Research assistant explains the game rules; subjects choose freely according to preference. 2) Toss the coin and select the corresponding amount.
	Task 3: Reward choice	Subjects choose freely according to preference.
	Task 4: Budget Allocation	Subjects choose freely according to preference; the total amount should be close to 100 yuan.
	Task 5: Raven's Matrices Test	Remind subjects not to randomly select or skip questions.
Step 3	Task 6: Demographics	Amount and timing of income can be approximate numbers and dates.
	Distribution of thankyou gifts	
Step 4	Questionnaire Entry	If using paper questionnaires, please enter the responses into the online survey system later.

Survey questions

1. Financial Scenarios

Instructions: In the following section you will be presented 3 scenarios and asked to answer how you would go about dealing with the situations if they were to happen to you. Please take your time answering the questions. Try to have at least 3 sentences in your open question answers.

1.1 Imagine that an unforeseen event requires of you an immediate (¥20000/¥1000) expense. You need to raise the money in less than a week.

- Are there ways in which you may be able to come up with that amount of money on a very short notice? (yes/no)
- How would you go about getting (¥20000/¥1000) on a very short notice? Three sentences should be enough. (open)
- To what extent do you agree with the following statements? (5 item Likert: strongly disagree - strongly agree)
 - (a) "Coming up with (¥20000/¥1000) on a very short notice would cause me long-lasting financial hardship."
 - (b) "Coming up with (¥20000/¥1000) on a very short notice would require me to make sacrifices that have long-term consequences."

1.2 Imagine that the economy is going through difficult times. Your household 's income decreases by (50%/5%).

- Please indicate to what extent do you agree with the following statement: "Given my situation, I would be able to maintain roughly the same lifestyle under those new circumstances." (5 item Likert: strongly disagree - strongly agree)
- In what ways would the (50%/5%) decrease in your income would impact your daily life? What changes would you need to make? Three sentences should be enough. (open)
- To what extent do you agree with the following statement: "The (50%/5%) decrease in our income would strongly impact our daily life." (5 item Likert: strongly disagree - strongly agree)

1.3 Imaging that due to serve illness, there is an increase in the monthly cost of healthcare by (¥2000/¥100) for your family, which amounts to a total cost increase of (¥24000/¥1200) a year. This increase is not reimbursable by any government funding scheme.

- Would it be difficult to afford healthcare? (yes/no)
- How would you go about covering the cost of healthcare? Would you need to make any sacrifices and budget cuts every month? Three sentences should be enough. (open)
- To what extent do you agree with the following statements? (5 item Likert: strongly disagree - strongly agree)
 - (a) "Paying additional (¥2000/¥100) a month for healthcare would require difficult budget cuts and sacrifices every month."

(b) "Paying additional (¥2000/¥100) a month for healthcare would be too costly and it would probably result in forgoing going to the hospital."

2. Risk choice scenarios

Scenario 1: The following are 6 groups of lottery games. Each group of lottery contains 2 winning amounts, and the odds of winning are 50%.

Please choose which group of lottery games you prefer to play according to your own preferences:

<input type="radio"/> lottery 1: 50% chance winning ¥28, 50% chance winning ¥28
<input type="radio"/> lottery 2: 50% chance winning ¥36, 50% chance winning ¥24
<input type="radio"/> lottery 3: 50% chance winning ¥44, 50% chance winning ¥20
<input type="radio"/> lottery 4: 50% chance winning ¥52, 50% chance winning ¥16
<input type="radio"/> lottery 5: 50% chance winning ¥60, 50% chance winning ¥12
<input type="radio"/> lottery 6: 50% chance winning ¥70, 50% chance winning ¥2

Scenario 2: Imagine that there is an outbreak of an unusual disease. There are currently 6 vaccine products to choose from. Each vaccine will produce 2 possible immunity durations after vaccination, and the probability of occurrence is 50%.

Please select which vaccine you would prefer:

<input type="radio"/> vaccine 1: 50% chance immunity for 6 months, 50% chance immunity for 6 months
<input type="radio"/> vaccine 2: 50% chance immunity for 8 months, 50% chance immunity for 5 months
<input type="radio"/> vaccine 3: 50% chance immunity for 10 months, 50% chance immunity for 4 months
<input type="radio"/> vaccine 4: 50% chance immunity for 12 months, 50% chance immunity for 3 months
<input type="radio"/> vaccine 5: 50% chance immunity for 14 months, 50% chance immunity for 2 months
<input type="radio"/> vaccine 6: 50% chance immunity for 17 months, 50% chance immunity for 10 days

3. Time choice scenarios

Scenario 1: Imagine that after completing a job, you have two ways of getting paid:

A. to receive a smaller amount of payment earlier
B. to receive a larger amount of payment later

In the following two sets of decisions, please make the choice in which of the two ways you would like to receive the payment:

First set (payment today vs. 1 month)	A	B
Decision 1: A. ¥295 today B. ¥300 in 1 month	<input type="radio"/>	<input type="radio"/>
Decision 2: A. ¥290 today B. ¥300 in 1 month	<input type="radio"/>	<input type="radio"/>

Decision 3: A. ¥275 today B. ¥300 in 1 month	<input type="radio"/>	<input type="radio"/>
Decision 4: A. ¥265 today B. ¥300 in 1 month	<input type="radio"/>	<input type="radio"/>
Decision 5: A. ¥245 today B. ¥300 in 1 month	<input type="radio"/>	<input type="radio"/>
Decision 6: A. ¥230 today B. ¥300 in 1 month	<input type="radio"/>	<input type="radio"/>
Decision 7: A. ¥200 today B. ¥300 in 1 month	<input type="radio"/>	<input type="radio"/>
Decision 8: A. ¥180 today B. ¥300 in 1 month	<input type="radio"/>	<input type="radio"/>

Second set (payment in 6 months vs. 7 months)	A	B
Decision 1: A. ¥295 in 6 months B. ¥300 in 7 months	<input type="radio"/>	<input type="radio"/>
Decision 2: A. ¥290 in 6 months B. ¥300 in 7 months	<input type="radio"/>	<input type="radio"/>
Decision 3: A. ¥275 in 6 months B. ¥300 in 7 months	<input type="radio"/>	<input type="radio"/>
Decision 4: A. ¥265 in 6 months B. ¥300 in 7 months	<input type="radio"/>	<input type="radio"/>
Decision 5: A. ¥245 in 6 months B. ¥300 in 7 months	<input type="radio"/>	<input type="radio"/>
Decision 6: A. ¥230 in 6 months B. ¥300 in 7 months	<input type="radio"/>	<input type="radio"/>
Decision 7: A. ¥200 in 6 months B. ¥300 in 7 months	<input type="radio"/>	<input type="radio"/>
Decision 8: A. ¥180 in 6 months B. ¥300 in 7 months	<input type="radio"/>	<input type="radio"/>

Scenario 2: A physical examination bundle costs around 500 yuan. Suppose there is a subsidy policy, and you have two ways of receiving the subsidy:

- A. to receive a smaller amount of subsidy earlier
- B. to receive a larger amount of subsidy later

In the following two sets of decisions, please make the choice in which of the two ways you would like to receive the subsidy:

First set (subsidy today vs. 1 month)	A	B
Decision 1: A. physical exam today, subsidizing ¥295 B. physical exam in 1 month, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 2: A. physical exam today, subsidizing ¥290 B. physical exam in 1 month, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 3: A. physical exam today, subsidizing ¥275 B. physical exam in 1 month, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 4: A. physical exam today, subsidizing ¥265 B. physical exam in 1 month, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 5: A. physical exam today, subsidizing ¥245 B. physical exam in 1 month, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 6: A. physical exam today, subsidizing ¥230	<input type="radio"/>	<input type="radio"/>

B. physical exam in 1 month, subsidizing ¥300		
Decision 7: A. physical exam today, subsidizing ¥200 B. physical exam in 1 month, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 8: A. physical exam today, subsidizing ¥180 B. physical exam in 1 month, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>

Second set (subsidy in 6 months vs. 7 months)	A	B
Decision 1: A. physical exam in 6 months, subsidizing ¥295 B. physical exam in 7 months, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 2: A. physical exam in 6 months, subsidizing ¥290 B. physical exam in 7 months, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 3: A. physical exam in 6 months, subsidizing ¥275 B. physical exam in 7 months, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 4: A. physical exam in 6 months, subsidizing ¥265 B. physical exam in 7 months, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 5: A. physical exam in 6 months, subsidizing ¥245 B. physical exam in 7 months, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 6: A. physical exam in 6 months, subsidizing ¥230 B. physical exam in 7 months, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 7: A. physical exam in 6 months, subsidizing ¥200 B. physical exam in 7 months, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>
Decision 8: A. physical exam in 6 months, subsidizing ¥180 B. physical exam in 7 months, subsidizing ¥300	<input type="radio"/>	<input type="radio"/>

4. Budget allocation

Scenario: In the following task you are asked to choose what goods to purchase with a budget of ¥100. You will see a list of available goods, with a picture, title and the price displayed for each of them. By clicking on the '+' button, the goods will be added to the shopping cart. Try to spend as close to the ¥100 budget as possible.



rice ￥19.8



Weitai granule ￥21.6



Coffee pot ￥59



Chinese leaf ￥11.3 Lianhua Qingwen capsules ￥21.6 Bluetooth soundbox ￥49



Strawberry ￥23.5



Vitamin C ￥19.8



Fresh flowers ￥19.8



Chicken ￥36.8



Ibuprofen capsules ￥28



Calendar ￥68



Milk ¥19.9



Chinese herb ¥13.3



Candy ¥19.9



Sunflower oil ¥69



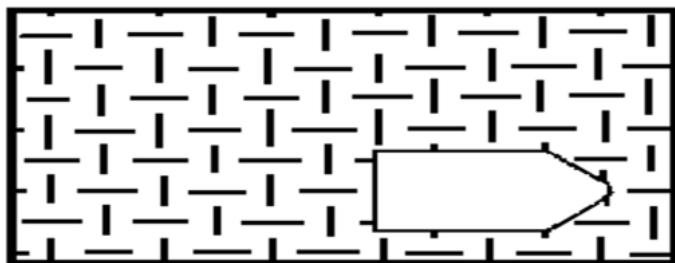
Fish oil ¥58



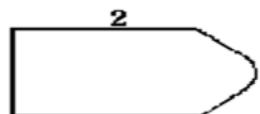
CocaCola ¥25

5. Please select the appropriate pattern to fill in the vacancy according to the rules of the symbols or patterns in the big picture, and select the numbering option corresponding to the pattern.

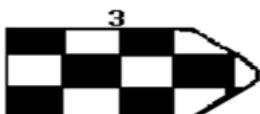
5.1



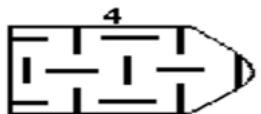
1



2



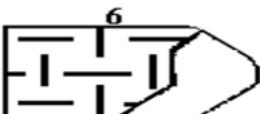
3



4

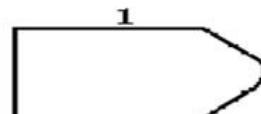


5

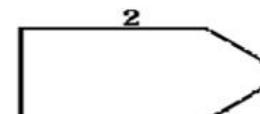


6

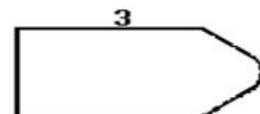
5.2



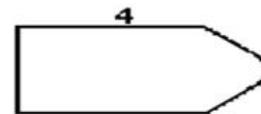
1



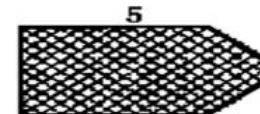
2



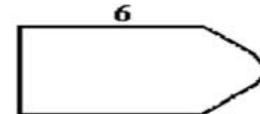
3



4

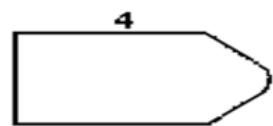
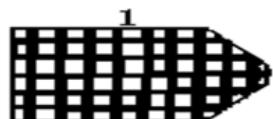
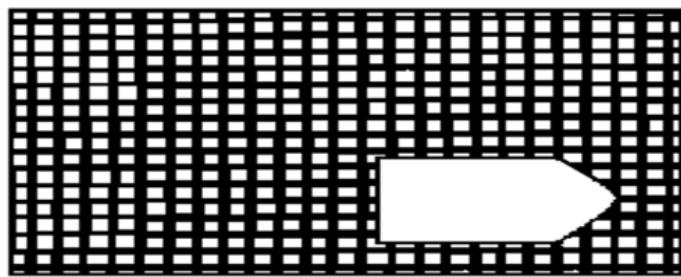


5

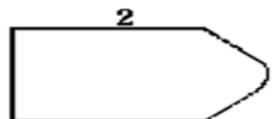


6

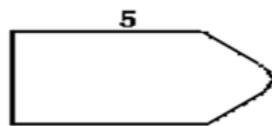
5.3



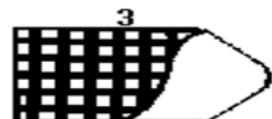
○1



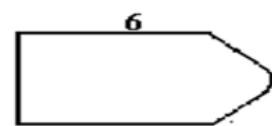
○2



○5

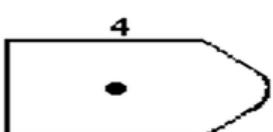
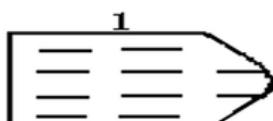
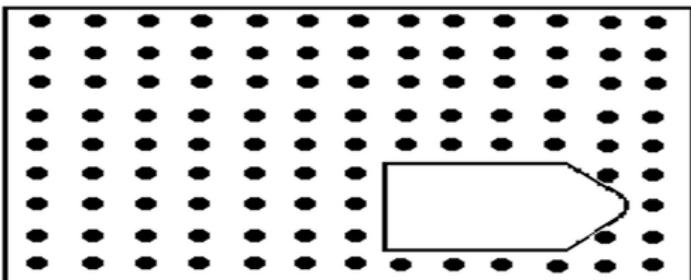


○3

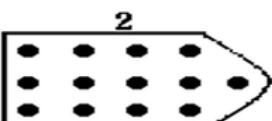


○6

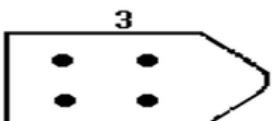
5.4



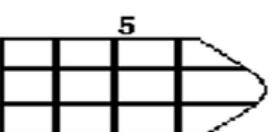
○1



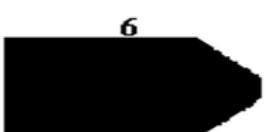
○2



○3

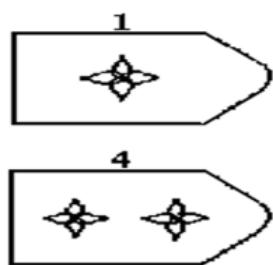
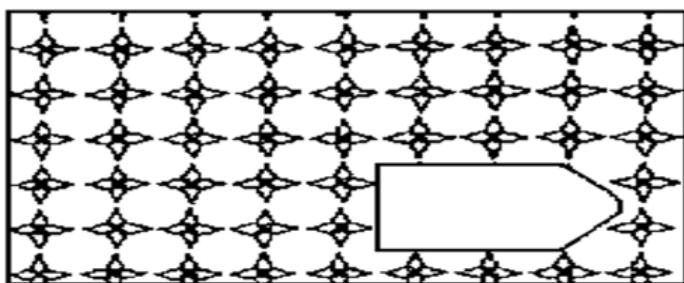


○4

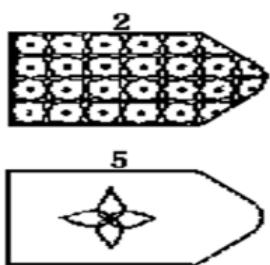


○6

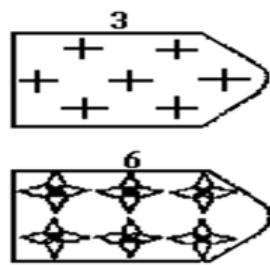
5.5



○1



○2



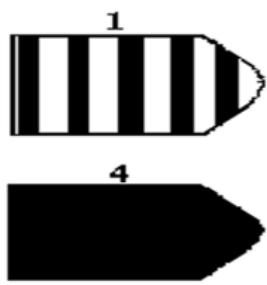
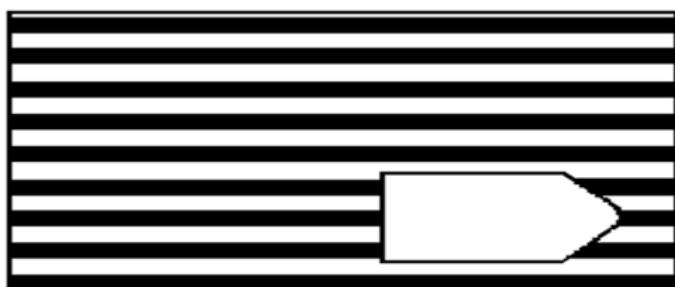
○3

○4

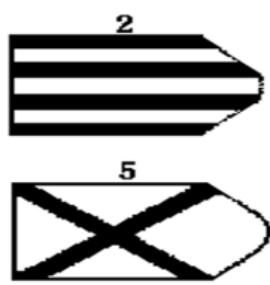
○5

○6

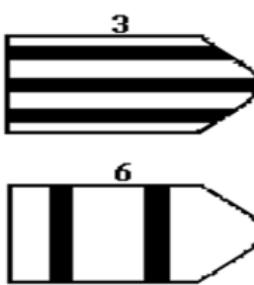
5.6



○1



○2



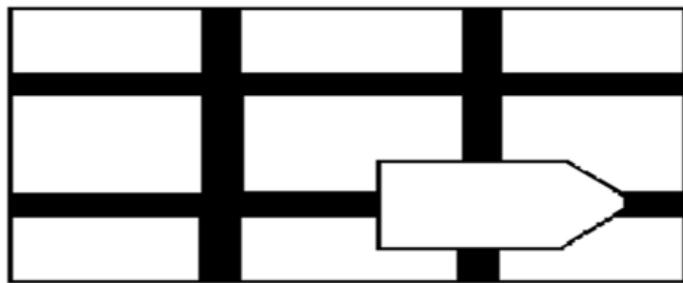
○3

○4

○5

○6

5.7



○1

○2

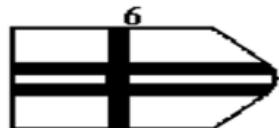
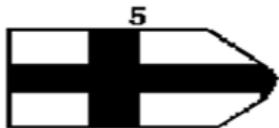
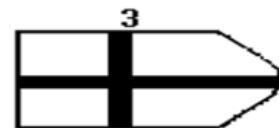
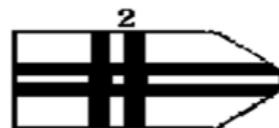
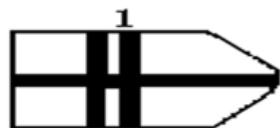
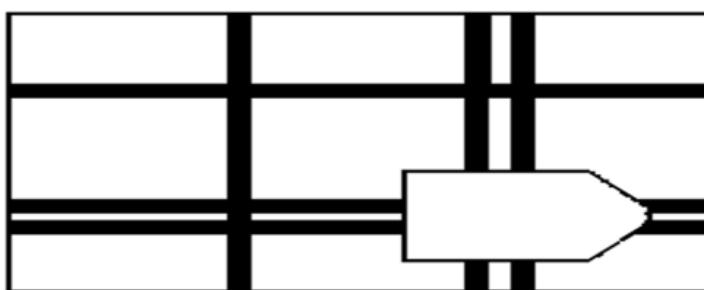
○3

○4

○5

○6

5.8



○1

○2

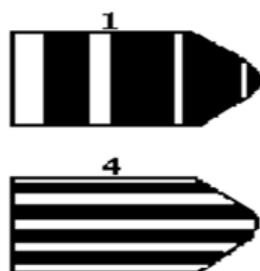
○3

○4

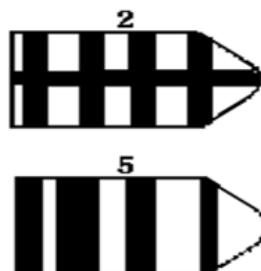
○5

○6

5.9



○1

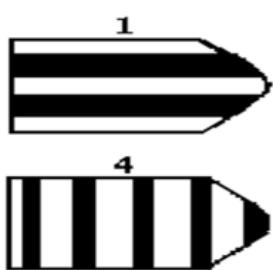
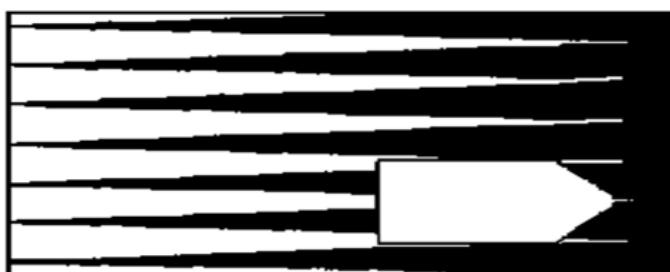


o2

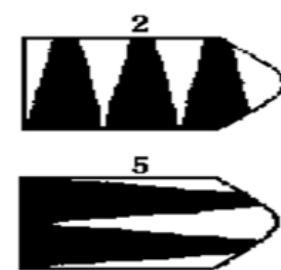


○3

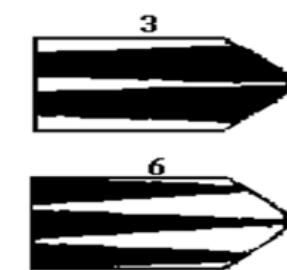
5.10



○1



o2



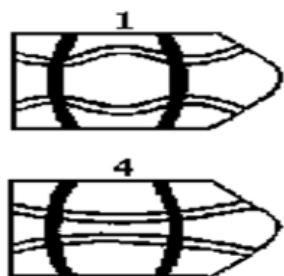
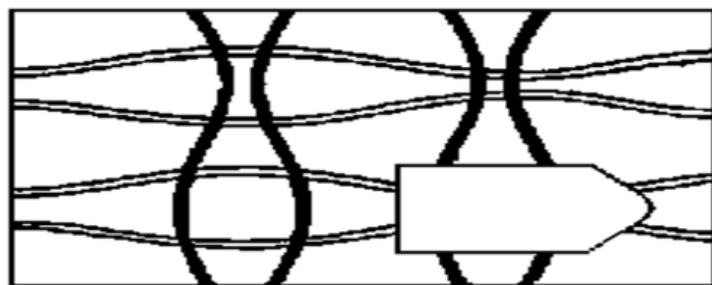
o3

○4

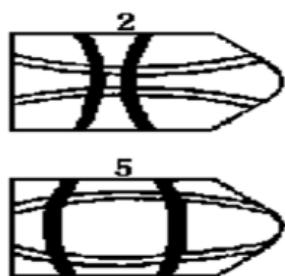


○6

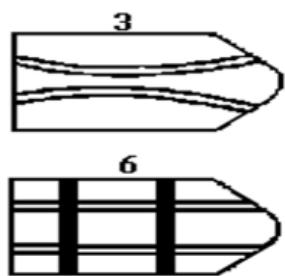
5.11



○1



○2



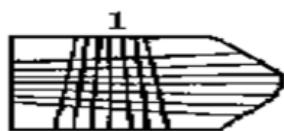
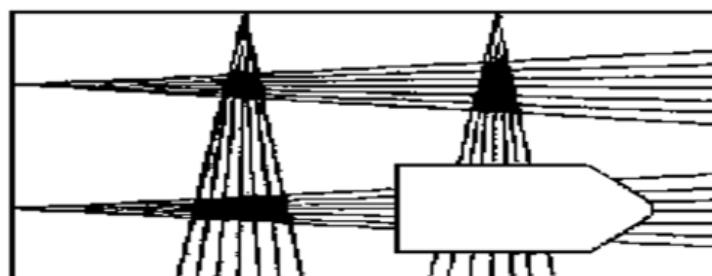
○3

○4

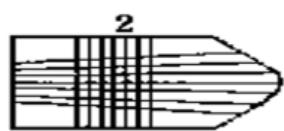
○5

○6

5.12



○1



○2



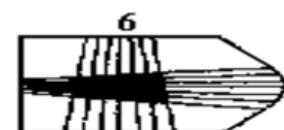
○3



○4



○5



○6

6. Demographic information

6.1 Sex:

- Male
- Female

6.2 Age:

- 18 years below
- 18~25 years old
- 26~30 years old
- 31~40 years old
- 41~50 years old
- 51~60 years old
- 60 years above

6.3 Education:

- Illiterate
- Primary school
- Middle school
- High school
- Undergraduate and above

6.4 Annual income in 2021 (estimation):

6.5 Income sources:

- Migrant Works
- Farming
- Family support
- No income
- other

6.6 Income frequency:

- Monthly
- Quarterly
- Semiannually
- Annually

- Not fixed

6.7 Date of last payment:

6.8 Date of last payment:

6.9 Physical examination in the last 12 months:

- Yes
- No

6.10 Household size:

6.11 Household annual income in 2021 (estimation):

6.12 Household debt larger than half of household annual income:

- Yes
- No

6.13 Household healthcare expenditure larger than half of household annual income:

- Yes
- No