

## Supplementary Information

*Supplementary Table 1: Spearman correlation matrix of overall information preference (quantified as proportion of information-seeking choices) across different payout domains.*

	Gain domain	Loss domain	Mixed domain
Gain domain	1	-	-
Loss domain	.74 ***	1	-
Mixed domain	.87 ***	.78 ***	1

\*\*\*  $p < .001$

*Supplementary Table 2: Pearson correlation matrix of computational model parameters and individual scale totals*

	Obsessive-compulsive traits			Need for structure/ control		Anxiety/negative emotionality			
	Obsessive-compulsive inventory	Rigid perfectionism	Need for order and cleanliness	BFI-2 organisation	BFAS orderliness	BFI-2 anxiety	BFI-2 emotional volatility	BFAS withdrawal	BFAS volatility
Obsessive-compulsive inventory	1	-	-	-	-	-	-	-	-
Rigid perfectionism	.66	1	-	-	-	-	-	-	-
Need for order and cleanliness	.47	.65	1	-	-	-	-	-	-
BFI-2 organisation	.15	.39	.74	1	-	-	-	-	-
BFAS orderliness	.25	.49	.79	.75	1	-	-	-	-
BFI-2 anxiety	.28	.23	.13	.01	.18	1	-	-	-
BFI-2 emotional volatility	.26	.19	.00	-.24	-.05	.55	1	-	-
BFAS withdrawal	.25	.19	.06	-.09	.09	.69	.59	1	-
BFAS volatility	.31	.23	.06	-.16	.02	.57	.77	.60	1

Shaded blue areas denote within-factor correlations. For correlations in this matrix, the threshold for statistical significance at  $\alpha = .05$  is  $r = \pm .17$ .

Supplementary Table 3: Pearson correlation matrix of computational model parameters and individual scale totals ( $N = 139$ ).

	Obsessive-compulsive traits			Need for structure/control		Anxiety/negative emotionality			
	Obsessive-compulsive inventory	Rigid perfectionism	Need for order and cleanliness	BFI-2 organisation	BFAS orderliness	BFI-2 anxiety	BFI-2 emotional volatility	BFAS withdrawal	BFAS volatility
$\phi_{free}$	.05	-.01	.08	.13	.07	.07	-.01	-.07	-.02
$\phi_{cost}$	.24 **	.25 **	.15	-.01	.06	.23 **	.27 **	.25 **	.32 ***
$k_{mean}$	.03	.06	.04	.03	-.04	-.09	-.01	.03	-.01
$k_{var}$	-.09	-.09	.06	.11	.10	-.12	-.18 *	-.18 *	-.18 *
$\log(\beta)$	-.10	-.13	-.10	.0003	-.01	-.10	-.15	-.15	-.15

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$

Supplementary Table 4: Pearson correlation matrix of computational model parameters and self-report factors and scales for Model 11 ( $N = 139$ ).

	Need for structure/control	Anxiety/negative emotionality	Obsessive-compulsion	Intolerance of uncertainty
$\phi_{free}$	.11	-.02	.04	-.03
$\phi_{cost}$	.03	.31 **	.25 *	.14
$k_{mean}$	-.001	-.03	.06	-.18 <sup>†</sup>
$\log(\beta)$	-.02	-.14	-.12	-.16

\*\*  $p < .01$ , corrected for multiple comparisons

\*  $p < .05$ , corrected for multiple comparisons

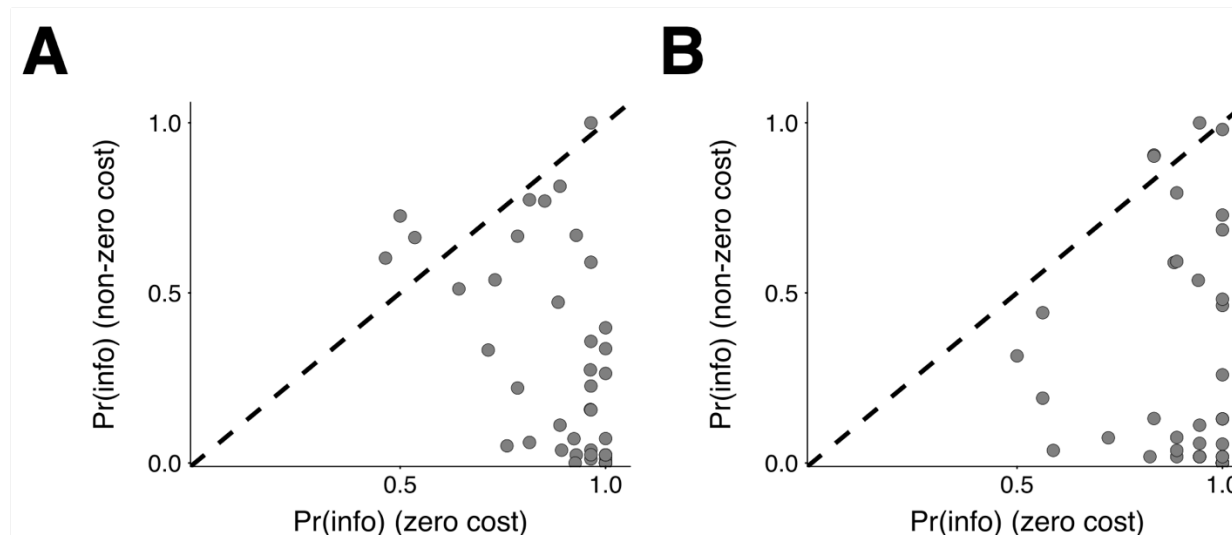
<sup>†</sup> $p < .05$ , uncorrected

*Supplementary Table 5: Pearson correlation matrix of information choice proportions and self-report factors and scales (N = 139).*

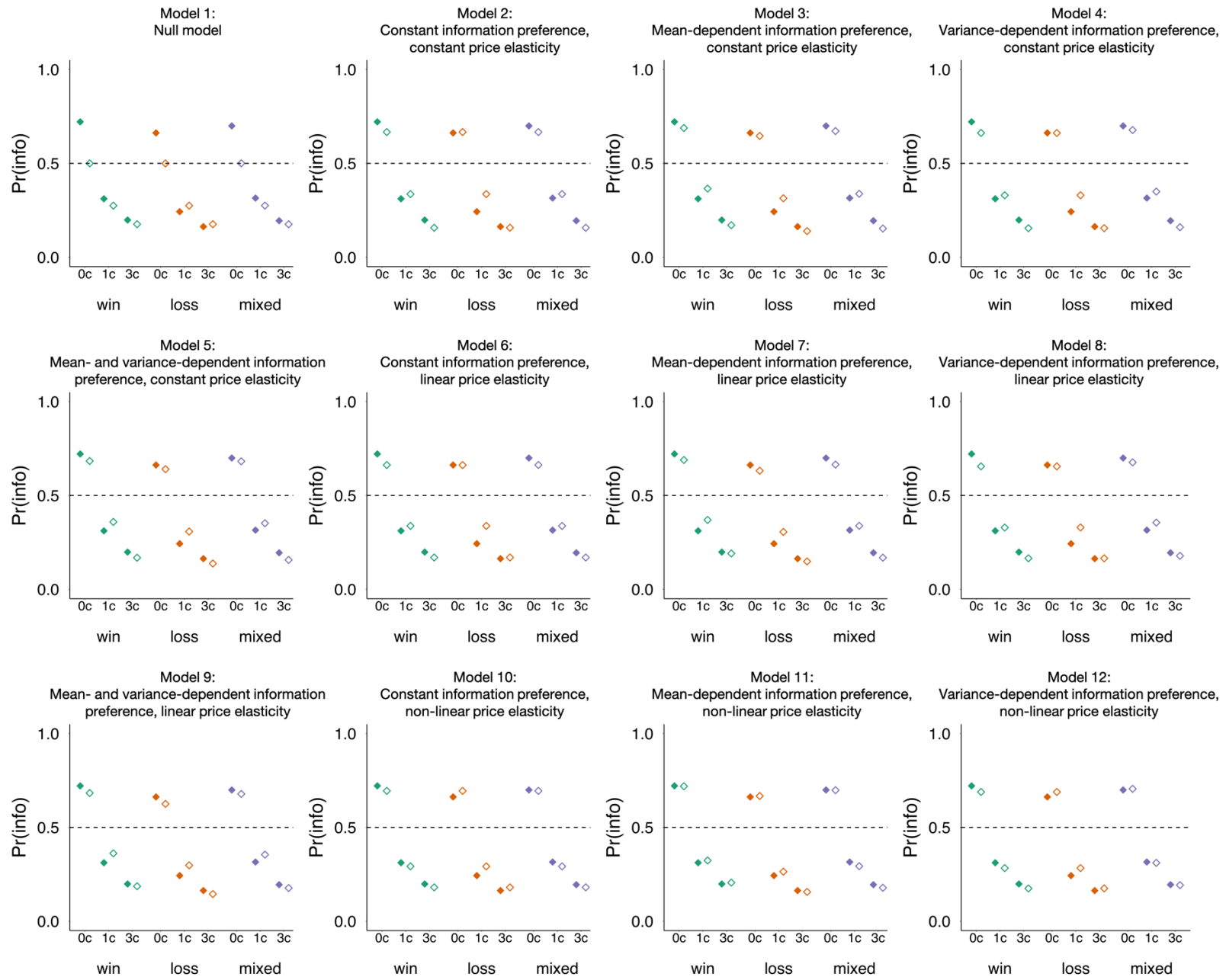
	Need for structure/control	Anxiety/negative emotionality	Obsessive- compulsion	Intolerance of uncertainty
Preference for free info	.11	.004	.04	-.01
Preference for costly info	.04	.24 **	.28 ***	.12

\*\*\*  $p < .001$

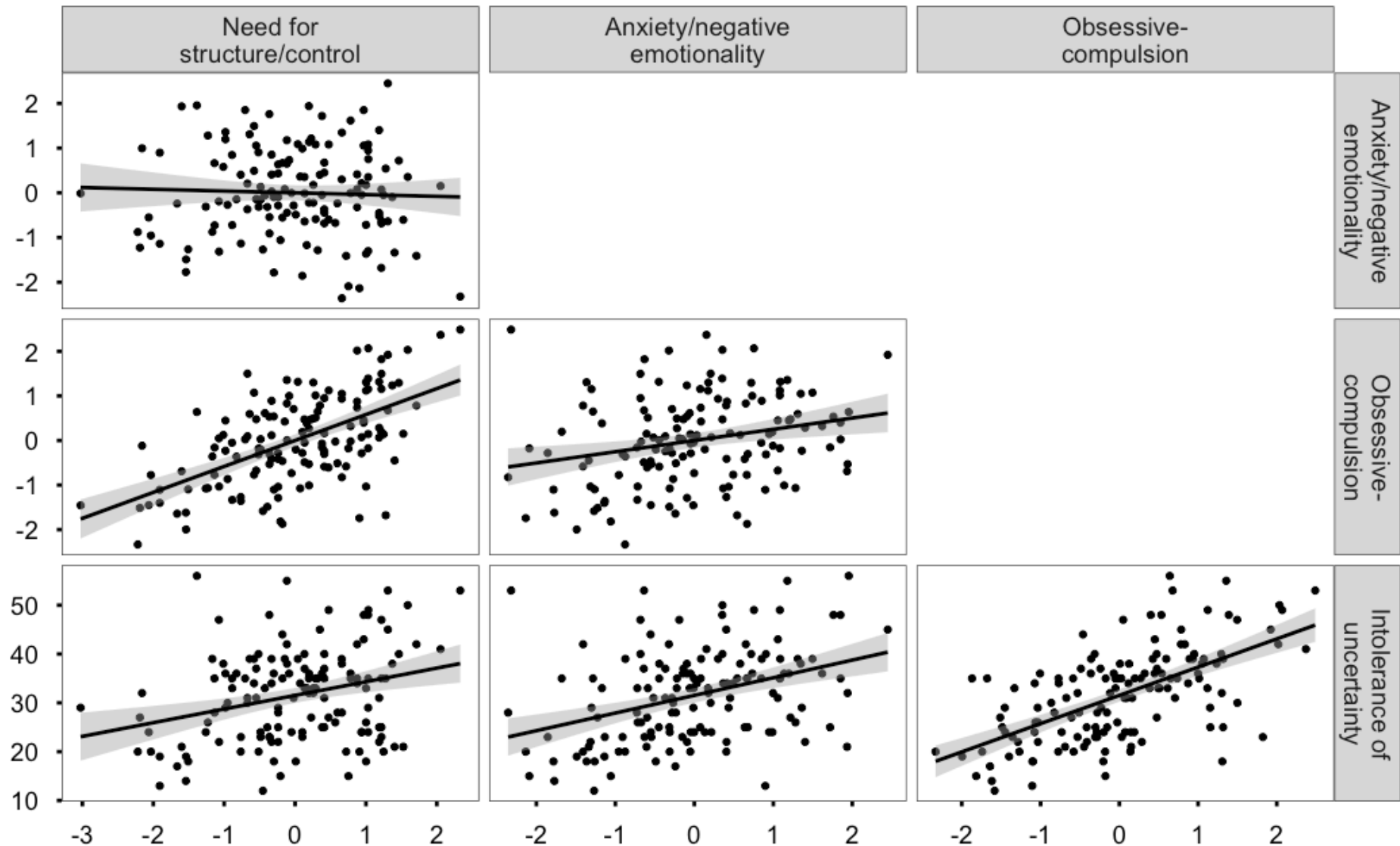
\*\*  $p < .01$



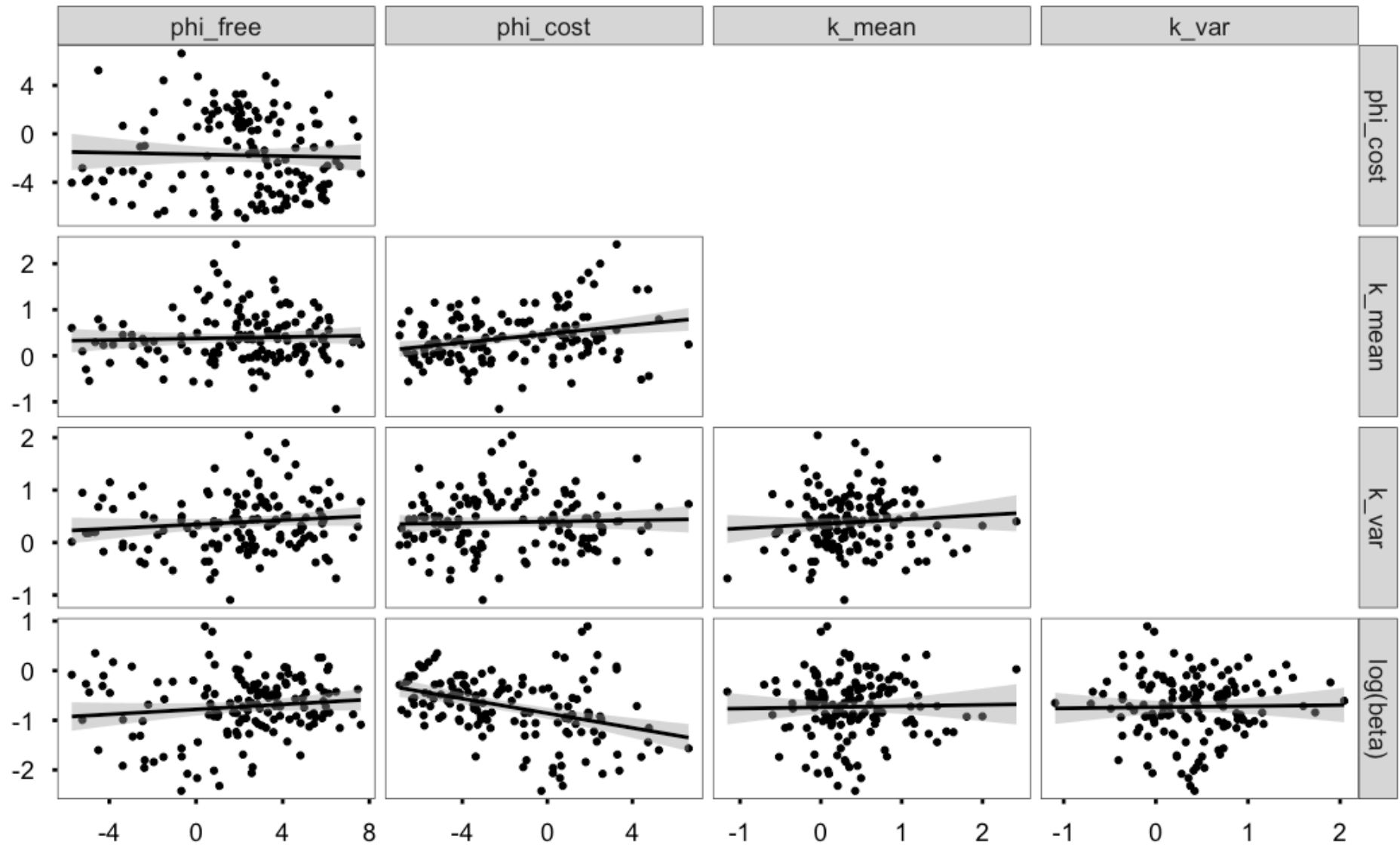
*Supplementary Figure 1: Re-analysis of previously collected data using the non-instrumental information-seeking task revealed a pattern of results in line with the present study. (A) In data ( $n = 40$ ) collected by Bennett et al. (2016; *PLoS Computational Biology*) there was a significant negative correlation between preference for information in the zero-cost condition and mean preference for information in non-zero cost conditions (Spearman  $\rho = -.51, p < .01$ ). (B) In data ( $n = 40$ ) collected by Brydevall et al. (2018, *Scientific Reports*), there was a non-significant trend towards a negative correlation between these two quantities (Spearman  $\rho = -.30, p = .06$ ).*



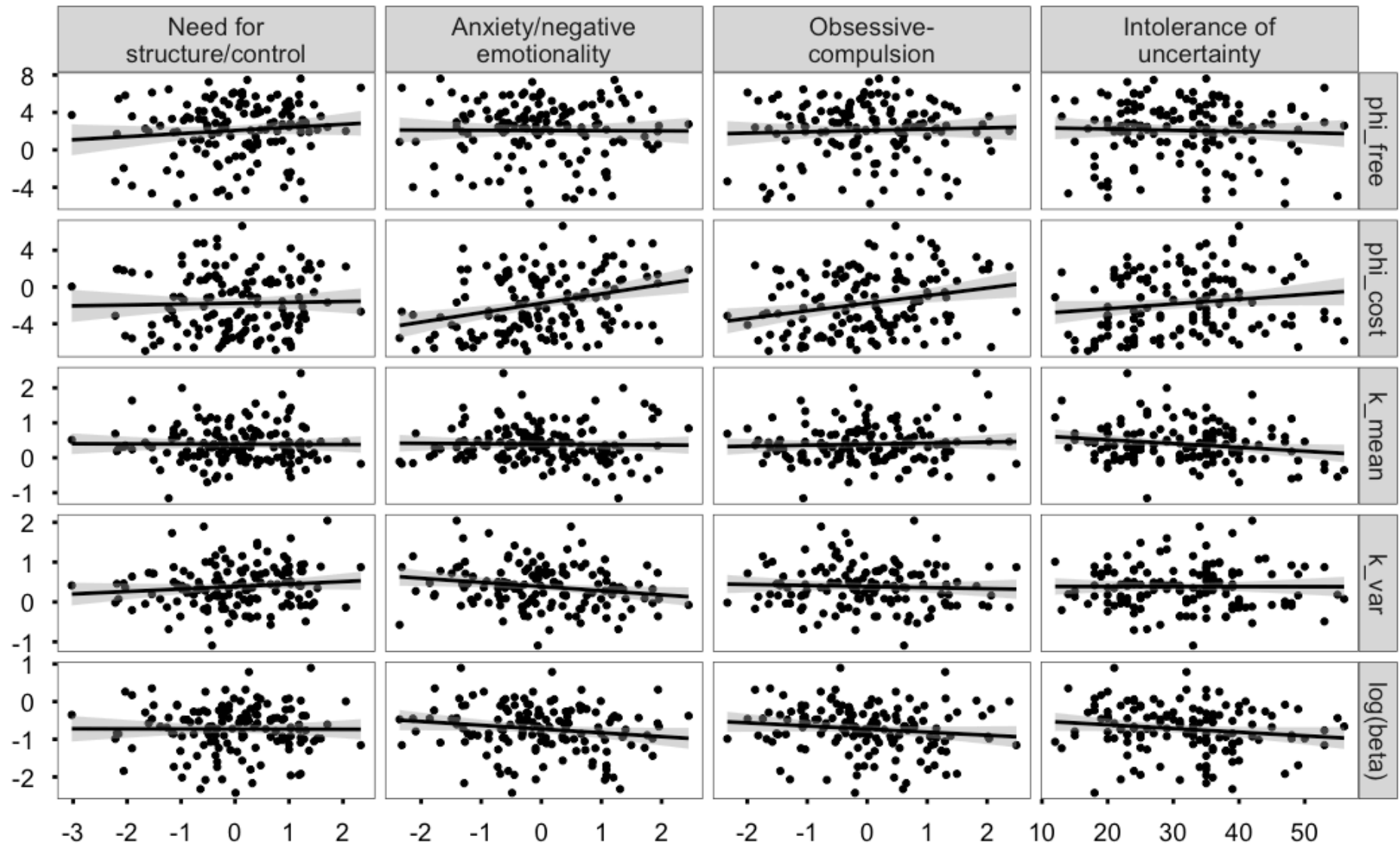
*Supplementary Figure 2: Posterior predictive checks for the 12 rejected models. Data are observed (filled markers) and predicted (unfilled markers) mean informative-stimulus choice proportions across payout domains and cost conditions.*



*Supplementary Figure 3:* Scatterplots of extracted factors and scales in self-report battery (corresponding to correlations reported in Table 1 of the manuscript). Each dot represents a factor or scale score for one participant. Shaded areas represent the 95% confidence interval of the respective lines of best fit.



*Supplementary Figure 4:* Scatterplots of estimated model parameters across participants (corresponding to correlations reported in Table 3 of the manuscript). Shaded areas represent the 95% confidence interval of the respective lines of best fit.



*Supplementary Figure 5:* Scatterplots for self-report factors (columns) and model parameter estimates (rows). Subplots in this figure correspond to the correlation matrix reported in Table 4 of the manuscript. Each dot represents a factor or scale score for one participant. Shaded areas represent the 95% confidence interval of the lines of best fit.