

Table S1: Variables included in the Canadian Neighbourhoods and Early Child Development (CanNECD) socioeconomic status (SES) index

Education	% with no high school diploma
Language/Immigration	% not speaking either official language at home
Marital Status	% separated or divorced
Wealth	% with investment income, families with children under 6
High Income	% with incomes \geq twice than provincial median, families with children under 6
Dues	% with union/association dues, families with children under 6
Social Capital	% with charitable donations, families with children under 6
Poverty	% with low income, lone parent families with children under 6
Residential Stability	% non-migrant movers in the past year
Income Inequality	Gini Coefficient, lone female families with children under 6

Table S2: Descriptive characteristics of neighborhoods excluded from analysis (n=40)

Province	Number of neighborhoods (%)
Alberta	8 (20)
New Brunswick	4 (10)
Ontario	5 (12.5)
Quebec	23 (57.5)
Median (IQR) number of children in each neighbourhood	83 (56-141)
Mean (SD) of standardized SES index	0.38 (0.88)

Table S3: Descriptive characteristics of population of children with missing Physical Health & Wellbeing (PHWB) scores (n=446)

	PHWB	SC	EM	LCD	CSGK
Sex	N (%)				
Female	123 (27.6)	138 (30.5)	166 (27.7)	154 (28.4)	128 (30.4)
Male	318 (71.3)	311 (68.7)	429 (71.5)	384 (70.8)	289 (68.6)
Missing	5 (1.1)	4 (0.9)	5 (0.8)	4 (0.7)	4 (1.0)
Age	N (%)				
Mean (SD)	5.78 (0.40)	5.73 (0.4)	5.78 (0.4)	5.76 (0.4)	5.76 (0.41)
Missing	7 (1.57)	6 (1.3)	8 (1.3)	6 (1.1)	7 (1.66)
EFSL Status	N (%)				
Yes	61 (13.7)	61 (13.5)	76 (12.7)	77 (14.2)	59 (14.0)
No	379 (85.0)	386 (85.2)	511 (85.2)	457 (84.3)	355 (84.3)
Missing	6 (1.3)	6 (1.3)	13 (2.2)	8 (1.5)	7 (1.7)
Province	N (%)				
Alberta	82 (18.4)	84 (18.5)	92 (15.3)	91 (16.8)	85 (20.2)
British Columbia	9 (2.0)	17 (3.8)	41 (6.8)	45 (8.3)	7 (1.7)
Manitoba	122 (27.4)	117 (25.8)	131 (21.8)	121 (22.3)	113 (26.8)
New Brunswick	1 (0.2)	1 (0.2)	4 (0.7)	1 (0.2)	0 (0)
Newfoundland	3 (0.7)	6 (1.3)	6 (1.0)	3 (0.6)	5 (1.2)
Nova Scotia	15 (3.4)	14 (3.1)	20 (3.3)	21 (3.9)	15 (3.6)
Northwest Territories	1 (0.2)	1 (0.2)	2 (0.3)	1 (0.2)	1 (0.2)
Ontario	193 (43.3)	192 (42.4)	241 (40.2)	222 (41.0)	173 (41.1)
Prince Edward Island	0 (0)	0 (0)	0 (0)	1 (0.2)	0 (0)
Quebec	5 (1.1)	3 (0.7)	33 (5.5)	15 (2.8)	7 (1.7)
Saskatchewan	8 (1.8)	13 (2.9)	19 (3.2)	14 (2.6)	10 (2.4)
Yukon	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Year of data collection	N (%)				
2004	3 (0.7)	3 (0.7)	7 (1.2)	3 (0.6)	2 (0.5)
2005	19 (4.3)	17 (3.8)	29 (4.8)	21 (3.9)	12 (2.9)
2006	46 (10.3)	44 (9.7)	77 (12.8)	61 (11.3)	46 (10.9)
2007	26 (5.8)	23 (5.1)	39 (6.5)	32 (5.9)	21 (5.0)
2008	33 (7.4)	34 (7.5)	43 (7.2)	39 (7.2)	32 (7.6)
2009	50 (11.2)	55 (12.1)	70 (11.7)	69 (12.7)	43 (10.2)
2010	51 (11.4)	48 (10.6)	57 (9.5)	58 (10.7)	43 (10.2)
2011	96 (21.5)	96 (21.2)	113 (18.8)	113 (20.8)	97 (23.0)
2012	51 (11.4)	56 (12.4)	80 (13.3)	67 (12.4)	53 (12.6)
2013	71 (15.9)	74 (16.3)	84 (14.0)	79 (14.6)	72 (17.1)
2014	0 (0)	3 (0.7)	1 (0.2)	0 (0)	0 (0)
Mean (SD) EDI domain scores					
PHWB	NA	5.06 (2.17)	6.70 (2.33)	6.82 (2.09)	7.71 (1.96)
SC	5.42 (2.97)	NA	5.47 (2.54)	4.78 (2.33)	5.97 (2.98)
EM	5.90 (2.53)	5.42 (1.44)	NA	5.65 (1.89)	6.31 (1.36)
LCD	5.39 (3.31)	1.98 (2.38)	5.51 (3.15)	NA	6.29 (3.46)
CSGK	3.80 (3.34)	0.86 (1.91)	3.77 (3.06)	2.93 (2.74)	NA

PHWB=Physical health & wellbeing; SC=Social competence; EM=Emotional maturity; LCD=Language & cognitive development; CSGK=communication skills & general knowledge

Table S4: Hierarchical Generalized Linear Model (HGLM) for the Physical Health & Wellbeing (PHWB) main of the Early Development Instrument (EDI)

Parameter	Model 1				Model 2				Model 3			
	B coefficient (SE)	F-statistic	DF	P-value	B coefficient (SE)	F-statistic	DF	P-value	B coefficient (SE)	F-statistic	DF	P-value
Intercept	3.98 (0.02)	47093.34	1, 2013	<0.0001	4.75 (1.07)	19.80	1, 2002	<0.0001	4.65 (1.07)	19.10	1, 2002	<0.0001
Year (categorical)						3.95	10, 26117	<0.0001		4.18	10, 26116	<0.0001
Province (categorical)						13.94	11, 26117	<0.0001		13.54	11, 26116	<0.0001
Year*Province						2.54	53, 26117	<0.0001		2.91	53, 26116	<0.0001
Age					0.03 (0.03)	1.04	1, 26117	0.3089	0.04 (0.03)	1.29	1, 26116	0.2558
Sex (M=0; F=1)					-0.13 (0.03)	22.96	1, 26117	<0.0001	-0.14 (0.03)	24.11	1, 26116	<0.0001
EFSL (no=0; yes=1)					-0.02 (0.04)	0.19	1, 26117	0.6638	-0.04 (0.04)	0.94	1, 26116	0.3325
SES z-score									-0.17 (0.02)	116.76	1, 26116	<0.0001
Deviance	118982.4				118334.9				118222.1			
AIC	118988.4				118494.9				118384.1			
BIC	119005.2				118943.5				118838.4			
Pearson Chi-Square	7394.78				7475.81				7495.20			

Note the sign (+/-) of correlation coefficients reflects direction of correlation with transformed EDI domain scores (11 – EDI domain scores).
 DF=degrees of freedom; EFSL=English/French as a second language AIC=Akaike Information Criterion; BIC=Bayesian Information Criterion

Table S5: Hierarchical Generalized Linear Model (HGLM) for the Social Competence (SC) Domain of the Early Development Instrument (EDI)

Parameter	Model 1				Model 2				Model 3			
	B coefficient (SE)	F-statistic	Df	P-value	B coefficient (SE)	F-statistic	Df	P-value	B coefficient (SE)	F-statistic	Df	P-value
Intercept	5.31 (0.02)	62975.90	1, 2014	<0.0001	4.62 (1.26)	13.47	1, 2004	0.0003	4.46 (1.25)	12.67	1, 2003	0.0004
Year (categorical)						2.83	10, 26106	0.0016		2.56	10, 26106	0.0043
Province (categorical)						10.27	11, 26106	<0.0001		10.25	11, 26106	<0.0001
Year*Province						2.76	53, 26106	<0.0001		2.76	53, 26106	<0.0001
Age					0.13 (0.04)	8.99	1, 26106	0.0027	0.13 (0.04)	10.12	1, 26106	0.0015
Sex (M=0; F=1)					-0.75 (0.04)	439.63	1, 26106	<0.0001	-0.76 (0.04)	447.29	1, 26106	<0.0001
EFSL (no=0; yes=1)					0.12 (0.06)	4.82	1, 26106	0.0284	0.10 (0.05)	3.07	1, 26106	0.0798
SES z-score									-0.17 (0.02)	69.10	1, 26106	<0.0001
Deviance	134806.2				134020.8				133955.4			
AIC	134812.2				134180.8				134117.4			
BIC	134829.0				134629.5				134571.7			
Pearson Chi-Square	6654.52				6723.87				6736.70			

Note the sign (+/-) of correlation coefficients reflects direction of correlation with transformed EDI domain scores (11 – EDI domain scores).
 DF=degrees of freedom; EFSL=English/French as a second language AIC=Akaike Information Criterion; BIC=Bayesian Information Criterion

Table S6: Hierarchical Generalized Linear Model (HGLM) for the Emotional Maturity (EM) Domain of the Early Development Instrument (EDI)

Parameter	Model 1				Model 2				Model 3			
	B coefficient (SE)	F-statistic	Df	P-value	B coefficient (SE)	F-statistic	Df	P-value	B coefficient (SE)	F-statistic	Df	P-value
Intercept	4.88 (0.02)	47093.34	1, 2014	<0.0001	4.28 (0.96)	19.71	1, 2003	<0.0001	4.18 (0.95)	19.00	1, 2003	<0.0001
Year (categorical)						2.68	10, 25974	0.0029		2.42	10, 25793	<0.0001
Province (categorical)						9.22	11, 25974	<0.0001		9.04	11, 25793	<0.0001
Year*Province						2.12	53, 25974	<0.0001		2.06	53, 25793	<0.0001
Age					0.08 (0.03)	6.17	1, 25974	0.0130	0.08 (0.03)	6.63	1, 25793	0.0101
Sex (M=0; F=1)					-0.81 (0.03)	970.94	1, 25974	<0.0001	-0.81 (0.03)	969.06	1, 25793	<0.0001
EFSL (no=0; yes=1)					-0.11 (0.04)	7.29	1, 25974	0.0070	-0.12 (0.04)	10.01	1, 25793	0.0016
SES z-score									-0.12 (0.01)	65.82	1, 25793	<0.0001
Deviance	119448.7				118202.7				118136.1			
AIC	119454.7				118362.7				118298.1			
BIC	119471.6				118811.3				118752.3			
Pearson Chi-Square	4465.48				4421.32				4428.30			

Note the sign (+/-) of correlation coefficients reflects direction of correlation with transformed EDI domain scores (11 – EDI domain scores).
 DF=degrees of freedom; EFSL=English/French as a second language AIC=Akaike Information Criterion; BIC=Bayesian Information Criterion

Table S7: Hierarchical Generalized Linear Model (HGLM) for the Language & Cognitive Development (LCD) Domain of the Early Development Instrument (EDI)

Parameter	Model 1				Model 2				Model 3			
	B coefficient (SE)	F-statistic	Df	P-value	B coefficient (SE)	F-statistic	Df	P-value	B coefficient (SE)	F-statistic	Df	P-value
Intercept	4.82 (0.02)	37229.70	1, 2014	<0.0001	4.36 (1.33)	10.69	1, 2003	0.0011	4.17 (1.33)	9.80	1, 2003	0.0017
Year (categorical)						3.78	10, 26022	0.0029		3.49	10, 26021	<0.0001
Province (categorical)						6.32	11, 26022	<0.0001		7.01	11, 26021	<0.0001
Year*Province						2.13	53, 26022	<0.0001		2.28	53, 26021	<0.0001
Age					-0.11 (0.04)	6.34	1, 26022	0.0118	-0.10 (0.04)	5.01	1, 26021	0.0252
Sex (M=0; F=1)					-0.13 (0.04)	10.35	1, 26022	0.0013	-0.13 (0.04)	10.42	1, 26021	0.0013
EFSL (no=0; yes=1)					0.48 (0.06)	58.32	1, 26022	<0.0001	0.43 (0.06)	47.13	1, 26021	<0.0001
SES z-score									-0.29 (0.02)	160.80	1, 26021	<0.0001
Deviance	135595.0				135045.0				134891.0			
AIC	135601.0				135205.0				135053.0			
BIC	135617.8				135653.7				135507.3			
Pearson Chi-Square	10372.47				10458.52				10531.822			

Note the sign (+/-) of correlation coefficients reflects direction of correlation with transformed EDI domain scores (11 – EDI domain scores).
 DF=degrees of freedom; EFSL=English/French as a second language AIC=Akaike Information Criterion; BIC=Bayesian Information Criterion

Table S8: Hierarchical Generalized Linear Model (HGLM) for the Communication Skills & General Knowledge (CSGK) Domain of the Early Development Instrument (EDI)

Parameter	Model 1				Model 2				Model 3			
	B coefficient (SE)	F-statistic	Df	P-value	B coefficient (SE)	F-statistic	Df	P-value	B coefficient (SE)	F-statistic	Df	P-value
Intercept	6.65 (0.03)	63312.62	1, 2014	<0.0001	6.11 (1.78)	11.76	1, 2003	0.0006	4.65 (1.07)	19.10	1, 2002	0.0007
Year (categorical)						3.95	10, 26141	0.0247		1.74	10, 26140	0.0657
Province (categorical)						13.94	11, 26141	<0.0001		5.94	11, 26140	<0.0001
Year*Province						2.54	53, 26141	0.0109		1.51	53, 26140	0.0094
Age					0.13 (0.06)	2.05	1, 26141	0.0258	0.13 (0.05)	5.19	1, 26140	0.0227
Sex (M=0; F=1)					-0.42 (0.05)	7.24	1, 26141	<0.0001	-0.43 (0.05)	70.12	1, 26140	<0.0001
EFSL (no=0; yes=1)					1.15 (0.08)	1.50	1, 26141	<0.0001	1.11 (0.08)	173.86	1, 26140	<0.0001
SES z-score									-0.19 (0.02)	55.05	1, 26140	<0.0001
Deviance	151991.9				151438.8				151384.1			
AIC	151997.9				151598.8				151544.1			
BIC	152014.7				152047.5				151992.8			
Pearson Chi-Square	6272.57				6810.50				6817.77			

Note the sign (+/-) of correlation coefficients reflects direction of correlation with transformed EDI domain scores (11 – EDI domain scores).
 DF=degrees of freedom; EFSL=English/French as a second language AIC=Akaike Information Criterion; BIC=Bayesian Information Criterion

Table S9: Goodness-of-fit of different distributions and link functions for the social competence domain

Domain	Goodness-of-fit statistics	Identity link			Log link		
		Exponential	Gamma	Normal	Exponential	Gamma	Normal
Physical health & wellbeing (PHWB)	AIC	134241.6	118384.1	121141.6	134240.4	118399.9	121147.4
	BIC	134684.7	118838.4	121595.8	134683.5	118854.2	121601.6
Social competence (SC)	AIC	150247.6	113417.4	133234.4	150247.5	134128.9	NC
	BIC	150690.7	134571.7	133688.7	150690.6	134583.2	NC
Emotional maturity (EM)	AIC	144859.5	118298.1	116476.9	144859.8	118310	NC
	BIC	145302.6	118752.3	116931.2	145302.8	118764.3	NC
Language & cognitive development (LCD)	AIC	144457.3	135053.0	140742	144457.1	135069.7	140754.4
	BIC	144900.3	135507.3	141196.3	144900.2	135524	141208.7
Communication skills & general knowledge (CSGK)	AIC	163276.5	151544.1	146002.4	163274.7	151539.4	NC
	BIC	163719.5	151992.8	146456.7	163717.8	151988.1	NC

AIC=Akaike information criterion; BIC=Bayesian information criterion; NC=not converged

Table S10: Hierarchical Generalized Linear Model (HGLM) for the Physical Health & Wellbeing (PHWB) Domain of the Early Development Instrument (EDI) excluding outlying and influential cases (n = 687 excluded)

	B coefficient (SE)	F-statistic	Df	P-value
Intercept	4.70 (1.03)	20.70	1, 1999	<0.0001
Year (categorical)		6.03	10, 25432	<0.0001
Province (categorical)		19.14	11, 25432	<0.0001
Year*Province		4.14	53, 25432	<0.0001
Age	0.02 (0.03)	0.63	1, 25432	0.4265
Sex (M=0; F=1)	-0.21 (0.03)	60.10	1, 25432	<0.0001
EFSL (no=0; yes=1)	-0.09 (0.04)	5.07	1, 25432	0.0243
SES z-score	-0.19 (0.02)	4.14	1, 25432	<0.0001

EFSL=English/French as a second language; Df=degrees of freedom

Table S11: Hierarchical Generalized Linear Model (HGLM) for the Social Competence (SC) Domain of the Early Development Instrument (EDI) excluding outlying and influential cases (n = 317 excluded)

	B coefficient (SE)	F-statistic	Df	P-value
Intercept	4.54 (1.24)	13.47	1, 2002	0.0003
Year (categorical)		5.26	10, 25790	<0.0001
Province (categorical)		14.83	11, 25790	<0.0001
Year*Province		4.43	53, 25790	<0.0001
Age	0.13 (0.04)	9.48	1, 25790	0.0021
Sex (M=0; F=1)	-0.94 (0.03)	736.81	1, 25790	<0.0001
EFSL (no=0; yes=1)	0.07 (0.05)	1.74	1, 25790	0.1862
SES z-score	-0.18 (0.02)	86.23	1, 25790	<0.0001

EFSL=English/French as a second language; Df=degrees of freedom

Table S12: Hierarchical Generalized Linear Model (HGLM) for the Emotional Maturity (EM) Domain of the Early Development Instrument (EDI) excluding outlying and influential cases (n = 409 excluded)

	B coefficient (SE)	F-statistic	Df	P-value
Intercept	3.36 (0.91)	13.54	1, 2001	0.0002
Year (categorical)		3.84	10, 25566	<0.0001
Province (categorical)		12.32	11, 25566	<0.0001
Year*Province		3.04	53, 25566	<0.0001
Age	0.10 (0.03)	10.68	1, 25566	0.0011
Sex (M=0; F=1)	-0.91 (0.03)	1307.36	1, 25566	<0.0001
EFSL (no=0; yes=1)	-0.13 (0.04)	11.97	1, 25566	0.0005
SES z-score	-0.14 (0.01)	88.74	1, 25566	<0.0001

EFSL=English/French as a second language; Df=degrees of freedom

Table S13: Hierarchical Generalized Linear Model (HGLM) for the Language & Cognitive Development (LCD) Domain of the Early Development Instrument (EDI) excluding outlying and influential cases (n = 619 excluded)

	B coefficient (SE)	F-statistic	Df	P-value
Intercept	3.43 (1.27)	12.11	1, 2002	0.0005
Year (categorical)		5.87	10, 25403	<0.0001
Province (categorical)		13.29	11, 25403	<0.0001
Year*Province		4.16	53, 25403	<0.0001
Age	-0.20 (0.04)	22.42	1, 25403	<0.0001
Sex (M=0; F=1)	-0.23 (0.04)	36.93	1, 25403	<0.0001
EFSL (no=0; yes=1)	0.50 (0.06)	67.66	1, 25403	<0.0001
SES z-score	-0.39 (0.02)	278.45	1, 25403	<0.0001

EFSL=English/French as a second language; Df=degrees of freedom

Table S14: Hierarchical Generalized Linear Model (HGLM) for the Communication Skills & General Knowledge (CSGK) Domain of the Early Development Instrument (EDI) excluding outlying and influential cases (n = 2 excluded)

	B coefficient (SE)	F-statistic	Df	P-value
Intercept	6.02 (1.78)	11.49	1, 2002	0.0007
Year (categorical)		1.81	10, 26139	0.0527
Province (categorical)		7.35	11, 26139	<0.0001
Year*Province		1.63	53, 26139	0.0027
Age	0.13 (0.06)	5.09	1, 26139	0.0241
Sex (M=0; F=1)	-0.43 (0.05)	71.08	1, 26139	<0.0001
EFSL (no=0; yes=1)	1.11 (0.08)	173.83	1, 26139	<0.0001
SES z-score	-0.19 (0.03)	54.80	1, 26139	<0.0001

EFSL=English/French as a second language; Df=degrees of freedom