Supplementary material

Ty Stanford and Dot Dumuid

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- 1 Child data
- 1.1 BMI models

1.1.1 SEIFA predictor

1.1.1.1 Model details

linear mixed model (estimated using REML and nlminb optimizer) to predict bmi with sex, age_cat, sei and prs (formula: bmi ~ sex + (age_cat + sei + prs)^2). The model included waveC as random effects (formula: ~1 + waveC | hicid).

The model's total explanatory power is substantial (conditional R2 = 0.87) and the part related to the fixed effects alone (marginal R2) is of 0.40

Conditional model:

Groups Name Std.Dev. Corr

hicid (Intercept) 2.16830

waveC 0.57046 0.845

Residual 1.15332

The model's intercept, corresponding to sex = 0, age_cat = 2-3, sei = 1 and prs = 1, is at 16.64 (95% CI [16.34, 16.94], p < .001).

Parameter	Coeff	ficient	95% CI	I	Z		Fit
(Intercept)		16.64 [16.	34, 16.94]		108.62		
sex		-0.38 [-0.	53, -0.24]		-5.30		
age cat [4-5]		-0.58 [-0.	84, -0.32]		-4.35		
age cat [6-7]		-0.91 [-1.	19, -0.62]		-6.21		
age cat [8-9]		-0.05 [-0.	38, 0.28]		-0.27		
age cat [10-11]		0.82 [0.	45, 1.19]		4.32		
age cat [12-13]		2.42 [1.	99, 2.85]		11.05		
age cat [14+]		3.62 [3.	13, 4.11]		14.51		

```
sei [2]
                                  -0.12 | [-0.45, 0.22] |
                                                            -0.68
sei [3]
                              -2.73e-03 \mid [-0.34,
                                                   0.34] |
                                                            -0.02 |
sei [4]
                                   0.03 | [-0.32, 0.38] |
                                                             0.16 |
sei [5]
                              -8.23e-03 | [-0.37,
                                                   0.36] |
                                                            -0.04
prs [2]
                                   0.32 | [-0.06,
                                                   0.70] |
                                                             1.64 |
prs [3]
                                   0.28 | [-0.09, 0.65] |
                                                             1.49
prs [4]
                                   0.45 | [ 0.07,
                                                   0.84] |
                                                             2.32
prs [5]
                                   0.95 | [ 0.58, 1.32] |
                                                              5.02 l
age cat [4-5] × sei [2]
                                   0.03 \mid [-0.24]
                                                   0.31] |
                                                             0.22
age cat [6-7] × sei [2]
                                   0.29 \mid [0.01,
                                                   0.57] |
                                                              2.04
age cat [8-9] × sei [2]
                                  -0.06 \mid [-0.37]
                                                   0.24] |
                                                             -0.41
age cat [10-11] × sei [2]
                                   0.05 \mid [-0.26]
                                                   0.37]
                                                             0.33
age cat [12-13] × sei [2]
                                  -0.31 \mid [-0.66]
                                                   0.03] |
                                                            -1.77
age cat [14+] × sei [2]
                                  -0.13 \mid [-0.51,
                                                   0.24] |
                                                             -0.70 |
age cat [4-5] × sei [3]
                                  -0.08 | [-0.35,
                                                   0.20] |
                                                            -0.55
age cat [6-7] × sei [3]
                                   0.08 | [-0.20,
                                                   0.36] |
                                                             0.59
age cat [8-9] × sei [3]
                                  -0.05 | [-0.35,
                                                   0.26] |
                                                            -0.30
age cat [10-11] × sei [3] |
                                  -0.15 \mid [-0.47]
                                                   0.18] |
                                                            -0.89
age cat [12-13] × sei [3] |
                                  -0.35 | [-0.70, 0.01] |
                                                            -1.91
age cat [14+] × sei [3]
                                  -0.15 | [-0.54, 0.24] |
                                                            -0.77
age cat [4-5] × sei [4]
                                  -0.06 | [-0.34, 0.21] |
                                                            -0.45
age cat [6-7] × sei [4]
                                   0.19 | [-0.09, 0.48] |
                                                             1.35
age cat [8-9] × sei [4]
                                  -0.13 | [-0.44, 0.17] |
                                                            -0.85
                                                            -1.59 |
age cat [10-11] × sei [4] |
                                  -0.26 | [-0.59, 0.06] |
age cat [12-13] × sei [4] |
                                  -0.44 | [-0.81, -0.08] |
                                                            -2.39
age cat [14+] × sei [4]
                                  -0.10 | [-0.50, 0.30] |
                                                            -0.50
age cat [4-5] × sei [5]
                                   0.07 | [-0.20, 0.35] |
                                                             0.54
age cat [6-7] × sei [5]
                                   0.15 | [-0.13, 0.44] |
                                                             1.07
age cat [8-9] × sei [5]
                                  -0.06 | [-0.37, 0.26] |
                                                            -0.36
                                  -0.26 | [-0.59, 0.08] |
age cat [10-11] × sei [5] |
                                                            -1.50
age cat [12-13] × sei [5] |
                                  -0.47 | [-0.84, -0.09] |
                                                            -2.42
age cat [14+] × sei [5]
                                  -0.12 | [-0.54, 0.30] |
                                                            -0.57
age cat [4-5] × prs [2]
                                  -0.07 | [-0.34, 0.20] |
                                                            -0.52
age cat [6-7] × prs [2]
                                  -0.04 | [-0.35, 0.28] | -0.23 |
```

```
age cat [8-9] × prs [2]
                                                              0.75 |
                                    0.14 | [-0.23, 0.51] |
age cat [10-11] × prs [2] |
                                    0.35 | [-0.08,
                                                    0.79] |
                                                               1.60 |
age cat [12-13] × prs [2] |
                                    0.42 | [-0.09, 0.93] |
                                                              1.61 |
age cat [14+] × prs [2]
                                    0.39 \mid [-0.19]
                                                    0.98] |
                                                              1.31
                                                    0.32] |
age cat [4-5] × prs [3]
                                    0.04 | [-0.23,
                                                              0.31 |
age cat [6-7] \times prs [3]
                                    0.34 | [ 0.02, 0.65] |
                                                               2.11
age cat [8-9] × prs [3]
                                    0.50 | [ 0.13, 0.87] |
                                                               2.66
                                    1.04 | [ 0.60, 1.47] |
age cat [10-11] × prs [3] |
                                                               4.68 l
age cat [12-13] × prs [3] |
                                    1.23 | [ 0.72, 1.74] |
                                                               4.71 |
age cat [14+] × prs [3]
                                    1.53 | [ 0.94,
                                                    2.11] |
                                                               5.08 |
age cat [4-5] × prs [4]
                                                    0.29] |
                                    0.01 \mid [-0.26]
                                                               0.08 |
age cat [6-7] × prs [4]
                                    0.40 \mid [0.09]
                                                    0.72]
                                                               2.50
age cat [8-9] × prs [4]
                                    0.75 | [ 0.38,
                                                   1.12] |
                                                               3.95
age cat [10-11] × prs [4] |
                                    1.23 | [ 0.79, 1.67] |
                                                               5.54
age cat [12-13] × prs [4] |
                                    1.50 | [ 0.99,
                                                    2.01] |
                                                               5.77
age cat [14+] × prs [4]
                                    1.80 | [1.21, 2.38] |
                                                               5.99
age cat [4-5] × prs [5]
                                    0.23 | [-0.04,
                                                    0.51] |
                                                               1.66
age cat [6-7] × prs [5]
                                    0.68 | [ 0.36, 0.99] |
                                                               4.21
age cat [8-9] × prs [5]
                                                               5.88
                                    1.12 | [ 0.75, 1.49] |
age cat [10-11] × prs [5] |
                                    1.83 | [ 1.39, 2.26] |
                                                               8.22 |
age cat [12-13] × prs [5] |
                                    2.32 | [ 1.81,
                                                               8.89
                                                    2.83] |
age cat [14+] × prs [5]
                                    2.49 | [ 1.90, 3.08] |
                                                              8.26
sei [2] × prs [2]
                                    0.07 | [-0.31, 0.44] |
                                                               0.34 |
sei [3] × prs [2]
                                   -0.13 | [-0.53,
                                                    0.27] |
                                                              -0.65
sei [4] × prs [2]
                                    0.04 \mid [-0.38]
                                                    0.46] |
                                                              0.17
sei [5] × prs [2]
                                   -0.22 \mid [-0.67]
                                                    0.23] |
                                                              -0.95 |
sei [2] × prs [3]
                                    0.18 \mid [-0.19]
                                                    0.56] |
                                                              0.97
sei [3] × prs [3]
                                    0.13 \mid [-0.26]
                                                    0.53] |
                                                              0.67
sei [4] × prs [3]
                                    0.21 \mid [-0.21,
                                                    0.63] |
                                                               0.99 |
sei [5] × prs [3]
                                    0.15 \mid [-0.32]
                                                    0.61] |
                                                              0.62
sei [2] × prs [4]
                                   -0.03 | [-0.41, 0.35] |
                                                             -0.16
sei [3] × prs [4]
                                   -0.15 | [-0.55, 0.26] |
                                                              -0.72
sei [4] × prs [4]
                                   -0.17 | [-0.59, 0.25] |
                                                             -0.77
sei [5] × prs [4]
                                    0.08 | [-0.37, 0.54] |
                                                              0.36
```

```
sei [2] × prs [5]
                                  -0.07 | [-0.45, 0.31] | -0.35 |
sei [3] × prs [5]
                                  -0.37 | [-0.76, 0.03] | -1.83 |
sei [4] × prs [5]
                                  -0.47 | [-0.88, -0.05] | -2.21 |
sei [5] × prs [5]
                                 -0.24 | [-0.69, 0.21] | -1.05 |
AICc
                                                                    39804.88
R2 (conditional)
                                                                        0.87
R2 (marginal)
                                                                        0.40
Sigma
                                                                        1.15
```

Analysis of Deviance Table (Type III Wald chisquare tests)

```
Response: bmi
```

```
Chisq Df Pr(>Chisq)
(Intercept) 11798.7571 1 < 2.2e-16 ***
sex
              28.0737 1 1.168e-07 ***
age_cat
             743.1869 6 < 2.2e-16 ***
sei
               0.8784 4
                            0.92764
              27.5335 4 1.550e-05 ***
prs
age cat:sei
              36.9306 24
                            0.04446 *
             139.0748 24 < 2.2e-16 ***
age_cat:prs
sei:prs
              21.1785 16
                            0.17175
Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
```

1.1.1.2 Table

Table 1: Estimated BMI (95% CI) across childhood by neighbourhood disadvantage (SEIFA) quintile (1=most, 5=least disadvantage), stratified by PRS quintile (1=lowest, 5=highest risk)

sei	prs	2-3	4-5	6-7	8-9	10-11	12-13	14+
1	1	16.4 (15.7, 16.9)	15.9 (15.4, 16.4)	15.6 (15.1, 16.2)	16.6 (15.6, 17.7)	17.6 (16.6, 18.8)	19.4 (18.1, 20.9)	20.0 (18.3, 22.3)

sei	prs	2-3	4-5	6-7	8-9	10-11	12-13	14+
1	2	16.7 (16.2,	16.1 (15.5,	16.1 (15.5,	17.0 (15.8,	18.0 (16.2,	19.4 (17.6,	20.9 (18.7,
		17.4)	16.6)	16.7)	18.1)	19.4)	21.2)	22.8)
L	3	16.7 (16.2,	16.3 (15.8,	16.3 (15.7,	17.5 (16.5,	18.7 (17.3,	20.4 (18.6,	22.2 (20.0,
		17.2)	16.7)	16.9)	18.4)	20.1)	22.0)	24.0)
_	4	16.8 (15.9,	16.5 (15.8,	16.2 (15.5,	17.9 (16.8,	19.1 (17.2,	21.0 (19.6,	22.9 (21.0,
		17.6)	17.2)	17.2)	19.2)	21.2)	22.5)	24.9)
	5	17.3 (16.6,	17.2 (16.5,	17.7 (16.6,	19.3 (18.0,	21.3 (19.7,	23.5(21.4,	24.2 (21.8,
		18.0)	18.2)	19.1)	20.7)	23.0)	25.8)	27.0)
	1	16.5 (15.9,	15.9 (15.4,	16.0 (15.3,	16.2 (15.5,	17.1 (16.5,	18.3 (17.2,	19.7 (18.3,
		17.2)	16.6)	16.7)	17.3)	18.1)	19.4)	21.6)
	2	16.7 (16.3,	16.1 (15.7,	16.0 (15.5,	16.9 (16.3,	18.1 (17.2,	19.2 (18.5,	20.6 (19.5,
		17.1)	16.5)	16.7)				21.6)
	3	17.0 (16.2,	$16.4\ (15.8,$	16.9 (16.3,	17.7 (16.9,	19.4 (18.3,	20.6 (19.5,	21.9 (20.2)
		17.7)	17.1)		18.6)	21.0)		23.3)
	4	17.0 (16.4,	16.3 (15.7,	17.1 (16.1,	17.7 (16.7,			23.4 (21.2
		17.5)	16.9)	18.0)	18.7)			25.5)
)	5	17.0 (16.3,	17.0 (16.1,	17.5 (16.5,	18.4 (17.4,	20.8 (19.4,	22.2 (20.6,	24.5(22.2)
		17.6)	18.0)		19.5)	22.4)	24.3)	27.5)
	1	16.5 (16.0,	15.9 (15.4,	15.6 (15.0,	$16.5^{'}(15.8,$	$17.4\ (16.2,$	18.6 (17.4,	20.1 (18.6
		17.2)	16.6)					21.8)
	2	16.7 (16.1,	15.8 (15.4,		16.9 (16.3,			21.0 (19.8
		17.3)	16.3)	16.2)	17.6)	18.8)	20.8)	22.5)
	3	16.9 (16.4,	16.4 (16.0,	16.5 (15.8,	17.1 (16.4,		20.1 (18.8,	21.9 (20.4)
		17.4)	16.8)	17.4)	18.0)	19.4)	21.4)	24.0)
	4	16.8 (16.1,	16.3 (15.4,	16.5 (15.9,	18.0) 17.3 (16.6,	18.8 (17.6,	20.2 (18.7,	21.9(20.7)
		17.5)	17.4)					23.1)
	5	17.4 (16.8,	16.9 (16.3,	17.3 (16.2,	18.0 (16.8,	19.3 (17.4,	21.9 (20.4,	22.9(20.7)
		18.1)	17.6)	18.5)	19.1)	20.8)	23.9)	24.9)
	1	16.5 (15.9,	15.9 (15.5,	16.1 (15.3,	16.6 (15.8,	17.0 (16.1,	18.7 (17.7,	20.6 (19.2
		17.0)	16.4)	16.8)	17.4)	18.2)	20.0)	22.2)
:	2	16.9 (16.4,	16.1 (15.6,	16.2 (15.7,	16.9 (16.1,	17.9 (16.9,	19.2 (18.1,	20.7 (19.2
		17.4)	16.7)	16.8)	17.9)			

sei	prs	2-3	4-5	6-7	8-9	10-11	12-13	14+
4	3	17.0 (16.4,	16.4 (15.9,	16.3 (15.8,	17.2 (16.3,	18.7 (17.3,	19.6 (18.7,	21.7 (20.0,
		17.6)	17.1)	16.9)	18.4)	20.5)	20.6)	23.9)
4	4	16.8 (16.3,	16.1 (15.6,	16.4 (15.9,	17.6 (16.5,	18.7 (17.6,	20.1 (18.7,	21.6 (20.2,
		17.4)	16.6)	16.9)	19.0)	19.9)	21.8)	23.6)
4	5	17.0 (16.5,	16.5 (15.9,	16.7 (16.1,	18.0 (17.1,	19.2 (18.3,	20.8 (19.4,	22.8 (21.3,
		17.5)	17.1)	17.3)	18.9)	20.1)	22.2)	24.3)
5	1	16.4 (16.0,	15.9 (15.5,	$15.6\ (15.0,$	$16.4\ (15.9,$	17.0 (16.4,	$18.5\ (17.5,$	19.8 (18.8,
		16.8)	16.4)	16.2)	17.0)	17.6)	19.4)	20.8)
5	2	16.5 (15.9,	16.1 (15.5,	16.0 (15.2,	16.5 (15.8,	17.5 (16.8,	19.2 (18.4,	20.6 (19.6,
		17.1)	16.7)	16.8)	17.0)	18.3)	20.1)	21.6)
5	3	16.7 (15.9,	16.1 (15.3,	16.3 (15.6,	17.3 (16.2,	18.4 (17.2,	20.2 (18.1,	22.0 (19.7,
		17.4)	16.8)	17.3)	19.1)	20.4)	23.1)	25.5)
5	4	16.8 (16.2,	16.4 (15.8,	16.6 (15.9,	17.7 (17.0,	18.7 (17.7,	20.7 (19.3,	22.2 (20.5,
		17.3)	17.2)	17.4)	18.6)	20.0)	22.4)	24.5)
5	5	17.1 (16.7,	16.6 (16.2,		17.7 (16.8,	18.7 (17.5,	· ·	21.9 (20.8,
		17.6)	17.2)	17.4)	18.5)	19.7)	22.1)	23.1)

1.1.2 SEP predictor

1.1.2.1 Model details

linear mixed model (estimated using REML and nlminb optimizer) to predict bmi with sex, age_cat, sep and prs (formula: bmi ~ sex + (age_cat + sep + prs)^2). The model included waveC as random effects (formula: ~1 + waveC | hicid).

The model's total explanatory power is substantial (conditional R2 = 0.87) and the part related to the fixed effects alone (marginal R2) is of 0.40

Conditional model:

Groups Name Std.Dev. Corr

hicid (Intercept) 2.16876

waveC 0.57259 0.848

Residual 1.14785

The model's intercept, corresponding to sex = 0, age_cat = 2-3, sep = 1 and prs = 1, is at 16.62 (95% CI [16.32, 16.92], p < .001).

Parameter	Coeff	icient			95% CI		Z	I	Fit
(Intercept)	 	16.62	[16.	.32,	16.92]	 	107.39	 	
sex	1	-0.38	[-0.	.52,	-0.24]		-5.26		
age cat [4-5]	1	-0.60	[-0.	.86,	-0.33]		-4.43	1	
age cat [6-7]	1	-0.83	[-1.	.11,	-0.54]		-5.65	1	
age cat [8-9]	1	-0.10	[-0.	.42,	0.23]		-0.58	1	
age cat [10-11]	1	0.79	[0.	.42,	1.17]		4.15		
age cat [12-13]	1	2.36	[1.	.93,	2.79]		10.76	1	
age cat [14+]	1	3.34	[2.	.85,	3.83]		13.38		

```
sep [2]
                                   -0.05 | [-0.36, 0.26] |
                                                              -0.32
sep [3]
                                   -0.07 \mid [-0.41,
                                                    0.27] |
                                                              -0.42
sep [4]
                                    0.08 | [-0.27, 0.43] |
                                                               0.44
sep [5]
                                    0.01 | [-0.35, 0.38] |
                                                               0.07 |
prs [2]
                                                               1.02 |
                                    0.19 | [-0.18, 0.56] |
prs [3]
                                    0.66 | [ 0.29, 1.04] |
                                                               3.45
prs [4]
                                    0.33 | [-0.05, 0.70] |
                                                               1.72
prs [5]
                                    0.73 | [ 0.35, 1.10] |
                                                               3.80 I
age cat [4-5] \times sep [2]
                                   -0.03 \mid [-0.31,
                                                    0.25] |
                                                              -0.22
age cat [6-7] × sep [2]
                                    0.05 \mid [-0.24]
                                                    0.33] |
                                                               0.32
age cat [8-9] × sep [2]
                                    0.13 \mid [-0.16]
                                                    0.43] |
                                                               0.89 |
age cat [10-11] × sep [2]
                                    0.09 \mid [-0.21,
                                                    0.40] |
                                                               0.59
age cat [12-13] × sep [2]
                                   -0.21 \mid [-0.53]
                                                    0.12] |
                                                              -1.25 |
age cat [14+] × sep [2]
                                    0.33 \mid [-0.01,
                                                    0.68] |
                                                               1.89 |
age cat [4-5] \times sep [3]
                                    0.12 | [-0.16, 0.39] |
                                                               0.83 |
age cat [6-7] \times \text{sep} [3]
                                    0.02 | [-0.26, 0.31] |
                                                               0.15
age cat [8-9] × sep [3]
                                   -0.04 | [-0.34,
                                                    0.26] |
                                                              -0.26
age cat [10-11] × sep [3] |
                                   -0.14 | [-0.45, 0.18] |
                                                              -0.85
age cat [12-13] × sep [3] |
                                   -0.17 | [-0.51, 0.17] |
                                                              -0.99
age cat [14+] × sep [3]
                                    0.20 | [-0.17, 0.57] |
                                                               1.07
age cat [4-5] \times sep [4]
                                                               0.58
                                    0.08 | [-0.19, 0.35] |
age cat [6-7] \times \text{sep} [4]
                                    0.15 | [-0.13, 0.43] |
                                                               1.04
age cat [8-9] × sep [4]
                                   -0.03 | [-0.33, 0.27] |
                                                              -0.20
age cat [10-11] × sep [4] |
                                   -0.14 | [-0.46,
                                                    0.18] |
                                                              -0.87
age cat [12-13] × sep [4] |
                                   -0.32 \mid [-0.67,
                                                    0.03] |
                                                              -1.81
age cat [14+] × sep [4]
                                    0.39 | [ 0.00,
                                                    0.77] |
                                                               1.98
age cat [4-5] \times sep [5]
                                    0.01 \mid [-0.26]
                                                    0.28] |
                                                               0.09
age cat [6-7] × sep [5]
                                    0.08 | [-0.20, 0.37] |
                                                               0.56
age cat [8-9] × sep [5]
                                   -0.08 | [-0.38, 0.23] |
                                                              -0.49
age cat [10-11] × sep [5] |
                                   -0.22 | [-0.56, 0.11] |
                                                              -1.33 |
age cat [12-13] × sep [5] |
                                   -0.50 | [-0.87, -0.14] | -2.70 |
age cat [14+] × sep [5]
                                   -0.03 | [-0.43, 0.37] |
                                                              -0.15
age cat [4-5] × prs [2]
                                   -0.07 | [-0.35, 0.20] |
                                                             -0.53
age cat [6-7] × prs [2]
                                   -0.01 | [-0.33, 0.30] | -0.07 |
```

```
age cat [8-9] × prs [2]
                                                              0.64
                                    0.12 | [-0.25, 0.49] |
age cat [10-11] × prs [2] |
                                    0.30 | [-0.13,
                                                              1.36
                                                    0.74] |
age cat [12-13] × prs [2] |
                                                              1.64
                                    0.43 | [-0.08, 0.94] |
age cat [14+] × prs [2]
                                    0.45 | [-0.14, 1.04] |
                                                              1.48
age cat [4-5] × prs [3]
                                    0.02 | [-0.25,
                                                    0.29] |
                                                               0.13 |
age cat [6-7] \times prs [3]
                                    0.33 | [ 0.02, 0.65] |
                                                               2.09
age cat [8-9] × prs [3]
                                                               2.59 |
                                    0.49 | [ 0.12, 0.86] |
age cat [10-11] × prs [3] |
                                    1.04 | [ 0.60, 1.47] |
                                                               4.67 |
age cat [12-13] × prs [3] |
                                    1.21 | [ 0.70, 1.72] |
                                                               4.65
age cat [14+] × prs [3]
                                    1.52 | [ 0.93, 2.11] |
                                                               5.04
age cat [4-5] × prs [4]
                               -4.16e-03 | [-0.28,
                                                    0.27] |
                                                              -0.03 |
age cat [6-7] × prs [4]
                                    0.42 \mid [0.11,
                                                    0.74] |
                                                               2.64
age cat [8-9] × prs [4]
                                    0.75 | [ 0.38, 1.12] |
                                                               3.94 |
age cat [10-11] × prs [4] |
                                    1.22 | [ 0.79, 1.66] |
                                                               5.51
age cat [12-13] × prs [4] |
                                    1.49 | [ 0.98, 2.00] |
                                                               5.71 |
age cat [14+] × prs [4]
                                    1.80 | [ 1.21, 2.39] |
                                                               5.99
age cat [4-5] × prs [5]
                                    0.20 | [-0.07, 0.47] |
                                                               1.43 |
age cat [6-7] \times prs [5]
                                    0.67 | [ 0.35, 0.98] |
                                                               4.14
age cat [8-9] × prs [5]
                                                               5.79
                                    1.10 | [ 0.73, 1.48] |
age cat [10-11] × prs [5] |
                                    1.81 | [ 1.37, 2.24] |
                                                              8.11
age cat [12-13] × prs [5] |
                                    2.27 | [ 1.75, 2.78] |
                                                               8.66
age cat [14+] × prs [5]
                                    2.46 | [ 1.87, 3.06] |
                                                              8.16
sep [2] × prs [2]
                                    0.10 | [-0.22, 0.41] |
                                                              0.60 |
sep [3] × prs [2]
                                    0.18 | [-0.20, 0.57] |
                                                               0.95
sep [4] × prs [2]
                                   -0.11 \mid [-0.53]
                                                    0.31] |
                                                              -0.52
sep [5] × prs [2]
                                    0.16 \mid [-0.29]
                                                    0.62] |
                                                              0.70
sep [2] × prs [3]
                                   -0.25 \mid [-0.59]
                                                    0.08] |
                                                             -1.47
sep [3] × prs [3]
                                   -0.25 \mid [-0.65]
                                                    0.14] |
                                                             -1.25 |
sep [4] × prs [3]
                                   -0.37 \mid [-0.79]
                                                    0.05] |
                                                              -1.75 |
sep [5] × prs [3]
                                   -0.36 \mid [-0.82]
                                                    0.11] |
                                                             -1.51
sep [2] × prs [4]
                                    0.16 | [-0.17, 0.48] |
                                                              0.96 |
sep [3] × prs [4]
                                    0.13 | [-0.25, 0.51] |
                                                              0.66
sep [4] × prs [4]
                                    0.02 | [-0.40, 0.43] |
                                                              0.07 |
sep [5] × prs [4]
                                    0.04 | [-0.42, 0.50] |
                                                              0.17 |
```

```
sep [2] × prs [5]
                                  0.16 | [-0.17, 0.49] | 0.96 |
sep [3] × prs [5]
                                  0.03 | [-0.36, 0.42] |
                                                            0.17
sep [4] × prs [5]
                                 -0.13 | [-0.54, 0.29] | -0.59 |
sep [5] × prs [5]
                                 -0.10 | [-0.57, 0.37] | -0.42 |
AICc
                                                                  39636.84
R2 (conditional)
                                                                      0.87
R2 (marginal)
                                                                      0.40
Sigma
                                                                      1.15
```

Analysis of Deviance Table (Type III Wald chisquare tests)

```
Response: bmi
```

```
Chisq Df Pr(>Chisq)
(Intercept) 11532.7516 1 < 2.2e-16 ***
sex
              27.7015 1 1.416e-07 ***
age_cat
             675.2613 6 < 2.2e-16 ***
              1.0532 4 0.9016273
sep
              21.2589 4 0.0002813 ***
prs
age_cat:sep
              48.4294 24 0.0022325 **
age_cat:prs 135.4543 24 < 2.2e-16 ***
sep:prs
              15.6682 16 0.4763470
Signif. codes: 0 '***, 0.001 '**, 0.01 '*, 0.05 '., 0.1 ', 1
```

1.1.2.2 Table

Table 2: Estimated BMI (95% CI) across childhood by family disadvantage (SEP) quintile (1=most, 5=least disadvantage), stratified by PRS quintile (1=lowest, 5=highest risk)

sep	prs	2-3	4-5	6-7	8-9	10-11	12-13	14+
1	1	16.6 (16.1, 17.1)	16.1 (15.4, 16.9)	16.1 (15.4, 17.1)			19.5 (17.9, 21.4)	20.2 (17.9, 23.3)

sep	prs	2-3	4-5	6-7	8-9	10-11	12-13	14+
L	2	16.7 (16.3,	16.1 (15.6,	16.0 (15.3,	16.8 (16.1,	17.7 (16.7,	19.3 (18.3,	21.2 (19.8,
		17.1)	16.7)	16.9)	17.6)	18.6)	20.3)	22.4)
_	3	17.3 (16.7,	16.7 (16.2,	17.1 (16.1,	18.3 (16.9,	19.9 (18.3,	21.4 (19.4,	23.4 (20.8,
		17.8)	17.4)	18.3)	20.0)	21.7)	23.5)	25.7)
	4	16.9 (16.0,	16.4 (15.6,	16.7 (15.8,	18.0 (17.1,	19.7 (18.3,	21.5 (19.9,	23.0 (21.6,
		17.9)	17.5)	17.8)	19.0)	21.2)	23.1)	24.4)
	5	17.1 (16.5,	17.0 (16.3,	17.6 (16.6,	18.6 (17.2,	21.3 (19.6,	23.1 (21.1,	24.7 (22.2,
		17.6)	17.9)	18.8)		23.4)	25.2)	27.3)
	1	16.4 (15.7,	16.0 (15.4,	15.6 (14.9,	16.4 (15.7,	17.5 (16.8,	18.5 (17.7,	20.7 (19.1)
		17.1)	16.4)	16.1)	17.2)	18.3)	19.5)	22.9)
	2	16.7 (16.1,	15.9 (15.4,	16.0 (15.5,	16.8 (15.9,	18.0 (17.0,	19.3 (18.2,	19.9 (18.4)
		17.3)	16.4)	16.7)	17.7)		20.3)	21.3)
	3	16.7 (15.9,	16.3 (15.5,	16.6 (15.9,	$17.7^{'}(17.0,$	19.0 (17.7,	20.2 (19.1,	22.2 (20.0
		17.6)		17.4)			21.3)	24.6)
	4	16.8 (16.1,	16.1 (15.4,	16.7 (16.0,	17.6 (16.7,		20.2 (18.8,	21.7 (20.6
		17.4)	17.0)	17.4)	18.5)	20.2)	21.7)	23.0)
	5	17.6 (16.7,	17.3 (16.5,	17.8 (16.9,	18.9 (17.8,	20.2 (18.9,	22.4 (20.7,	24.0 (21.9
		18.5)	18.0)	18.7)	20.2)	21.4)	24.9)	26.1)
	1	16.3 (15.6,	15.7 (15.1,	15.6 (15.0,	$16.2^{'}(15.6,$	16.9 (16.2,	18.8 (18.0,	19.9 (18.8
		17.0)					19.8)	21.1)
	2	16.6 (16.0,		15.8 (15.3,			19.1 (17.9,	20.7 (19.0
		17.3)	16.6)	16.2)	17.3)	18.9)	20.3)	(22.2)
	3	16.8 (16.2,	16.4 (15.8,	16.4 (15.8,	16.8 (15.8,	18.6 (17.2,	19.7 (18.4,	20.8 (19.3
		17.6)	17.0)	17.2)	17.8) 17.6 (16.7,	20.0)	20.8)	22.0)
	4	16.9 (16.4,	16.4 (15.9,	16.3 (15.7,	17.6 (16.7,	18.6 (17.6,	20.1 (18.6,	22.2 (20.1
		17.3)	16.9)					24.8)
	5	17.0 (16.2,	16.7 (15.9,	16.9 (16.1,	18.4 (17.5,	19.7 (18.5,	21.9 (20.3,	22.7(21.3)
		17.8)	17.4)				24.3)	24.4)
	1	16.6 (16.0,	16.0 (15.5,	15.6 (15.1,	16.4 (15.7, 17.1) 16.6 (15.6,	16.9 (16.0,	18.1 (16.9,	19.8 (18.5
		17.2)	16.5)	16.0)	17.1)	17.7)	19.2)	21.5)
	2	16.8 (16.3,	15.9 (15.5,	16.2 (15.6,	16.6 (15.6,	18.0 (16.7,	19.4 (17.9,	20.6 (18.7
		17.3)	16.4)	17.0)	17.8)	19.6)		

sep	prs	2-3	4-5	6-7	8-9	10-11	12-13	14+
4	3	16.8 (16.2,	16.2 (15.7,	16.2 (15.6,	17.0 (16.3,	18.0 (17.2,	19.8 (18.3,	22.1 (20.7,
		17.4)	16.8)	16.8)	17.8)	19.0)	21.4)	23.5)
4	4	16.9 (16.4,	16.5 (16.0,	$17.0\ (16.2,$	18.0 (16.8,	19.2 (18.0,	21.6 (20.3,	23.0(20.5,
		17.4)	17.1)	17.8)	19.2)	20.3)	23.2)	26.1)
4	5	17.0 (16.5,	16.7 (16.3,	16.7 (16.1,	17.6 (16.8,	19.1 (17.8,	20.7 (19.5,	22.2 (20.6,
		17.5)	17.3)	17.4)	18.8)	20.3)	22.1)	23.7)
5	1	16.4 (16.0,	15.9 (15.5,	15.8 (15.4,	$16.3\ (15.7,$	17.2 (16.3,	18.8 (17.8,	19.8 (18.7,
		16.7)	16.2)	16.3)	17.0)	18.2)	19.8)	20.8)
5	2	16.9 (16.4,	16.2 (15.8,	16.0 (15.5,	16.9 (16.3,	17.8 (17.1,	19.3 (18.2,	20.9 (19.9,
		17.3)	16.5)	16.5)	17.5)	18.5)	20.2)	21.9)
5	3	16.6 (15.8,	16.0 (15.4,	16.0 (15.5,	16.7 (16.0,	18.1 (17.3,	19.4 (18.4,	21.0 (19.8,
		17.2)	16.5)	16.5)	17.3)	18.9)	20.6)	22.5)
5	4	16.8 (16.3,	16.1 (15.5,	16.3 (15.7,	17.2 (16.5,	18.4 (17.5,	20.2 (19.0,	21.9 (20.6,
		17.3)	16.7)	17.2)	18.2)	19.6)	22.0)	23.1)
5	5	16.9 (16.5,	$16.4\ (15.5,$	$16.6\ (15.7,$		19.0 (17.7,	20.5 (18.9,	22.4(21.1,
		17.5)	17.0)	17.3)	18.5)	20.1)	21.8)	24.0)

1.1.3 Figures

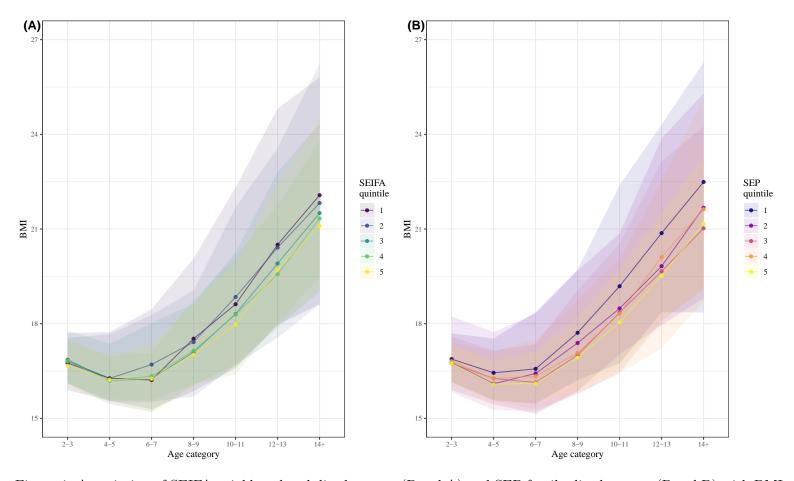


Figure 1: Association of SEIFA neighbourhood disadvantage (Panel A) and SEP family disadvantage (Panel B) with BMI across childhood. In all cases quintile 1 represents the most disadvantage.

2 Session info

R version 4.2.2 (2022-10-31 ucrt) Platform: x86_64-w64-mingw32/x64 (64-bit) Running under: Windows 10 x64 (build 19044) Matrix products: default locale: [1] LC_COLLATE=English_Australia.utf8 LC_CTYPE=English_Australia.utf8 [3] LC_MONETARY=English_Australia.utf8 LC_NUMERIC=C [5] LC_TIME=English_Australia.utf8 attached base packages: [1] stats graphics grDevices utils datasets methods base

- other attached packages:
- [1] arrow_11.0.0.2 stringi_1.7.12 knitr_1.42 tidyr_1.3.0 ggpubr_0.6.0
- [6] ggplot2_3.4.1 forcats_1.0.0 dplyr_1.1.0

loaded via a namespace (and not attached):

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[5]	digest_0.6.31	$viridisLite_0.4.1$	jsonlite_1.8.4	evaluate_0.20
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