Supplementary Online Content

Linking specific biological signatures to different forms of childhood adversities: Findings from the Health's Early Roots & Origins (HERO) project.

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Graphical summary

Table S1. Spearman's rank correlation between collected hair mass and cortisol, cortisone, and dehydroepiandrosterone (DHEA) concentrations.

Biomarkers	Hair mass (*mg*)			
	Phase-I		Phase-II	
	rho	*p*	*rho*	*p*
Cortisol	-0.11	0.324	-0.23	0.079
Cortisone	-0.01	0.937	-0.11	0.407
DHEA	-0.13	0.273	-0.20	0.142

Table S2. Biomarkers' concentrations by study's site.

	PHASE-I					
	Study site				Statistic	
Biomarkers	Site 1 N= 53 *M (SD)*	Site 2 N=10 *M (SD)*	Site 3 N=38 *M (SD)*	Site 4 N=59 *M (SD)*	*F*	*p*
TNF-α	0.07 (0.46)	-0.46 (0.63)	-0.18 (0.43)	0.16 (0.3)	4.16	0.010
IL-1β	-0.05 (0.45)	0.13 (0.26)	-0.02 (0.52)	0.09 (0.48)	0.87	0.459
IL-6	0.07 (0.49)	-0.22 (0.35)	-0.01 (0.42)	0.02 (0.51)	0.70	0.555
IL-8	-0.03 (0.46)	-0.21 (0.48)	0.03 (0.48)	0.08 (0.46)	0.94	0.422
Cortisol	-0.05 (0.93)	0.04 (0.14)	0.28 (1.08)	-0.14 (0.61)	0.68	0.569
Cortisone	0 (0.35)	0.06 (0.49)	0.11 (0.45)	-0.11 (0.5)	0.73	0.540
DHEA	-0.05 (0.43)	-0.23 (0.27)	0.09 (0.27)	0.06 (0.47)	0.90	0.448
	PHASE-II					
	Study site				Statistic	
Biomarkers	Site 1 N= 50 *M (SD)*	Site 2 N= 9 *M (SD)*	Site 3 N= 43 *M (SD)*	Site 4 N= 43 *M (SD)*	*F*	*p*
TNF-α	0.08 (0.34)	-0.05 (0.63)	0.01 (0.38)	0.12 (0.42)	0.75	0.524
IL-1β	0.04 (0.51)	-0.17 (0.9)	0.04 (0.5)	0.11 (0.42)	0.73	0.539
IL-6	0.13 (0.48)	-0.01 (0.47)	-0.11 (0.53)	0.01 (0.41)	1.80	0.149
IL-8	0.05 (0.43)	0.04 (0.8)	0.13 (0.48)	0 (0.5)	0.52	0.668
Cortisol	-0.08 (0.84)	-	0.16 (0.78)	-0.05 (0.96)	0.41	0.664
Cortisone	-0.02 (0.44)	-	-0.02 (0.32)	-0.03 (0.24)	0.00	0.998
DHEA	-0.23 (0.47)	-	0.36 (0.33)	0.44 (0.35)	14.12	<0.001

Table S3. Bootstrapped regression coefficients of the association of early life adversity measures with infants' cytokines and steroids.

Outcome	SES-D		GAD-2		FAD		CES-D	
	B	Boot CI	B	Boot CI	B	Boot CI	β	Boot CI
TNF-α pg/ml	**0.13**	**[0.04 : 0.23]**	0.01	[-0.10 : 0.05]	-0.01	[-0.05 : 0.01]	0.00	[-0.03 : 0.02]
IL-1β pg/ml	**0.10**	**[0.01 : 0.20]**	-0.02	[-0.09 : 0.05]	0.00	[-0.03 : 0.02]	0.00	[-0.03 : 0.02]
IL-6 pg/ml	0.03	[-0.06 : 0.12]	0.02	[-0.09 : 0.11]	-0.02	[-0.05 : 0.01]	0.01	[-0.03 : 0.05]
IL-8 pg/ml	0.07	[-0.02 : 0.16]	-0.01	[-0.08 : 0.08]	-0.01	[-0.04 : 0.02]	0.01	[-0.02 : 0.03]
Cortisol pg/mg	-0.02	[-0.29 : 0.23]	-0.08	[-0.20 : 0.05]	**0.08**	**[0.01 : 0.16]**	0.03	[-0.04 : 0.10]
Cortisone pg/mg	0.00	[-0.13 : 0.12]	0.02	[-0.04 : 0.08]	**0.05**	**[0.02 : 0.09]**	-0.02	[-0.04 : 0.01]
DHEA pg/mg	**0.16**	**[0.03 : 0.27]**	0.03	[-0.04 : 0.10]	0.00	[-0.04 : 0.04]	-0.03	[-0.06 : 0.00]

Note. Bold lettering indicates 500 bootstrapping resampling significant associations. Boot CI = 2.5 and 97.5 percentiles. SES-D: Socioeconomic disadvantage index; CES-D: Center for Epidemiological Depression scale; GAD-2: Generalized Anxiety Disorder scale; FAD: Family Assessment Device.

Table S4. Interaction cross-product regression coefficients of the association of early life adversity measures with infants' cytokines and steroids.

Interactions by age

| Outcome | Phase-I | | | | Phase-II | | | |
| | SES-D | | FAD | | SES-D | | CES-D | |
	β	*FDR* q	B	*FDR* q	B	*FDR* q	β	*FDR* q
TNF-α pg/ml	0.00	0.893	0.00	0.295	0.00	0.914	0.00	0.698
IL-1β pg/ml	0.00	0.918	0.00	0.867	-0.01	0.448	0.00	0.460
IL-6 pg/ml	0.00	0.893	0.00	0.426	0.00	0.914	0.00	0.460
IL-8 pg/ml	0.00	0.893	0.00	0.481	-0.01	0.531	0.00	0.460
Cortisol pg/mg	0.02	0.135	-0.01	0.191	0.02	0.914	-0.01	0.698
Cortisone pg/mg	0.00	0.918	0.00	0.295	0.00	0.996	0.00	0.911
DHEA pg/mg	0.00	0.918	0.00	0.481	0.00	0.996	0.00	0.934

Interactions by sex

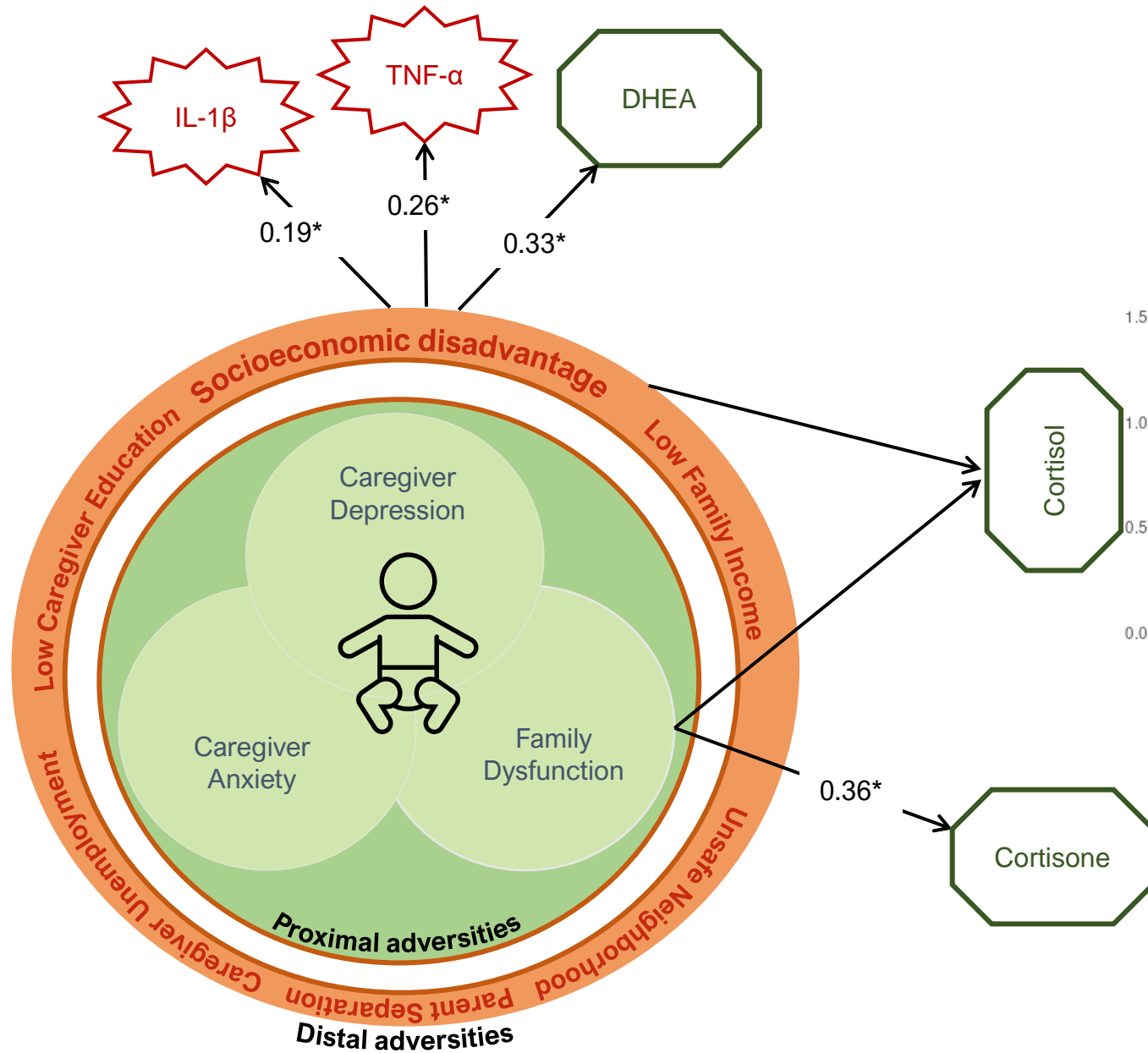| Outcome | Phase-I | | | | Phase-II | | | |
| | SES-D | | FAD | | SES-D | | CESD-8 | |
	B	*FDR* q	B	*FDR* q	B	*FDR* q	β	*FDR* q
TNF-α pg/ml	0.00	0.893	0.00	0.295	0.00	0.914	0.00	0.698
IL-1β pg/ml	0.00	0.918	0.00	0.867	-0.01	0.448	0.00	0.460
IL-6 pg/ml	0.00	0.893	0.00	0.426	0.00	0.914	0.00	0.460
IL-8 pg/ml	0.00	0.893	0.00	0.481	-0.01	0.531	0.00	0.460
Cortisol pg/mg	0.02	0.135	-0.01	0.191	0.02	0.914	-0.01	0.698
Cortisone pg/mg	0.00	0.918	0.00	0.295	0.00	0.996	0.00	0.911
DHEA pg/mg	0.00	0.918	0.00	0.481	0.00	0.996	0.00	0.934

Note. SES-D: Socioeconomic disadvantage index; CESD-8: Center for Epidemiological Depression scale; GAD-2: Generalized Anxiety Disorder scale; FAD: Family Assessment Device.

Table S.5. Regression coefficients with the interaction of Socioeconomic Disadvantage and Family Function in HERO Phase-I.

Outcome	SES		GAD-2		FAD		CESD-8		SES x FAD		R^2
	B	p	B	p	B	p	B	p	β	*FDR q*	
TNF-α pg/ml	0.22	0.248	-0.02	0.317	-0.01	0.430	0.00	0.720	-0.01	0.496	0.11
IL-1β pg/ml	0.09	0.578	0.00	0.856	0.00	0.878	0.00	0.582	0.00	0.496	0.04
IL-6 pg/ml	-0.10	0.559	0.00	0.950	-0.02	0.313	0.00	0.677	0.02	0.467	0.02
IL-8 pg/ml	0.07	0.671	0.00	0.795	0.00	0.805	0.00	0.659	0.00	0.496	0.02
Cortisol pg/mg	0.71	0.059	-0.04	0.274	0.04	0.260	0.03	0.176	**-0.13**	**0.028**	0.15
Cortisone pg/mg	-0.06	0.737	0.01	0.397	0.05	0.005	-0.01	0.216	0.01	0.496	0.12
DHEA pg/mg	-0.02	0.909	0.01	0.732	0.00	0.968	-0.01	0.321	0.02	0.467	0.09

Note. Bold lettering indicates FDR adjusted significant interaction ($p < 0.05$). SES-D: Socioeconomic disadvantage index; CESD-8: Center for Epidemiological Depression scale; GAD-2: Generalized Anxiety Disorder scale; FAD: Family Assessment Device.

Graphical Summary
HERO Phase I

Socioeconomic Disadvantage
X
Family Dysfunction