Appendix E: Additional analysis

Balance tests in Table 1 indicated possible prior differences ($p < 0.05$) in the VR and Control samples for three variables: worry about Covid-19, urbanization and self-reported risk aversion. This section presents an additional analysis to examine possible interactions of these variables with our hypotheses H1a and H1b. Note that Hypothesis 2 and 3 concern within-subject differences which cannot be affected by sample differences. Table E1 reports the results of ordered probit regressions on investment (H1a), self-efficacy (H1b) and response efficacy (H1b). We find no significant interaction effects for any of the variables with regard to H1a in the first three columns of the table. The main treatment effect is still positive and significant after controlling for these interactions. Therefore, we believe that sample differences have not affected our conclusions about the effect of the VR intervention on investments in the flood risk investment game.

TABLE E1: Test of interactions of covariates with sample (VR versus Control)

	Investment (H1a)			Self-efficacy (H1b)			Response efficacy (H1b)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Sample									
VR (ref = Control)	0.319***	0.400***	0.309***	−0.135	−0.102	−0.171	−0.101	−0.099	−0.126
	(0.122)	(0.133)	(0.115)	(0.126)	(0.135)	(0.126)	(0.127)	(0.137)	(0.127)
Covariates									
Worry about Covid-19	−0.0003	−0.003	−0.004	−0.019	0.055	0.053	0.088	0.091	0.097*
				(0.067)	(0.055)	(0.055)	(0.068)	(0.056)	(0.056)
Urbanization	−0.101	−0.060	−0.103	0.140**	0.180**	0.143**	−0.032	−0.031	−0.037
		(0.064)		(0.067)	(0.074)	(0.067)	(0.067)	(0.074)	(0.067)
Self-reported risk aversion	0.093	0.091***	0.105	−0.004	−0.005	0.004	0.060**	0.060**	0.085***
		(0.026)		(0.025)	(0.025)	(0.028)	(0.025)	(0.025)	(0.028)
Interactions									
Sample × Worry about Covid-19	−0.018			0.216*			0.009		
				(0.118)			(0.119)		
Sample × Urbanization		−0.266			−0.218			−0.009	
					(0.185)			(0.185)	
Sample × Risk aversion			−0.052			−0.034			−0.115*
						(0.059)			(0.059)
Log likelihood	-580.1	-579.2	-579.8	-635.9	-636.9	-637.4	-600.7	-600.7	-598.8
Pseudo R^2 (McFadden)	0.034	0.035	0.035	0.025	0.023	0.022	0.023	0.023	0.026
Covariates	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	384	384	384	384	384	384	384	384	384

Notes: Table reports ordered probit regressions with robust standard errors in parentheses (*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$). Predictor variables worry, urbanization and risk aversion are mean-centered. Included covariates: wrong attempts understanding questions, self-reported difficulty of investment game, ground floor size, gender, age, education, self-reported present bias.

The non-significant coefficients for the VR sample dummy in Models 4 to 9 confirm the null effects of the VR treatment on coping values (H1b) by our non-parametric tests in Figure 6 and the regression results in Table E2. Again, most interaction coefficients are non-significant. However, it should be noted that two coefficients are significant at the 10% level: Sample $\times$ Worry about Covid-19 in Model 4 and Sample $\times$ Risk aversion in Model 9. This shows that our results on coping values may to some degree be influenced by sample differences.

TABLE E2: Ordered probit regressions of coping values

	Self-efficacy	Response efficacy
	(1)	(2)
Treatment		
VR (ref = Control)	−0.163	−0.102
	(0.130)	(0.133)
Covariates		
Wrong attempts understanding questions	−0.015	0.035
	(0.022)	(0.037)
Self-reported difficulty investment game	−0.074	0.025
	(0.065)	(0.065)
Ground floor size	0.0002	0.001
	(0.001)	(0.001)
Urbanization	0.145**	−0.032
	(0.062)	(0.064)
Worry about Covid-19	0.052	0.091
	(0.053)	(0.058)
Demographics		
Gender (1 = female)	−0.061	0.293**
	(0.114)	(0.119)
Age	−0.007**	−0.004
	(0.003)	(0.003)
Education	−0.134***	0.021
	(0.036)	(0.040)
Self-reported risk aversion	−0.004	0.060**
	(0.025)	(0.026)
Self-reported present bias	0.066***	−0.035
	(0.023)	(0.025)
Log likelihood	-637.6	-600.7
Pseudo R^2 (McFadden)	0.022	0.023
Observations	384	384

Notes: Robust standard errors in parentheses (* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$).