

Previous Institutionalization
Worsens the Relationship
Between Current Life Stress,
Internalizing Psychopathology,
and Adaptive Functioning

INTRODUCTION

Mental health and well-being later in life depend heavily on experiences during development.

Adverse early environments account for nearly half of child-onset and a third of adult-onset mental health disorders such as anxiety, mood, and psychotic disorders¹.

RESEARCH QUESTION

How might early life stress interact with current life stress in determining people’s mental health, and well-being?

COMPETING HYPOTHESES

- Stress inoculation

Early stressors lead to coping and resilience².
- Stress accumulation

Stress is additive in deleterious effects. Heightens vulnerability to future stressors³.

Little work has examined the effect of severe early neglect (such as institutionalization) on people’s ability to deal with later stressful experiences.

METHODS

Variables	Measures
Early Life Stress	Previous Institutionalization or Comparison Group
Current Life Stress	Life Events Questionnaire (LEQ) 12-Month Total, 3-Month Total, Maximum Impact
Internalizing Psychopathology & Adaptive Functioning	Adult Self Report (ASR - 18 years or over) Child Behavior Checklist (CBCL - Under 18 years)

Participants

	N	PI	Comparison
Adults	20	18	38
Minors	25	32	57
	45	50	95
	M _{age} = 16.24 years (9-24)		

Severe
early life neglect
impairs the ability to
cope with stress
later in life

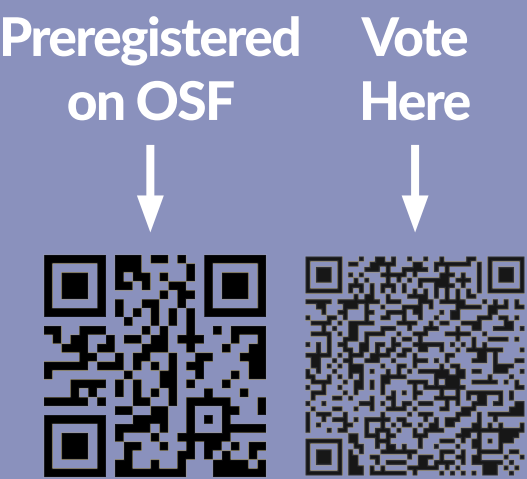
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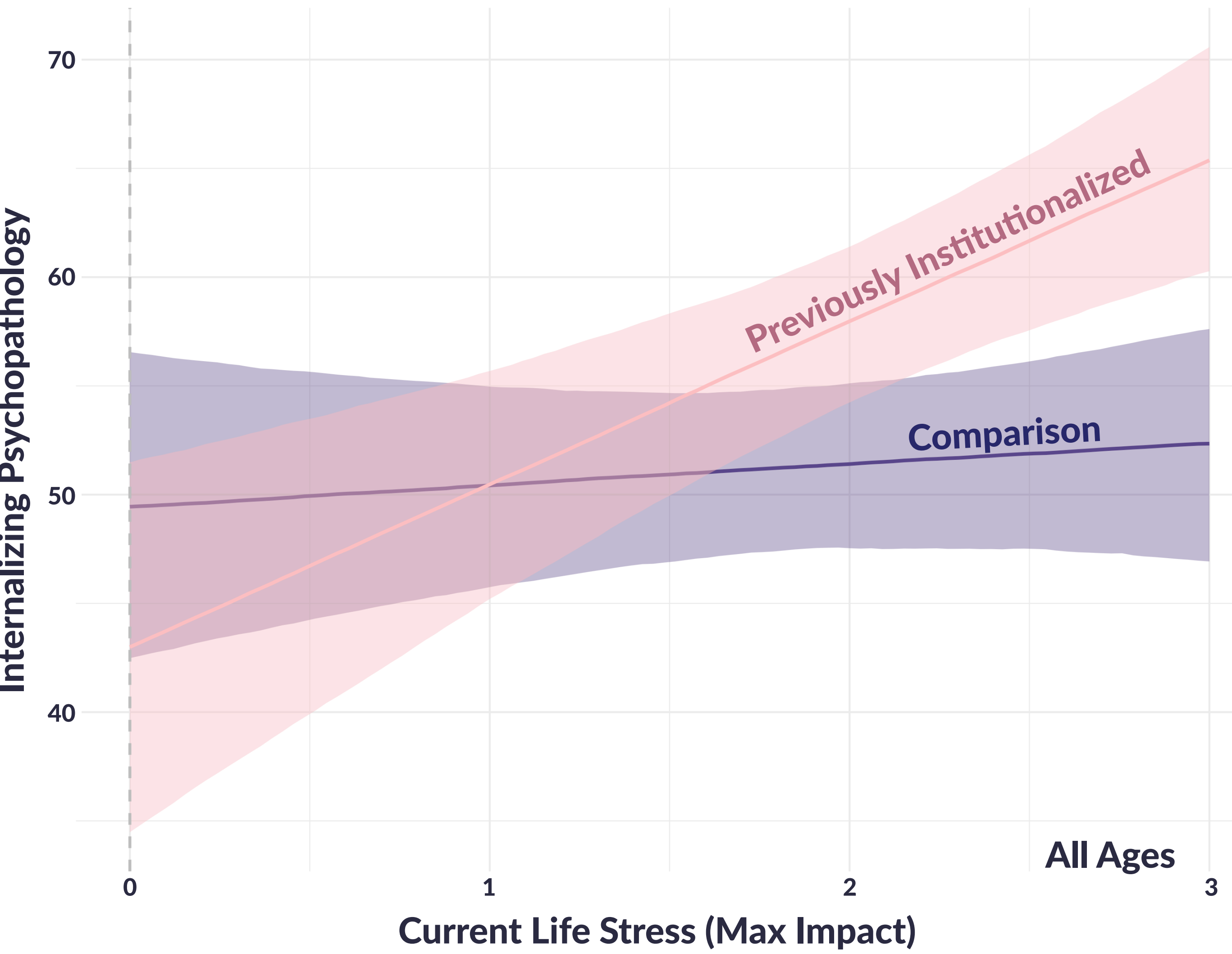


SAND Lab



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RESULTS



Internalizing Psychopathology			Adaptive Functioning		
All Ages			All Ages		
Adults	Minors		Adults	Minors	
Accumulation 1.28 [-0.51, 3.41]	Accumulation 1.39 [-2.77, 5.05]	Accumulation 1.28 [-1.13, 3.41]	Accumulation -0.62 [-2.36, 1.07]	Accumulation -3.01* [-5.63, -0.30]	Inoculation 0.61 [-1.83, 2.82]
Accumulation 1.95 [-0.62, 4.65]	Accumulation 2.33 [-1.92, 6.92]	Accumulation 2.15 [-1.47, 5.71]	Accumulation -0.48 [-2.81, 1.77]	Accumulation -1.28 [-4.57, 1.67]	Inoculation 0.71 [-2.82, 4.17]
Max Impact Accumulation 6.47* [1.65, 11.30]	Max Impact Accumulation 11.5* [0.44, 23.20]	Max Impact Accumulation 5.52 [-0.30, 11.50]	Max Impact Accumulation -4.13 [-8.43, 0.40]	Max Impact Accumulation -7.76 [-15.40, 0.87]	Max Impact Accumulation -2.00 [-8.43, 4.20]

Internalizing Psychopathology or Adaptive Functioning = Early Life Stress*Current Life Stress + Age + Gender

Estimates are for the interaction terms. * Denotes significance at the $\alpha = .05$ level

DISCUSSION

- In the case of institutionalization, the overall pattern suggests that stress accumulates, rather than inoculates.

LIMITATIONS

- Validity - different instrument for adults versus minors
- Power - small sample size

FUTURE DIRECTIONS

- Comparing individuals adopted at different timepoints to identify sensitive periods for intervention
- Exploring adolescence as an opportunity for secondary prevention

		Internalizing Psychopathology			Adaptive Functioning			
		All Participants	Adults	Minors	All Participants	Adults	Minors	
Current Life Stress	12-Month	Trend:	Accumulation	Accumulation	Accumulation	Accumulation	Accumulation	Inoculation
		Contrast:	1.28	1.39	1.28	-0.62	-3.01*	0.61
		95% CI	[-0.51,3.41]	[-2.77,5.05]	[-1.13,3.41]	[-2.36,1.07]	[-5.63,-0.30]	[-1.83,2.82]
	3-Month	Trend:	Accumulation	Accumulation	Accumulation	Accumulation	Accumulation	Inoculation
		Contrast:	1.95	2.33	2.15	-0.48	-1.28	0.71
		95% CI	[-0.62,4.65]	[-1.92,6.92]	[-1.47,5.71]	[-2.81,1.77]	[-4.57,1.67]	[-2.82,4.17]
	Max Impact	Trend:	Accumulation	Accumulation	Accumulation	Accumulation	Accumulation	Accumulation
		Contrast:	6.47*	11.5*	5.52	-4.13	-7.76	-2.00
		95% CI	[1.65,11.30]	[0.44,23.20]	[-0.30,11.50]	[-8.43,0.40]	[-15.40,0.87]	[-8.43,4.20]

		Internalizing Psychopathology												
		All Participants				Adults				Minors				
		B	Error	95% CI	*	B	Error	95% CI	*	B	Error	95% CI	*	
				[Lower	Upper]				[Lower	Upper]				[Lower
Current Life Stress (CLS)	12-Month	Intercept	46.01	5.71	35.10	57.12 *	57.09	32.10	-5.91	121.87	43.67	9.62	25.09	62.41 *
		Group - PI	1.36	4.50	-7.48	10.59	-3.58	10.07	-23.61	16.51	3.48	5.04	-6.30	13.71
		CLS - 12MO	0.58	0.72	-0.87	1.98	0.69	1.43	-2.19	3.47	0.31	0.81	-1.28	1.86
		Gender - Male	-2.00	2.46	-6.79	2.79	-5.98	5.17	-16.02	4.43	0.18	2.92	-5.40	5.93
		Age	0.16	0.33	-0.50	0.84	-0.22	1.45	-3.14	2.67	0.28	0.69	-1.10	1.67
		Group - PI : CLS - 12MO	1.28	1.00	-0.67	3.27	1.39	1.98	-2.60	5.26	1.29	1.16	-1.04	3.54
	3-Month	Intercept	46.69	5.75	35.33	58.09 *	55.63	30.59	-2.71	116.05	46.44	10.59	25.55	66.77 *
		Group - PI	3.40	3.36	-3.32	9.82	-2.00	6.63	-14.98	10.95	5.78	4.01	-2.06	13.70
		CLS - 3MO	-0.45	0.88	-2.19	1.25	-0.03	1.35	-2.68	2.62	-1.26	1.30	-3.90	1.22
		Gender - Male	-2.70	2.43	-7.39	2.04	-7.67	4.92	-17.35	2.15	0.31	3.11	-5.71	6.54
		Age	0.31	0.34	-0.38	1.00	0.05	1.45	-2.85	2.85	0.26	0.75	-1.17	1.77
		Group - PI : CLS - 3MO	1.97	1.35	-0.60	4.70	2.34	2.27	-2.03	6.88	2.11	1.85	-1.45	5.76
	Max Impact	Intercept	46.89	5.40	36.21	57.49 *	72.17	32.96	7.06	136.33 *	45.51	9.85	26.06	65.17 *
		Group - PI	-6.34	5.33	-16.77	4.20	-22.86	14.31	-50.90	5.44	-2.26	6.18	-14.46	9.85
		CLS - Max Impact	1.00	1.61	-2.13	4.17	-3.41	4.75	-13.00	5.84	1.21	1.81	-2.42	4.92
		Gender - Male	-3.21	2.44	-7.98	1.43	-8.06	4.81	-17.79	1.06	-1.03	2.79	-6.48	4.53
		Age	0.15	0.32	-0.48	0.80	-0.37	1.35	-3.02	2.30	0.10	0.71	-1.33	1.51
		Group PI : CLS - Max Impact	6.46	2.44	1.54	11.28 *	11.59	5.82	0.47	23.36 *	5.48	3.01	-0.36	11.50
		</												

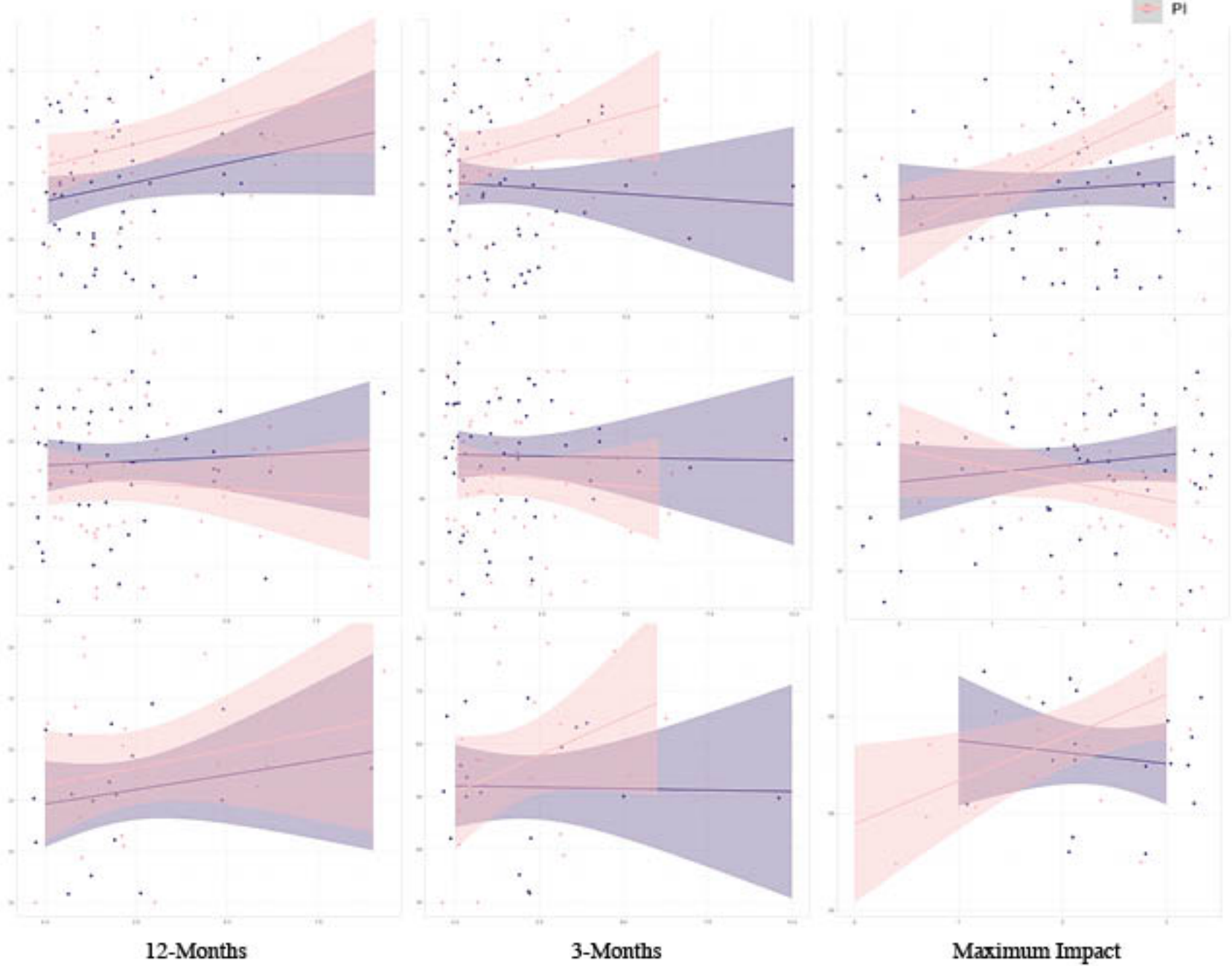
Comparison
PI

All Participants

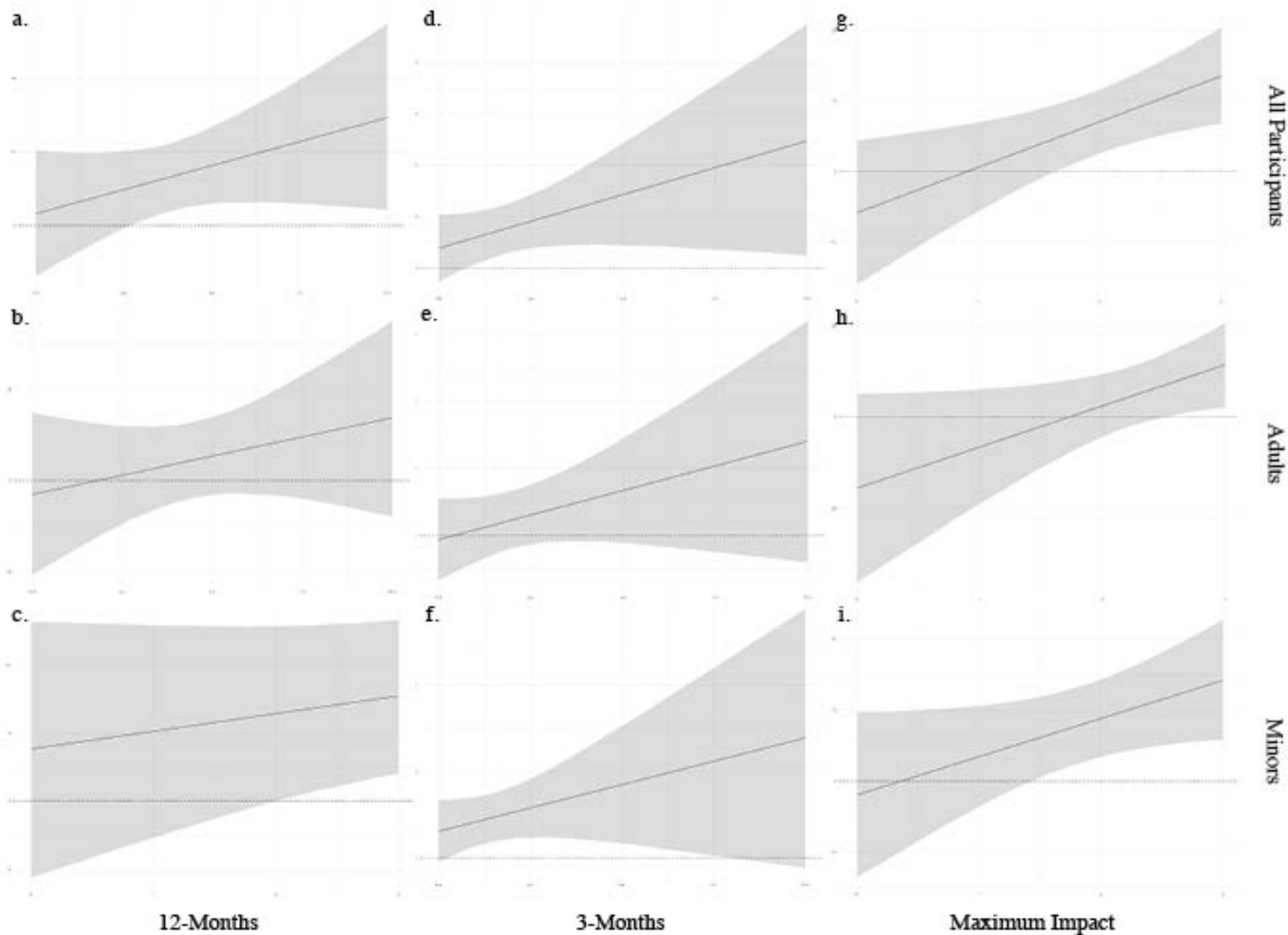
Adults

Minors

Internalizing Psychopathology



Internalizing Psychopathology - Marginal Effects



		Adaptive Functioning											
		All Participants				Adults				Minors			
		B	Error	95% CI	*	B	Error	95% CI	*	B	Error	95% CI	*
		[Lower		Upper]		[Lower		Upper]		[Lower		Upper]	
12-Month	Intercept	44.83	5.20	34.58	55.19 *	52.48	21.51	10.32	96.00 *	58.47	10.14	38.87	78.57 *
	Group - PI	-0.90	3.98	-8.87	6.79	10.86	6.84	-2.86	24.00	-5.97	5.17	-16.03	3.98
	CLS - 12MO	0.03	0.62	-1.16	1.27	1.10	0.99	-0.83	3.04	-0.54	0.82	-2.15	1.07
	Gender - Male	-1.24	2.22	-5.63	3.17	-4.88	3.51	-12.03	1.95	-0.74	3.09	-6.67	5.30
	Age	0.15	0.30	-0.45	0.75	-0.33	0.97	-2.22	1.57	-0.78	0.72	-2.21	0.70
	Group - PI : CLS - 12MO	-0.65	0.88	-2.36	1.07	-3.00	1.36	-5.62	-0.26 *	0.59	1.19	-1.75	2.92
3-Month	Intercept	45.05	5.00	35.11	54.79 *	69.35	22.22	26.17	113.96 *	59.08	10.02	38.39	78.05 *
	Group - PI	-2.59	2.97	-8.49	3.18	0.04	4.65	-9.03	9.07	-4.75	3.88	-12.47	2.81
	CLS - 3MO	-0.10	0.77	-1.58	1.47	0.61	0.93	-1.20	2.42	-1.22	1.29	-3.72	1.34
	Gender - Male	-1.02	2.22	-5.43	3.37	-3.67	3.56	-10.67	3.23	-0.44	3.01	-6.17	5.55
	Age	0.14	0.30	-0.45	0.74	-1.02	1.05	-3.10	1.01	-0.85	0.71	-2.21	0.58
	Group - PI : CLS - 3MO	-0.47	1.18	-2.77	1.84	-1.32	1.59	-4.54	1.70	0.69	1.80	-2.85	4.16
Max Impact	Intercept	43.18	5.06	33.14	53.14 *	55.52	23.44	9.99	101.60 *	55.10	10.02	34.87	74.17 *
	Group - PI	4.76	4.94	-4.60	14.50	14.72	10.24	-5.07	34.54	-0.65	6.67	-13.60	12.71
	CLS - Max Impact	1.39	1.54	-1.70	4.31	2.52	3.40	-4.25	8.90	1.23	1.89	-2.55	4.89
	Gender - Male	-0.99	2.24	-5.34	3.44	-3.54	3.37	-10.16	3.14	-0.58	3.03	-6.65	5.19
	Age	0.09	0.30	-0.51	0.67	-0.58	0.95	-2.44	1.33	-0.80	0.72	-2.21	0.65
	Group PI : CLS - Max Impact	-4.16	2.30	-8.63	0.30	-7.79	4.19	-15.94	0.48	-2.03	3.21	-8.58	4.12

* Indicates significance at .05 level

Indicates significant interaction

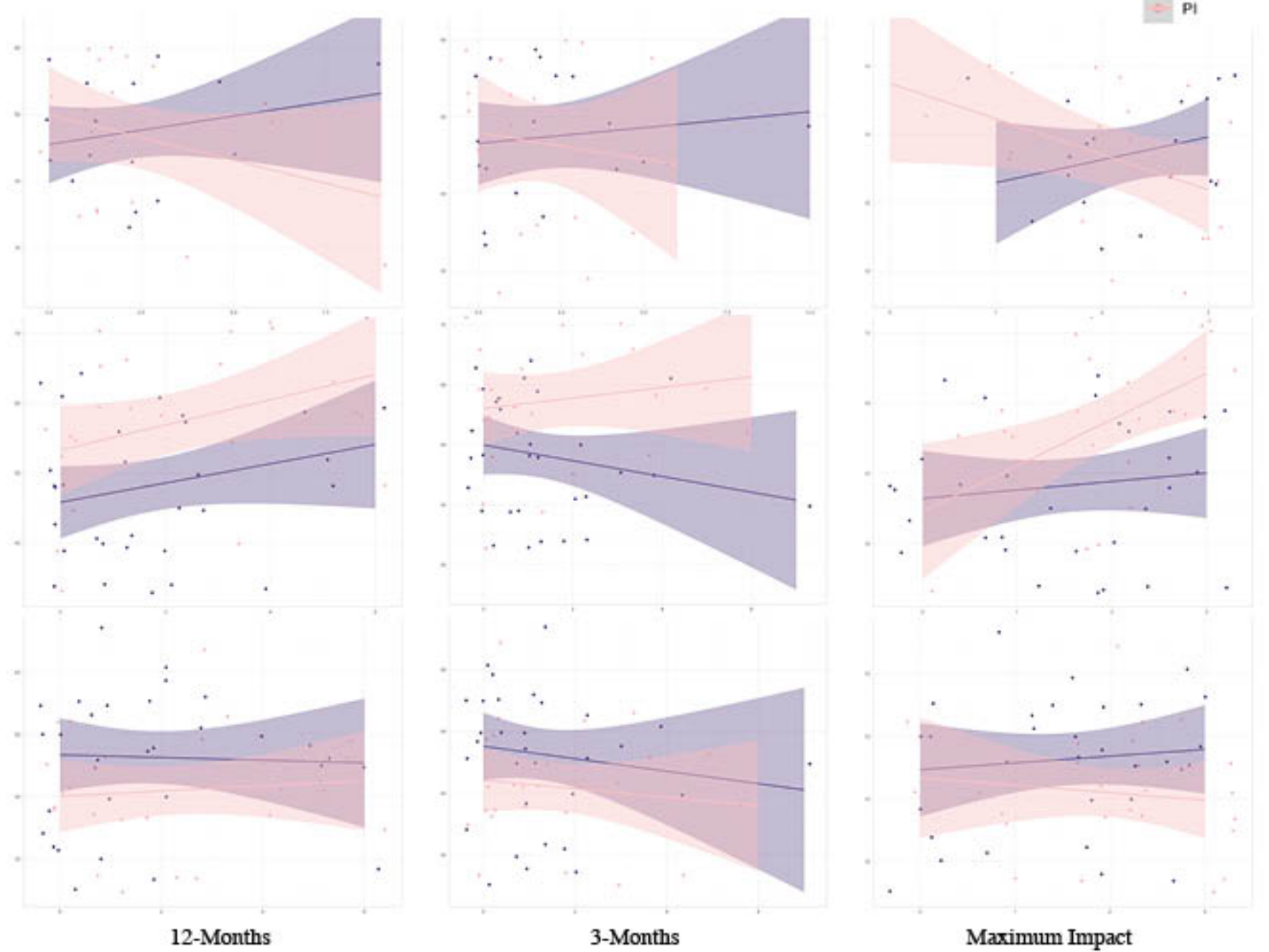
Comparison
PI

All Participants

Adults

Minors

Adaptive Functioning



Adaptive Functioning - Marginal Effects

