Willingness-to-pay for Warnings: Pilot Results

A. Gaduh, P. McGee and A. Ugarov

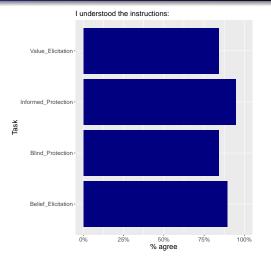
July 26, 2021

Summary

- Subjects put too much weight on the signal and too little weight on prior probabilities both in informed protection and belief elicitation
- Reported beliefs have less predictive power for protection choices than posterior probabilities
- Both the theoretical value of information and the value based on subject's choices are strong predictor of WTP for information
- WTP is overly sensitive to false positive and false negative rates



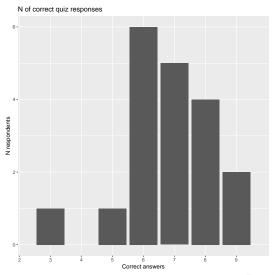
Self-reported Understanding of the Instructions





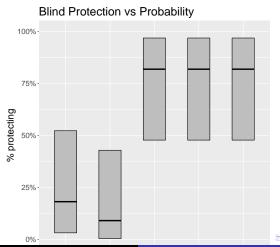
Quiz answers correct

• Most respondents make 1-3 mistakes out of 9 questions



Uninformed Protection

- There is more protection when the probability of black ball is higher
- Noisy



Informed Protection: Correlation

Table:	Informed	Protection
--------	----------	------------

Table: Informed 1 Total Colon				
	(1)	(2)	(3)	(4)
	All	All	Smart	Smart
Posterior prob.	.758***	.0522	.792***	.0124
	(10.6)	(8.0)	(8.0)	(0.2)
Prior prob.		.279*		.0795
		(1.9)		(8.0)
Gremlin says Black		.655***		.734***
		(8.8)		(9.6)
Constant	.283***	.172***	.274***	.192***
	(9.6)	(4.0)	(7.0)	(3.7)
Observations	228	228	132	132
Adjusted R^2	0.42	0.53	0.43	0.58

t statistics in parentheses



^{*} p < 0.10, ** p < 0.05, *** p < 0.01

Informed Protection: Determinants

Table: Informed Protection: Response to Reported Beliefs

	(1)	(2)	(3)
	All	All	Smart
Belief	.608***	.0013	.352*
	(4.6)	(0.0)	(1.9)
Posterior prob.		.758***	.512***
		(9.0)	(3.4)
Constant	.278***	.282***	.214***
	(4.1)	(5.5)	(3.8)
Observations	228	228	132
Adjusted R^2	0.20	0.42	0.45

t statistics in parentheses



^{*} p < 0.10, ** p < 0.05, *** p < 0.01

Informed Protection: Do Subject's Beliefs Matter?

Table: Informed Protection: Response to Reported Beliefs

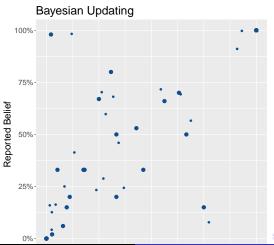
	(1)	(2)	(3)
	All	All	Smart
Belief	.608***	.0013	.352*
	(4.6)	(0.0)	(1.9)
Posterior prob.		.758***	.512***
		(9.0)	(3.4)
Constant	.278***	.282***	.214***
	(4.1)	(5.5)	(3.8)
Observations	228	228	132
Adjusted R^2	0.20	0.42	0.45

t statistics in parentheses

 $^{^{\}ast}$ p < 0.10 , ** p < 0.05 , *** p < 0.01

Belief Updating

- A bit more correlation with actual posterior probabilities!
- Even more if we exclude everybody scoring less than 7 out of 9 quiz questions



Belief Updating: Correlation

Table: Belief Elicitation: Belief vs Posterior				
	(1) (2)		(3)	
	All	Not_honest	Good quiz	
Posterior prob.	.587***	.778***	.41***	
	(13.1)	(19.9)	(6.6)	
Constant	.277***	.177***	.343***	
	(9.1)	(6.0)	(10.0)	
Observations	228	132	152	
Adjusted \mathbb{R}^2	0.42	0.68	0.23	

t statistics in parentheses

 $^{^{\}ast}$ p < 0.10 , ** p < 0.05 , *** p < 0.01

What Affects Beliefs?

Table: Belief	Determinants		
	(1)	(2)	(3)
	OLS	FE	Smart, FE
Posterior prob.	.0819	.0522	.0124
	(1.0)	(8.0)	(0.2)
Prior prob.	.132	.279*	.0795
	(8.0)	(1.9)	(8.0)
Gremlin says Black	.634***	.655***	.734***
	(8.5)	(8.8)	(9.6)
Constant	.208***	.172***	.192***
	(3.9)	(4.0)	(3.7)
Observations	228	228	132
Adjusted ${\it R}^2$	0.49	0.53	0.58

t statistics in parentheses



 $^{^{\}ast}$ p < 0.10 , ** p < 0.05 , *** p < 0.01

Belief Updating: Decomposition

Table: Belief Elicitation: Decomposition				
	(1) (2) (3)			
	OLS	FE	Smart, FE	
lt_prior	.082	.0758	.135	
	(0.4)	(0.7)	(0.9)	
signalB	.491	.89*	1.56***	
	(1.3)	(1.8)	(3.7)	
signalW	.399	0	0	
	(8.0)	(.)	(.)	
Constant	279	69**	998**	
	(-0.6)	(-2.6)	(-3.3)	
Observations	52	52	36	
Adjusted R^2	0.13	0.19	0.47	

t statistics in parentheses

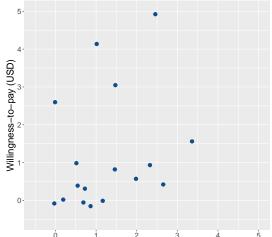


 $^{^{\}ast}$ p < 0.10, ** p < 0.05, *** p < 0.01

WTP for signals

- Higher average WTP for more valuable signals
- Within-analysis pending

WTP for a signal vs predicted value



WTP for signals: Determinants

Table: WTP for Information					
	(1)	(2)	(3)	(4)	(5)
	OLS	OLS	FE	FE	FE
value	.688***	.71***	.713***	.381***	.135
	(5.1)	(5.5)	(5.4)	(3.4)	(1.3)
(sum) bp		452***			
		(-4.3)			
honest_treatment				1.26***	248
				(3.1)	(-0.4)
False neg. rate					-3.94***
					(-3.5)
False pos. rate					-6.08***
					(-3.3)
Constant	.961***	2.11***	.918***	1.07***	3.21***
	(4.0)	(5.5)	(4.1)	(5.6)	(6.6)
Observations	114	114	114	114	114
Adjusted \mathbb{R}^2	0.18	0.25	0.29	0.41	0.53

t statistics in parentheses



^{*} p < 0.10, ** p < 0.05, *** p < 0.01