Uncertainty in flux

The temporal dynamics of attitudinal ambivalence and risk perception

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Supplementary Materials Chapter 6

1. Replication attempts

Accounting for benevolence and personal control in the trust-knowledge interaction

Belief in governmental benevolence was measured on one item devised based on Mayer et al. (1995) and Pauer et al. (2022): "In general, to what extent do you think the authorities are motivated to prevent negative consequences of:" anchored by 33 7-point response scales ranging from *not at all* to *very much*. We explored whether the interaction effect of subjective knowledge and social trust on perceived risk remained the same when accounting for other variables that may influence the relationship between trust and perceived risk, i.e., personal control and perceived governmental benevolence (Pauer, Rutjens, & van Harreveld, 2022). The trust-knowledge interaction effect turned nonsignificant (see Table S0), after extending the model by two additional interaction effects of benevolence with knowledge and trust with control. Both of the additional interaction terms were significant. Notably, the negative interaction between knowledge and benevolence once again contradicted the original pattern reported in Siegrist and Cvetkovich (2000).

Table S0

Multilevel Analysis With Unstandardized Coefficients of the Trust-Knowledge Interaction Effect on Perceived Risk, Accounting for Benevolence and Personal Control (the Random Effects of the Interactions Were Near Zero and Thus Discarded From the Model)

	b	95% CI		*p*
		LL	*UL*	
intercept	3.859	3.580	4.137	< .001
trust	-0.184	-0.220	-0.147	< .001
knowledge	0.108	0.069	0.147	< .001
control	-0.152	-0.170	-0.134	< .001
benevolence	0.048	0.033	0.063	< .001
trust * knowledge	-0.005	-0.013	0.003	.190
knowledge * benevolence	-0.021	-0.023	-0.015	< .001
trust * control	0.015	0.007	0.023	< .001

Table S1

Robustness Check to Test for a Possible Interaction Effect of Trust With Knowledge on Perceived Risk in the Original 25 Risk Domains Employed by Siegrist and Cvetkovich (2000) and Both Participants and Domains as a Cluster Variables

	β	95% CI		*p*
		LL	*UL*	
Trust	-.14	-.17	-.11	<.001
Knowledge	.07	.04	.10	<.001
Trust * knowledge	-.01	-.03	-.003	.011
Conditional effects on perceived risk				
at -1 * SD below the mean of knowledge	-.14	-.17	-.10	<.001
at the mean of knowledge	-.15	-.18	-.12	<.001
at +1 * SD above the mean of knowledge	-.17	-.20	-.13	<.001

Note. The intercept was significant at b = 3.66, 95% CI [3.34, 3.98], p < .001.

Table S2

Robustness Check to Test for a Possible Interaction Effect of Trust With Knowledge on Perceived Risk in the Original 25 Risk Domains Employed by Siegrist and Cvetkovich (2000) and a Simplified Multilevel Model With Only Participants (But Not Risk Domains) as a Cluster Variable

	β	95% CI		*p*
		LL	*UL*	
Trust	-.26	-.28	-.24	<.001
Knowledge	.12	.11	.14	<.001
Trust * knowledge	-.04	-.06	-.03	<.001
Conditional effects on perceived risk				
at -1 * SD below the mean of knowledge	-.24	-.27	-.22	<.001
at the mean of knowledge	-.29	-.31	-.27	<.001
at +1 * SD above the mean of knowledge	-.33	-.36	-.31	<.001

Note. The intercept was significant at b = 3.67, 95% CI [3.62, 3.72], p < .001.

Table S3

Multilevel Model Predicting Benefit Perception from Trust, Knowledge and Their Interaction with Random Effects for Both Participants and 33 Risk Domains

Effect	β	95% CI		*p*
		LL	*UL*	
Trust	.16	.13	.19	<.001
Knowledge	.03	.01	.06	.017
Trust * knowledge	< .01	.00	.01	.282
Conditional effects on perceived benefit				
at -1 * SD below the mean of knowledge	.16	.13	.2	<.001
at the mean of knowledge	.17	.13	.2	<.001
at +1 * SD above the mean of knowledge	.17	.14	.21	<.001

Note. The random effects for the interaction of trust and knowledge were discarded as their variances approached zero. The intercept was significant at *b* = 4.13, 95% CI [4.11, 4.18], *p* < .001.

Table S4

Robustness Check to Test for a Possible Interaction Effect of Trust With Knowledge on Perceived Benefit in the Original 25 Risk Domains Employed by Siegrist and Cvetkovich (2000). This Table Reports a Multilevel Model With Both Participants and Domains as a Cluster Variables

	β	95% CI		*p*
		LL	*UL*	
Trust	.14	.11	.17	<.001
Knowledge	.05	.01	.08	.006
Trust * knowledge	.003	-.01	.01	.533
Conditional effects on perceived benefit				
at -1 * SD below the mean of knowledge	.15	.12	.19	<.001
at the mean of knowledge	.16	.12	.19	<.001
at +1 * SD above the mean of knowledge	.16	.12	.2	<.001

Note. The intercept was significant at b = 4.48, 95% CI [3.94, 5.02], p < .001.

Table S5

Robustness Check to Test for a Possible Interaction Effect of Trust With Knowledge on Perceived Benefit in the Original 25 Risk Domains Employed by Siegrist and Cvetkovich (2000) and a Simplified Model With Only Participants (But Not Risk Domains) as a Cluster Variable

	β	95% CI		*p*
		LL	*UL*	
Trust	.35	.34	.37	<.001
Knowledge	.02	.01	.03	.004
Trust * knowledge	.03	.02	.05	<.001
Conditional effects on perceived benefit				
at -1 * SD below the mean of knowledge	.36	.34	.38	<.001
at the mean of knowledge	.39	.37	.41	<.001
at +1 * SD above the mean of knowledge	.43	.40	.45	<.001

Note. The intercept was significant at b = 4.5, 95% CI[4.46, 4.54], p < .001.

2. Boundary conditions

Table S6a

Multilevel Model of the Interaction Between Trust, Knowledge, and Descriptive Learning on Perceived Risk (see Table S6b for simple slopes)

		95% CI		
	b	*LL*	*UL*	*p*
Intercept	3.869	3.578	4.159	< .001
description	0.094	0.081	0.107	< .001
trust	-0.190	-0.229	-0.152	< .001
knowledge	0.084	0.044	0.124	< .001
description * trust	-0.002	-0.009	0.005	0.608
description * knowledge	-0.001	-0.007	0.006	0.854
trust * knowledge	-0.013	-0.021	-0.005	0.002
description * trust * knowledge	-0.004	-0.008	-0.001	0.024

Note. The random effects of the interactions and the random effect of domain on description approached zero and were thus excluded.

Table S6b

Simple slopes of the Interaction Between Trust, Knowledge, and Descriptive Learning on Perceived Risk

			95% CI		
Description	Knowledge	*b*	*LL*	*UL*	*p*
-1-SD	-1-SD	-0.178	-0.220	-0.136	< .001
	mean	-0.187	-0.227	-0.147	< .001
	+1-SD	-0.196	-0.240	-0.152	< .001
mean	-1-SD	-0.170	-0.211	-0.129	< .001
	mean	-0.190	-0.229	-0.152	< .001
	+1-SD	-0.210	-0.250	-0.170	< .001
+1-SD	-1-SD	-0.162	-0.209	-0.116	< .001
	mean	-0.193	-0.234	-0.153	< .001
	+1-SD	-0.225	-0.266	-0.184	< .001

Table S7

Multilevel Model of the Interaction Effect of Trust, Control, and Experience on Perceived Risk Accounting for Sociodemographic Variables

			95% CI		
	b	*SE*	*LL*	*UL*	*p*
intercept	3.89	0.18	3.54	4.23	< .001
control	-0.16	0.02	-0.20	-0.12	< .001
trust	-0.18	0.02	-0.22	-0.14	< .001
experience	0.00	0.01	-0.01	0.02	0.498
US residence	0.22	0.07	0.10	0.35	< .001
Academic degree	-0.08	0.06	-0.20	0.04	0.173
Conservatism	-0.02	0.02	-0.06	0.01	0.181
Age	0.01	0.00	0.01	0.02	< .001
Gender	-0.27	0.05	-0.37	-0.17	< .001
control * trust	0.01	0.00	0.00	0.02	0.013
control * experience	-0.02	0.00	-0.02	-0.01	< .001
trust * experience	-0.01	0.00	-0.02	-0.01	< .001
control * trust * experience	0.01	0.00	0.00	0.01	0.006

Figure S1

Illustration of Conditional Effects of Trust on Risk Perceptions at Levels of Personal Control and Experience (at the Means and 1 SD Above and Below)

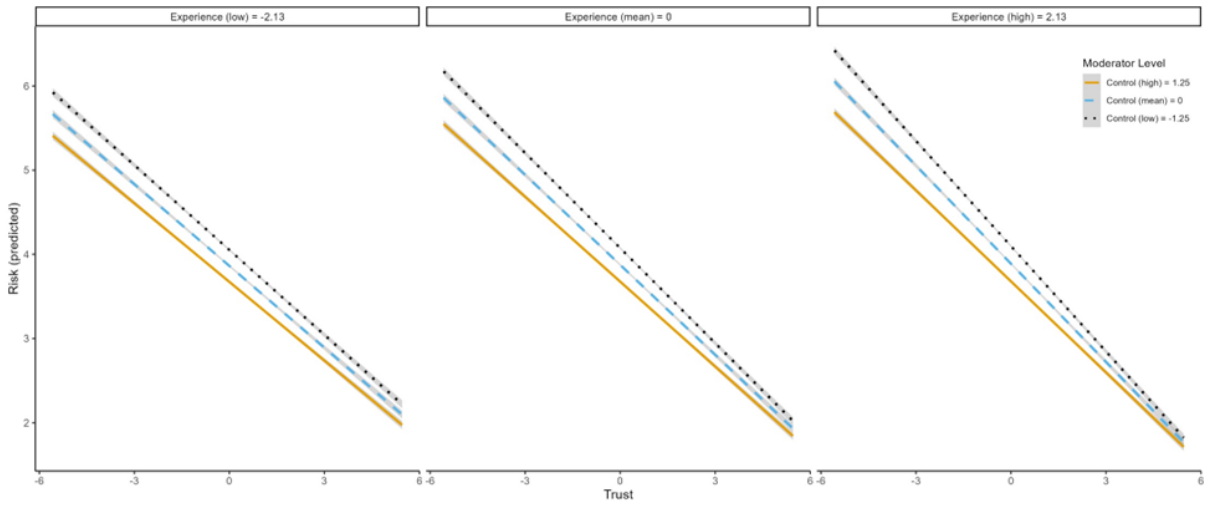

Figure S2

Correlations between Experiential Learning and Personal Control by Domain