

Electronic Supplementary Material 1 for

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Analyses of the full sample without exclusion of SCR non-responders

Participants

Without establishing an exclusion criterion for electrodermal non-responders, the current sample consisted of 564 participants (375 female, 189 male) aged between 18 and 50 years ($M = 25.65$ years, $SD = 6.66$ years).

Results

Ratings of anxiety, $F(1, 561) = 126.24, p < .001, \eta^2 = 0.184$, and depression, $F(1, 561) = 240.51, p < .001, \eta^2 = 0.300$, increased after the onset of the pandemic with small-to-medium effect sizes. The time lag between measurements did not affect these changes ($p > .07, \eta^2 < .01$).

The different indices of threat responsiveness that were derived from the data acquired in laboratory experiment before the onset of the pandemic showed substantial variability in the whole sample (see Table E1). The linear regression models to explore whether these measures might affect changes in anxiety and depression ratings from before to during the pandemic revealed the following findings: First, across all models, pre-pandemic scores predicted anxiety and depression during the pandemic (see Tables E2 and E3). Second, we obtained a significant main effect of CS differences in arousal ratings during generalization phase as well as significant interaction effects of that difference during both acquisition and generalization phase with pre-pandemic scores on depression ratings during the pandemic. Thus, higher depression levels during the pandemic were predicted by reduced CS differentiation and this effect was significantly enhanced for participants who had higher baseline depression scores. Third, we observed a significant interaction effect of average arousal ratings after the acquisition phase and pre-pandemic depression ratings on corresponding scores at T1 such that subjects with high levels of depression who exhibited a lower general threat responsiveness reported significantly higher depression values at T1. Across all analyses, the length of the time period between T0 and T1 did not have a significant effect on changes in negative affect (see Tables E2 and E3).

Table E1: Descriptive statistics of the different measures of threat responsiveness.

Phase	Measure	Arousal ratings				SCR amplitudes			
		<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Acquisition	M_{Resp}	4.52	1.35	1.00	8.50	0.04	0.03	0.00	0.15
	CS_{Diff}	3.01	2.28	-3.50	8.00	0.01	0.03	-0.06	0.13
Generalization	M_{Resp}	4.14	1.55	1.00	8.83	0.03	0.02	0.00	0.14
	CS_{Diff}	3.33	2.46	-6.00	8.00	0.02	0.04	-0.09	0.18
	LDS	0.49	1.55	-5.00	6.25	0.00	0.02	-0.04	0.08

Note. M_{Resp} = Average threat responses across stimuli of the respective phase; CS_{Diff} = Differentiation between CS+ and CS-; LDS = Linear deviation score as a measure of fear generalization.

Table E2: Regression models of T0 scores and experimental threat responsiveness measures during the acquisition phase on anxiety and depression ratings at T1.

Coefficients	Anxiety		Depression	
	Arousal ratings	SCR amplitudes	Arousal ratings	SCR amplitudes
	$R^2_{adj} = .18$	$R^2_{adj} = .19$	$R^2_{adj} = .32$	$R^2_{adj} = .29$
T0 scores	0.658 ***	0.388 ***	0.978 ***	0.526 ***
M _{Resp}	0.068	-0.086	0.021	0.029
CS _{Diff}	0.104	0.038	-0.060	-0.070
T0 scores × M _{Resp}	-0.159	0.110	-0.302 *	0.039
T0 scores × CS _{Diff}	-0.147	-0.143	-0.181 **	-0.038
Time delay	0.068	0.069	0.039	0.044

Note. Standardized model estimates are reported for all coefficients of the respective linear regression model; Adjusted R^2 values are reported as an indicator of model fit; M_{Resp} = Average threat responses across CS+ and CS-; CS_{Diff} = Differentiation between CS+ and CS-; * $p < .05$, ** $p < .01$, *** $p < .001$.

Table E3: Regression models of T0 scores and experimental threat responsiveness measures during the generalization phase on anxiety and depression ratings at T1.

Coefficients	Anxiety		Depression	
	Arousal ratings	SCR amplitudes	Arousal ratings	SCR amplitudes
	$R^2_{adj} = .20$	$R^2_{adj} = .18$	$R^2_{adj} = .33$	$R^2_{adj} = .29$
T0 scores	0.531 ***	0.368 ***	0.813 ***	0.585 ***
M _{Resp}	0.058	-0.103	-0.023	-0.010
CS _{Diff}	0.026	0.038	-0.095 **	-0.003
LDS	-0.125	-0.044	-0.055	0.000
T0 scores × M _{Resp}	-0.016	0.139	-0.096	-0.066
T0 scores × CS _{Diff}	-0.164	-0.003	-0.237 ***	0.020
T0 scores × LDS	0.063	-0.018	0.056	0.016
Time delay	0.069	0.071	0.026	0.043

Note. Standardized model estimates are reported for all coefficients of the respective linear regression model; Adjusted R^2 values are reported as an indicator of model fit; M_{Resp} = Average threat responses across all stimuli of the generalization phase; CS_{Diff} = Differentiation between CS+ and CS-; LDS = Linear deviation score as a measure of fear generalization; ** $p < .01$, *** $p < .001$.

Aggregation of questionnaire data

In the current study, we aggregated the questionnaire data into two factors representing individual differences in anxiety (ASI) and depression (STAI-T, PSWQ and CES-D). This approach was motivated by a previous study (Baumann et al., 2017) and substantiated by the pattern of correlations between questionnaire scores and a confirmatory factor analysis using the software package lavaan for R (Rosseel, 2012). Correlations between CES-D, PSWQ, STAI-T and were larger at both time points than correlations of these questionnaires with the ASI (Table E4). The confirmatory factor analyses revealed a Comparative Fit Index (CFI) of .996 and .994 as well as a Tucker Lewis Index (TLI) of .988 and .982 for T0 and T1, respectively. These values indicate a satisfactory fit of the currently chosen two-factor structure to the data.

Table E4: Bivariate correlations of questionnaire scores at T0 and T1.

	T0			T1		
	ASI	CES-D	PSWQ	ASI	CES-D	PSWQ
ASI						
CES-D	.454			.463		
PSWQ	.524	.534		.483	.575	
STAI-T	.571	.665	.753	.537	.753	.744

Note. ASI = Anxiety Sensitivity Index-3, CES-D = Center for Epidemiologic Studies Depression Scale, PSWQ = Penn State Worry Questionnaire, STAI-T = State-Trait Anxiety Inventory (Trait version); all correlations are statistically significant, $p < .001$.

Table E5: Bivariate correlations between arousal, valence, and US-expectancy ratings for the different measures of threat responsiveness in the acquisition and generalization phase.

		Acquisition		Generalization	
		Arousal	Valence	Arousal	Valence
M _{Resp}	Valence	-.514 ***		-.658 ***	
	US-expectancy	.261 ***	-.081	.435 ***	-.242 ***
CS _{Diff}	Valence	-.657 ***		-.585 ***	
	US-expectancy	.334 ***	-.205 ***	.282 ***	-.283 ***
LDS	Valence			-.555 ***	
	US-expectancy			.241 ***	-.205 ***

Note. M_{Resp} = Average threat responses across stimuli of the respective phase; CS_{Diff} = Differentiation between CS+ and CS-; LDS = Linear deviation score as a measure of fear generalization; *** $p < .001$.

References

Rosseel, Y. (2012). lavaan: An R Package for Structural Equation Modeling. *Journal of Statistical Software*, 48(2), 1–36. <https://doi.org/10.18637/jss.v048.i02>