How do genes get outside the skin? Mechanisms underlying Gene×Environment interactions in child externalizing problems

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Supplements

SUPPLEMENT A

Table A.1 / Intervention Effects of Reported and Observed Child and Parent Behavior – Completers Only.

	Intercept		Slope		Corrected					X^2
Outcome	*B*	(*SD*)	*B*	(*SD*)	*p* value	X^2	(*df*)	CFI	RMSEA	*p* value
Child behavior										
Reported externalizing behavior	.109	(.06)	-.145***	(.04)	.00	11.90	(2)	.97	.12	
Observed externalizing behavior	.086	(.08)	-.077	(.07)	.36	7.04	(4)	.95	.04	
Reported prosocial behavior	-.027	(.07)	.007	(.03)	.84	0.18	(2)	1.00	.00	.92
Observed prosocial behavior	-.011	(.07)	.037	(.06)	.61	3.88	(4)	1.00	.00	.42
Parent behavior										
Reported negative behavior	.113	(.06)	-.224***	(.04)	.00	20.79	(2)	.93	.17	
Observed negative behavior	-.048	(.11)	-.104	(.09)	.36	5.83	(4)	.99	.04	
Reported positive behavior	.050	(.07)	.226***	(.04)	.00	10.80	(2)	.98	.11	
Observed positive behavior	.174	(.10)	.327***	(.07)	.00	16.64	(4)	.96	.10	

Note. df = degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation. As X^2 < df, the CFI is set to 1.0 and RSMEA to .001, which makes it sufficient to read off whether the *p* value is not significant. *p < .05; **p < .01; *** p < 001.

SUPPLEMENT B

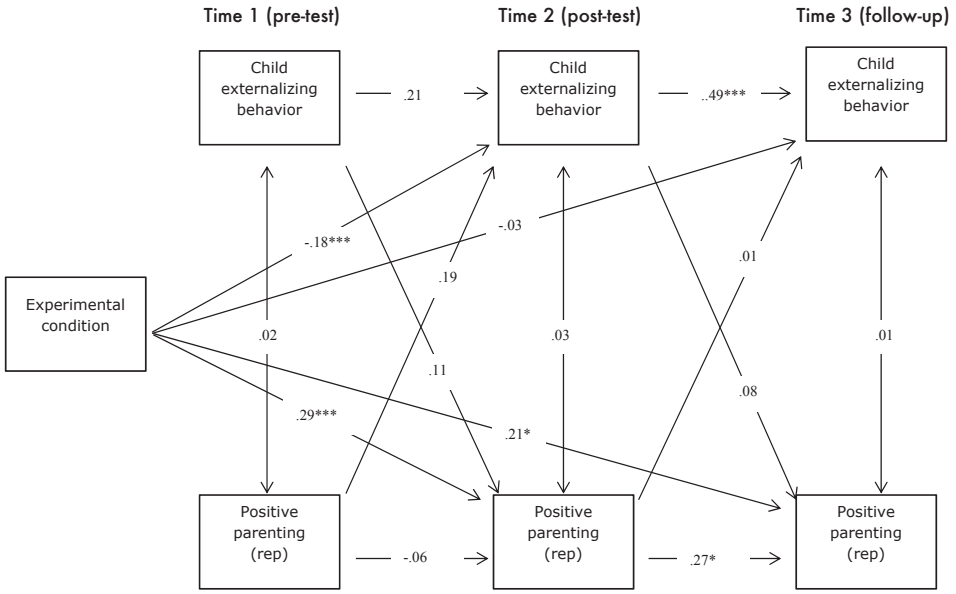

Figure B.1 / Random intercept cross lagged model for parental negative affect ($X^2(N = 387, 3) = 7.21$ CFI = .99, TLI = .94, RMSEA = .06). Indirect effect: $B = .000$; $SD = .006$; $p = .99$; 95% CI -.010 - .009.

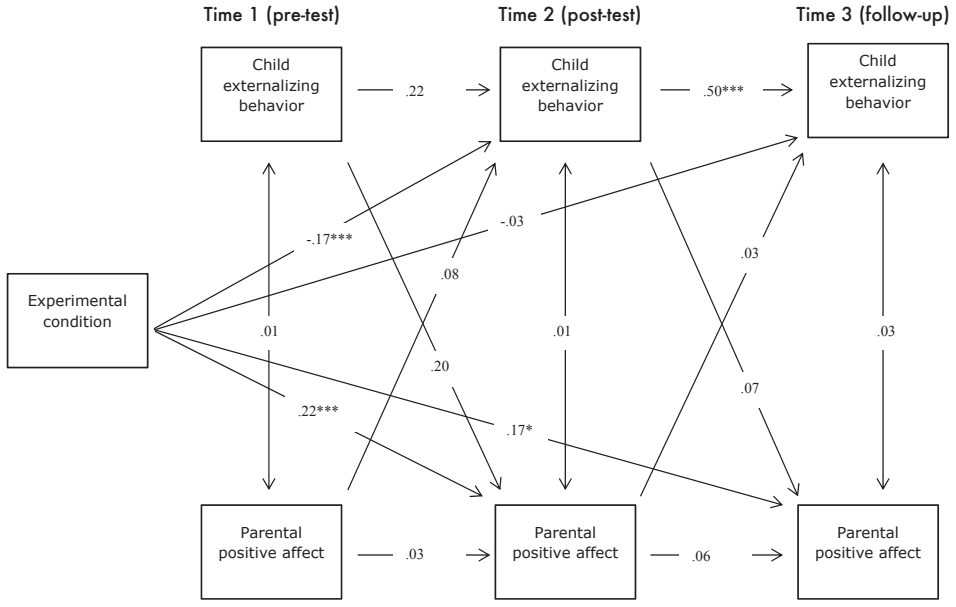

Figure B.2 / Random intercept cross lagged model for parental positive affect ($X^2(N = 387, 3) = 6.01$ CFI = 1.00, TLI = .96, RMSEA = .05). Indirect effect: $B = .006$; $SD = .017$; $p = .71$; 95% CI -.020 - .033.

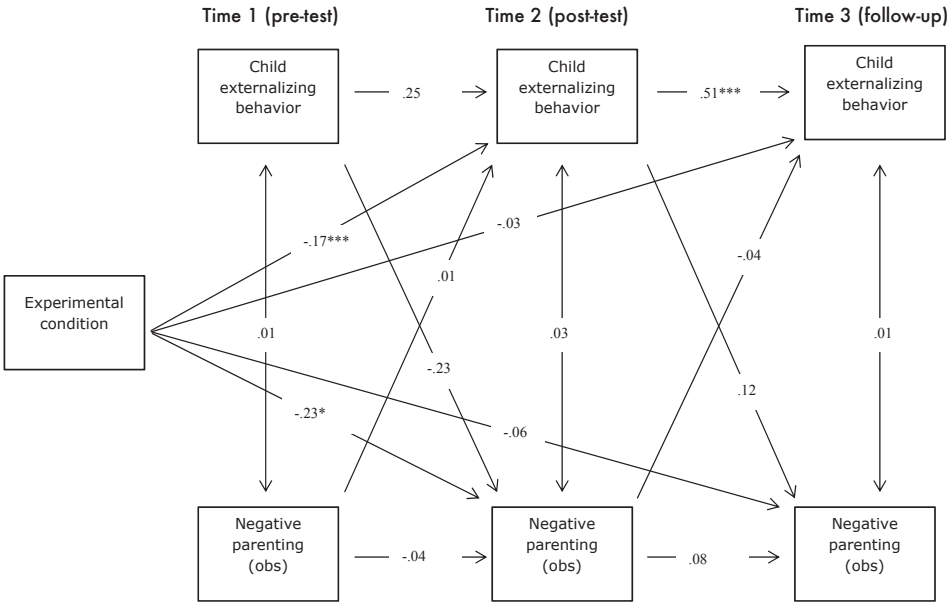

Figure B.3 / Random intercept cross lagged model for observed negative parenting ($X^2(N = 387, 3) = 8.86$, CFI = .99, TLI = .92, RMSEA = .07). Indirect effect: $B = .008$; $SD = .013$; $p = .55$; 95% CI: -.008 – .035.

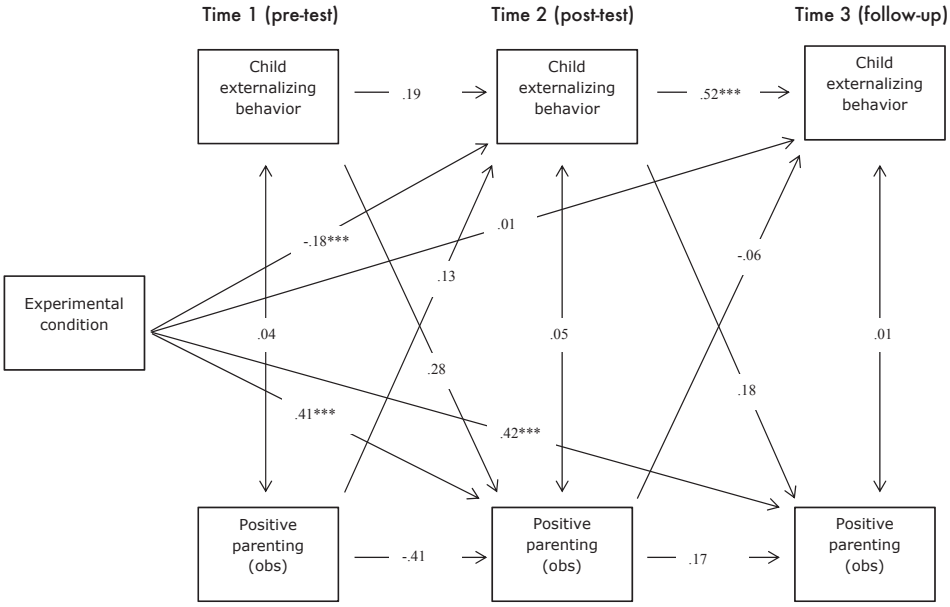

Figure B.4 / Random intercept cross lagged model for observed positive parenting ($X^2(N = 387, 3) = 6.32$, CFI = 1.00, TLI = .97, RMSEA = .05). Indirect direct: $B = -.025$; $SD = .018$; $p = .18$; 95% CI: -.060 - .000.

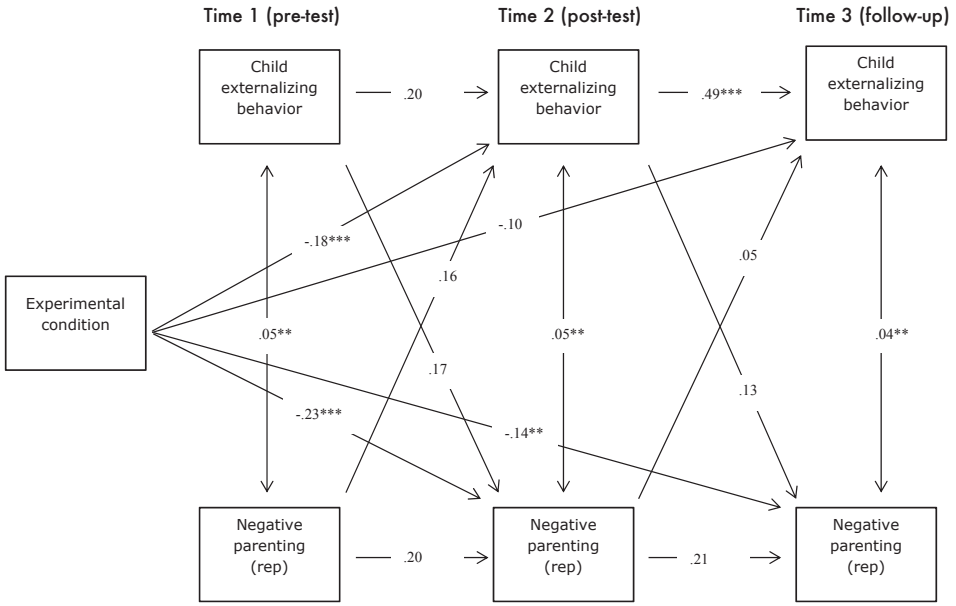

Figure B.5 / Random intercept cross lagged model for reported negative parenting ($X^2(N = 387, 3) = 5.49$ CFI = 1.00, TLI = .97, RMSEA = .05). Indirect effect: B = -.014; SD = .023; p = .55; 95% CI: -0.053 - .023

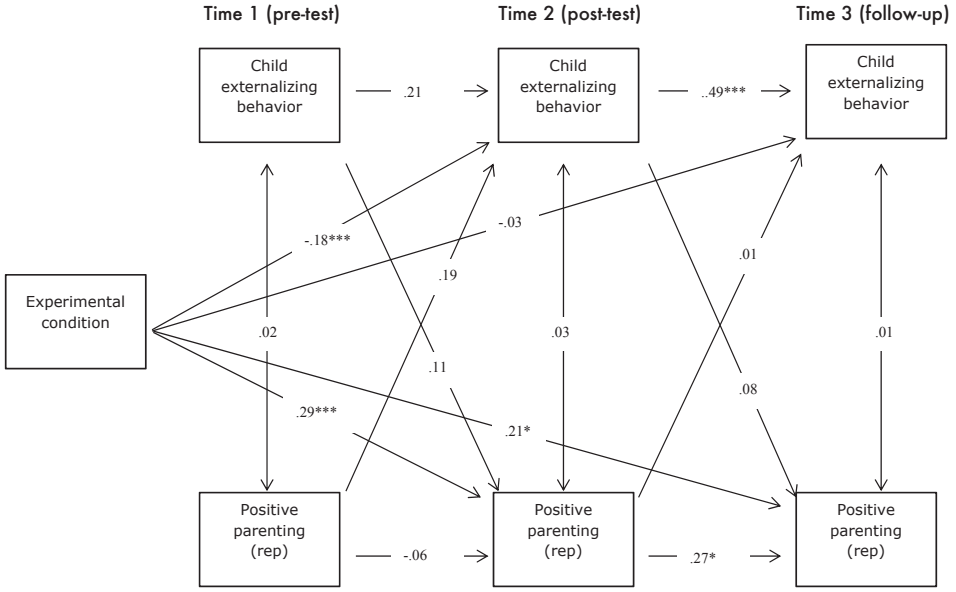

Figure B.6 / Random intercept cross lagged model for reported positive parenting ($X^2(N = 387, 3) = 3.84$ CFI = 1.00, TLI = .99, RMSEA = .03). Indirect effect: B = .003; SD = .024; p = .91; 91% CI: -.037 - .043.

SUPPLEMENT C

Table C.1 / Multivariate Results Auxiliary Analyses Motor Reactivity to Condition Stimuli.

	Wilk's Lambda	*F*	*df*	*dferror*	*p*	Partial η^2
	Including one parent-child dyad per family (n = 360)					
Condition	.90	8.85	4.00	680.00	.00	.05
5-HTTLPR	1.00	.74	2.00	340.00	.48	.00
Negative parenting	1.00	1.04	2.00	340.00	.35	.01
Positive parenting	.99	1.98	2.00	340.00	.14	.01
Condition×*5-HTTLPR*	.99	.80	4.00	680.00	.53	.01
Condition×negative parenting	.99	.60	4.00	680.00	.67	.00
Condition×positive parenting	.99	.85	4.00	680.00	.50	.01
Condition×*5-HTTLPR*×negative parenting	.98	1.21	6.00	680.00	.30	.01
Condition×*5-HTTLPR*×positive parenting	.99	.54	6.00	680.00	.78	.01
	Excluding children from non-European descent (n = 360)					
Condition	.91	8.16	4.00	680.00	.00	.05
5-HTTLPR	1.00	.11	2.00	340.00	.90	.00
Negative parenting	1.00	.37	2.00	340.00	.69	.00
Positive parenting	.98	4.42	2.00	340.00	.01	.03
Condition×*5-HTTLPR*	.99	.54	4.00	680.00	.70	.00
Condition×negative parenting	1.00	.28	4.00	680.00	.89	.00
Condition×positive parenting	.98	1.73	4.00	680.00	.14	.01
Condition×*5-HTTLPR*×negative parenting	.97	1.49	6.00	680.00	.18	.01
Condition×*5-HTTLPR*× positive parenting	.99	.33	6.00	680.00	.92	.00
	Including a tri-allelic factor (n = 403)					
Condition	.93	6.23	4.00	662.00	.00	.04
Tri-allelic score	.99	1.02	4.00	762.00	.40	.01
Negative parenting	1.00	.78	2.00	331.00	.46	.01
Positive parenting	.99	1.54	2.00	331.00	.22	.01
Condition×*5-HTTLPR*	.98	1.04	8.00	662.00	.41	.01
Condition×negative parenting	1.00	.43	4.00	662.00	.79	.00
Condition×positive parenting	1.00	.26	4.00	662.00	.90	.00
Condition×*5-HTTLPR*×negative parenting	.98	.64	12.00	662.00	.81	.01
Condition×*5-HTTLPR*× positive parenting	.99	.41	12.00	662.00	.96	.01

Table C.1 / Multivariate Results Auxiliary Analyses Motor Reactivity to Condition Stimuli. (Continued)

	Wilk's Lambda	*F*	*df*	*dferror*	*p*	Partial η^2
	Including child age and gender (n = 405)					
Condition	.98	1.57	4.00	768.00	.18	.01
5-HTTLPR	1.00	.49	2.00	384.00	.61	.00
age	1.00	.88	2.00	384.00	.42	.01
gender	.99	1.32	2.00	384.00	.27	.01
Condition×*5-HTTLPR*	.99	.83	4.00	768.00	.51	.00
Condition×age	.99	.58	4.00	768.00	.68	.00
Condition×gender	.96	4.10	4.00	768.00	.00	.02
Condition×*5-HTTLPR*×age	.99	.89	6.00	768.00	.51	.01
Condition×*5-HTTLPR*×gender	.88	.42	6.00	768.00	.87	.00

Table C.2 / Multivariate Results Auxiliary Analyses Affective Reactivity to Condition Stimuli.

	Wilk's Lambda	*F*	*df*	*dferror*	*p*	Partial η^2
	Including one parent-child dyad per family (n = 404)					
Condition	.96	4.45	4.00	766.00	.00	.02
5-HTTLPR	1.00	.88	2.00	383.00	.41	.01
Negative parenting	1.00	.10	2.00	383.00	.90	.00
Positive parenting	.97	5.63	2.00	383.00	.00	.03
Condition×*5-HTTLPR*	1.00	.31	4.00	766.00	.87	.00
Condition×negative parenting	.98	1.62	4.00	766.00	.17	.01
Condition×positive parenting	.99	1.05	4.00	766.00	.38	.01
Condition×*5-HTTLPR*×negative parenting	.99	.84	6.00	766.00	.78	.01
Condition×*5-HTTLPR*×positive parenting	.99	.89	6.00	766.00	.50	.01
	Excluding children from non-European descent (n = 415)					
Condition	.95	5.05	4.00	788.00	.00	.03
5-HTTLPR	1.00	.72	2.00	394.00	.49	.00
Negative parenting	1.00	.02	2.00	394.00	.98	.00
Positive parenting	.97	6.88	2.00	394.00	.00	.03
Condition×*5-HTTLPR*	.99	1.17	4.00	788.00	.32	.01
Condition×negative parenting	.98	1.74	4.00	788.00	.14	.01
Condition×positive parenting	.99	1.53	4.00	788.00	.19	.01
Condition×*5-HTTLPR*×negative parenting	.99	.92	6.00	788.00	.48	.01
Condition×*5-HTTLPR*× positive parenting	.99	.74	6.00	788.00	.62	.01
	Including a tri-allelic factor (n = 460)					
Condition	.96	4.89	4.00	860.00	.00	.02
5-HTTLPR	1.00	.39	4.00	860.00	.82	.00
Negative parenting	1.00	.50	2.00	430.00	.61	.00
Positive parenting	.99	2.67	2.00	430.00	.07	.01
Condition×*5-HTTLPR*	.99	.47	8.00	860.00	.88	.00
Condition×negative parenting	.99	1.07	4.00	860.00	.37	.01
Condition×positive parenting	1.00	.32	4.00	860.00	.86	.00
Condition×*5-HTTLPR*×negative parenting	.97	1.30	12.00	860.00	.21	.02
Condition×*5-HTTLPR*× positive parenting	.97	1.20	12.00	860.00	.28	.02

Table C.2 / Multivariate Results Auxiliary Analyses Affective Reactivity to Condition Stimuli. (Continued)

	Wilk's Lambda	*F*	*df*	*dferror*	*p*	Partial η^2
	Including child age and gender (n = 460)					
Condition	.99	1.24	4.00	878.00	.29	01
5-HTTLPR	.99	1.76	2.00	439.00	.17	.01
age	.99	2.20	2.00	439.00	.11	.01
gender	.99	2.52	2.00	439.00	.09	.01
Condition×*5-HTTLPR*	1.0	.12	2.00	439.00	.89	.00
Condition×age	.98	1.82	4.00	878.00	.12	.01
Condition×gender	.99	1.38	4.00	878.00	.24	.01
Condition×*5-HTTLPR*×age	.98	1.22	6.00	878.00	.30	.01
Condition×*5-HTTLPR*×gender	.99	.85	8.00	878.00	.56	.01