

The Contribution of Neighborhood Socioeconomic Disadvantage to Depressive Symptoms Over the Course of Adult Life: A 32-Year Prospective Cohort Study

Marko Elovainio, Jussi Vahtera, Jaana Pentti, Christian Hakulinen, Laura Pulkki-Råback, Jari Lipsanen, Marianna Virtanen, Liisa Keltikangas-Järvinen, Mika Kivimäki, Mika Kähönen, Jorma Viikari, Terho Lehtimäki, and Olli Raitakari

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WEB APPENDIX

Justification of and Cutoff Points for Childhood Psychosocial Risk Factors

We hypothesized that each of the separate risk domain clusters, particularly the accumulation of risk across domains during childhood and adolescence, would be associated with a higher risk of depressive symptoms and a more rapid progression of depressive symptom severity in adulthood. We used the approach suggested by Evans et al. (17). First we formed domain-specific risk clusters by combining overlapping risk factors into summary scores. Second, we summed the dichotomous domain-specific risk factor summary scores into a cumulative measure across all domains.

Web Table 1. Childhood risk categories and their components

Risk Cluster Category and Component	Measure/Scale
Socioeconomic risk cluster	
Low occupational status	Manual occupation (both parents)
Low educational level	Comprehensive school (both parents)
Low family income	Annual income in lowest quartile
Unsteady employment history	Unemployment, long-term sick leave, disability pension (either of parents)
Psycho-emotional risk factors	
Parental mental health status	Any diagnosis of mental disorder
Child-rearing style	The nurturance scale (negative response, i.e., 4 or 5 in any item)
Low life satisfaction	The dissatisfaction scale (negative response, i.e., 4 or 5 in any item)
Heavy alcohol use	Heavy intoxication (>6 units) weekly
Stressful life-events	
Moving home	Change of residence at least three times
Change of school	Change of school at least one time
Divorce	Parental divorce or separation
Death of significant person	Death of a family member/close person
Hospitalization and/or serious illness	Long-term hospitalization (>2 weeks) or serious disease in the family
Parental lifestyle	
Excess energy intake (mother)	Body mass index ≥ 30.0
Excess energy intake (father)	Body mass index ≥ 30.0
Smoking (mother)	Daily smoking
Smoking (father)	Daily smoking
Physical inactivity (mother)	<3 times a week
Physical inactivity (father)	<3 times a week

Web Table 2. Association between childhood neighborhood disadvantage (continuous score) and development of depressive symptoms according to follow-up time. Mixed-effects models adjusted for age, sex, and area deprivation during the last 5 years.

<i>Predictor</i>	Five-year follow-up		Ten-year follow-up		Fifteen-year follow-up		Twenty-year follow-up	
	<i>Estimate</i>	<i>P Value</i>	<i>Estimate</i>	<i>P Value</i>	<i>Estimate</i>	<i>P Value</i>	<i>Estimate</i>	<i>P Value</i>
Intercept	2.37 (2.28 – 2.47)	<0.001	2.43 (2.36 – 2.51)	<0.001	2.39 (2.33 – 2.45)	<0.001	2.36 (2.31 – 2.41)	<0.001
Area deprivation during childhood	0.05 (0.01 – 0.08)	0.006	0.06 (0.02 – 0.09)	0.001	0.06 (0.02 – 0.09)	0.001	0.05 (0.02 – 0.09)	0.001
Age	-0.01 (-0.01 – -0.00)	0.002	-0.01 (-0.01 – -0.01)	<0.001	-0.01 (-0.01 – -0.01)	<0.001	-0.01 (-0.01 – -0.01)	<0.001
Male sex	-0.19 (-0.24 – -0.14)	<0.001	-0.19 (-0.23 – -0.14)	<0.001	-0.17 (-0.21 – -0.12)	<0.001	-0.15 (-0.19 – -0.10)	<0.001
Random Effects								
σ^2	0.16		0.17		0.18		0.18	
τ_{00}	0.24 _{tau00}		0.24 _{tau00}		0.25 _{tau00}		0.25 _{tau00}	
ICC	0.61		0.59		0.58		0.58	
N	2143 _{tau00}		2310 _{tau00}		2386 _{tau00}		2411 _{tau00}	
Observations	3423		5010		6570		7897	
Marginal R ² / Conditional R ²	0.027 / 0.618		0.030 / 0.599		0.026 / 0.591		0.022 / 0.590	

Web Table 3. Association between childhood neighborhood disadvantage and development of depressive symptoms according to follow-up time. Mixed-effects models using inverse probability of censoring weights for missingness with 20-year follow-up. Adjusted for age, sex, childhood psychosocial risk factors, and area disadvantage during the last 5 years.

	<i>Estimate (95% CI)</i>	<i>P Value</i>	<i>Estimate (95% CI)</i>	<i>P Value</i>	<i>Estimate (95% CI)</i>	<i>P Value</i>
Neighborhood disadvantage during childhood	0.07 (0.01 to 0.12)	0.016	0.06 (0.00 to 0.11)	0.039	0.05 (-0.00 to 0.11)	0.053
Age	-0.01 (-0.01 to -0.00)	<0.001	-0.01 (-0.01 to -0.00)	<0.001	-0.01 (-0.01 to -0.00)	<0.001
Sex (male)	-0.15 (-0.20 to -0.11)	<0.001	-0.15 (-0.21 to -0.10)	<0.001	-0.15 (-0.20 to -0.10)	<0.001
Childhood psychosocial risk factors			0.06 (0.02 to 0.10)	0.002		
Neighborhood disadvantage during last 5 years					0.03 (0.00 to 0.05)	0.021
Random Effects						
σ^2	0.19		0.19		0.19	
τ_{00}	0.24		0.24		0.24	
ICC	0.56		0.56		0.56	
N	1710		1710		1710	
Observations	5448		5448		5448	
Marginal R ² / Conditional R ²	0.021 / 0.573		0.024 / 0.573		0.021 / 0.571	

Web Table 4. Association between childhood neighborhood disadvantage and development of depressive symptoms according to follow-up time. Mixed-effects models adjusted for age, sex, and continuous childhood psychosocial risk score.

<i>Predictor</i>	Five-year follow-up		Ten-year follow-up		Fifteen-year follow-up		Twenty-year follow-up	
	<i>Estimate</i>	<i>P Value</i>	<i>Estimate</i>	<i>P Value</i>	<i>Estimate</i>	<i>P Value</i>	<i>Estimate</i>	<i>P Value</i>
Area deprivation during childhood	0.05 (-0.01 to 0.11)	0.100	0.06 (0.00 to 0.11)	0.049	0.06 (0.01 to 0.12)	0.026	0.06 (0.00 to 0.11)	0.044
Age	-0.01 (-0.01 to -0.00)	<0.001	-0.01 (-0.01 to -0.01)	<0.001	-0.01 (-0.01 to -0.01)	<0.001	-0.01 (-0.01 to -0.01)	<0.001
Male sex	-0.19 (-0.25 to -0.13)	<0.001	-0.19 (-0.25 to -0.14)	<0.001	-0.17 (-0.23 to -0.12)	<0.001	-0.15 (-0.21 to -0.10)	<0.001
Childhood psychosocial risk factors	0.05 (0.02 to 0.08)	0.001	0.05 (0.02 to 0.08)	<0.001	0.05 (0.02 to 0.07)	0.001	0.05 (0.02 to 0.07)	0.001
Random Effects								
σ^2	0.16		0.17		0.18		0.18	
τ_{00}	0.23		0.23		0.23		0.24	
ICC	0.59		0.57		0.57		0.57	
N	1553		1660		1711		1728	
Observations	2481		3623		4748		5712	
Marginal R ² / Conditional R ²	0.034 / 0.603		0.038 / 0.590		0.030 / 0.585		0.026 / 0.580	