

Supplemental Material S4. Risk factor information and effect size data extracted from each study.

Study	Risk factor	Variables/specifications	Type	Reference	Adjusted	OR	95% CI
Hammer et al. (2001)	Maternal education*	Years	Continuous		No	1.25	1.14–1.37
	Minority status	African American	Dichotomous	White	No	2.68	1.52–4.72
		Hispanic	Dichotomous	White	No	0.71	0.16–3.09
	Parenting behavior	Read to child 1–5x/week	Categorical	Everyday	No	1.68	1.19–2.35
		Read to child \leq 1–3x/month	Categorical	Everyday	No	2.72	1.43–5.18
		Tell stories to child 1–5x/week	Categorical	Everyday	No	1.02	0.68–1.53
		Tell stories to child \leq 1–3x/month	Categorical	Everyday	No	1.64	1.08–2.49
		Discuss daily activities 1–5x/week	Categorical	Everyday	No	0.95	0.65–1.39
		Discuss daily activities \leq 1–3x/month	Categorical	Everyday	No	4.31	2.42–7.68
		Routine wake time	Dichotomous	Everyday	No	1.43	0.96–2.14
		Family meal \leq 1–5 x/week	Dichotomous	Everyday	No	1.87	0.07–5.19
	Socioeconomic status*	Income-to-poverty	Continuous		No	1.49	1.27–1.75
		Per capita income	Continuous		No	1.00	1.00–1.00
		Neighborhood income-to-poverty	Continuous		No	4.00	1.85–8.33
Merricks et al. (2004)	Biological sex	Male	Dichotomous		No	1.02	0.42–2.49
Reilly et al. (2010) <i>Receptive subgroup</i>	Birth order	2nd	Categorical	1st	Yes	1.01	0.63–1.61
		3rd	Categorical	1st	Yes	1.88	1.04–3.37
		4th	Categorical	1st	Yes	1.30	0.36–4.75
	Birth weight*		Continuous		Yes	1.22	0.79–1.89
	Family history		Dichotomous		Yes	1.88	1.23–2.85
	Maternal age*		Continuous		Yes	1.03	0.98–1.09
	Maternal education*	13 years	Categorical	\leq 12 years	Yes	1.05	0.65–1.69
		Degree/postgraduate degree	Categorical	\leq 12 years	Yes	1.96	1.10–3.57
	Maternal mental health		Dichotomous		Yes	0.90	0.58–1.38
	Maternal vocabulary*		Continuous		Yes	1.09	1.03–1.14
	Multiple birth		Dichotomous		Yes	1.34	0.36–4.98
	Prematurity	< 36 weeks	Dichotomous	\geq 36 weeks	Yes	0.98	0.32–3.03
	Biological sex	Male	Dichotomous	Female	Yes	2.20	1.46–3.32

Reilly et al. (2010) <i>Expressive subgroup</i>	Socioeconomic status*	SEIFA	Continuous		Yes	1.43	1.03–1.96
	Birth order	2nd	Categorical	1st	Yes	1.29	0.75–2.21
		3rd	Categorical	1st	Yes	2.00	1.01–3.96
		4th	Categorical	1st	Yes	1.66	0.43–6.34
	Birth weight*		Continuous		Yes	1.61	0.98–2.70
	Family history		Dichotomous		Yes	1.69	1.05–2.73
	Maternal age*		Continuous		Yes	1.02	0.97–1.09
	Maternal education*	13 years	Categorical	≤ 12 years	Yes	2.00	1.19–3.33
		Degree/postgraduate degree	Categorical	≤ 12 years	Yes	3.85	1.96–7.14
	Maternal mental health		Dichotomous		Yes	0.77	0.46–1.29
	Maternal vocabulary*		Continuous		Yes	1.04	0.98–1.10
	Prematurity	< 36 weeks	Dichotomous		Yes	0.65	0.16–2.64
	Biological sex	Male	Dichotomous		Yes	1.43	0.90–2.28
	Socioeconomic status*	SEIFA	Continuous		Yes	1.54	1.09–2.22
Stanton-Chapman et al. (2002)	Birth order	3rd or 4th	Categorical	1st or 2nd	No	1.40	1.30–1.40
		5th or more	Categorical	1st or 2nd	No	1.70	1.60–1.90
	Birth weight	< 1500 g	Categorical	≥ 2500g	No	2.80	2.40–3.40
		1500–2499 g	Categorical	≥ 2500g	No	1.60	1.40–1.70
	Congenital abnormality	Spina bifida, heart malformation, etc.	Dichotomous		No	1.40	1.10–1.70
	Maternal age	< 18 years	Dichotomous	18–35 years	No	1.60	1.50–1.80
	Maternal education	< 12 years	Categorical	> 12 years	No	2.10	1.90–2.20
		12 years	Categorical	> 12 years	No	1.40	1.00–1.50
	Multilingual exposure*	Spanish	Categorical	English	No	1.56	1.41–1.72
		Other	Categorical	English	No	1.59	1.28–1.96
	Newborn condition	5-min Apgar 0–3	Categorical	7–10	No	2.50	1.60–4.10
		5-min Apgar 4–6	Categorical	7–10	No	1.90	1.50–2.40
		Anemia, assisted ventilation, etc.	Dichotomous		No	1.40	1.10–1.70
	Parent marital status	Unmarried	Dichotomous	Married	No	1.80	1.70–1.80
	Perinatal event	Birth complications	Dichotomous		No	1.10	1.10–1.20
	Pregnancy condition	Anemia, diabetes, preeclampsia, etc.	Dichotomous		No	1.20	1.20–1.30
	Prematurity	< 37 weeks	Dichotomous	37–42 weeks	No	1.50	1.30–1.60

	Prenatal care	2nd trimester	Categorical	1st trimester	No	1.50	1.40–1.60
		3rd trimester/none	Categorical	1st trimester	No	1.80	1.70–2.00
	Prenatal exposure	Maternal tobacco use	Dichotomous		Yes	1.20	1.10–1.20
		Maternal alcohol use	Dichotomous		Yes	1.20	1.10–1.40
Tomblin, Records, et al. (1997)	Biological sex	Male	Dichotomous		No	1.64	1.56–1.73
	Biological sex	Male	Dichotomous		No	1.42	1.07–1.89
Tomblin, Smith, et al. (1997b)	Birth weight	≤ 2500g	Dichotomous		Yes	1.70	0.80–3.80
	Breastfed*		Dichotomous		Yes	2.00	1.43–2.50
Family history	Maternal speech problem (SP)	Maternal speech problem (SP)	Dichotomous		No	0.80	0.43–1.50
		Maternal mental retardation (MR)	Dichotomous		No	1.50	0.60–3.80
		Maternal learning disability (LD)	Dichotomous		No	1.60	0.87–2.00
		Maternal SP, MR, or LD	Dichotomous		No	1.30	0.81–2.00
		Paternal speech problem (SP)	Dichotomous		No	1.90	1.10–3.30
		Paternal mental retardation (MR)	Dichotomous		No	3.90	1.90–8.10
		Paternal learning disability (LD)	Dichotomous		No	1.80	1.00–3.30
		Paternal SP, MR, or LD	Dichotomous		No	2.10	1.30–3.10
Maternal education	Incomplete high school	Incomplete high school	Categorical	College grad	No	3.50	1.80–6.50
		Complete high school	Categorical	College grad	No	2.30	1.60–3.90
		Incomplete college	Categorical	College grad	No	1.70	1.10–2.80
Paternal education	Incomplete high school	Incomplete high school	Categorical	College grad	No	3.20	1.80–5.50
		Complete high school	Categorical	College grad	No	2.40	1.60–3.80
		Incomplete college	Categorical	College grad	No	1.80	1.10–3.00
Maternal illness	Kidney infection	Kidney infection	Dichotomous		No	0.60	0.20–1.60
		Thyroid issue	Dichotomous		No	1.40	0.40–5.20
		Sexually transmitted disease	Dichotomous		No	1.20	0.70–2.00
		Urinary tract infection	Dichotomous		No	1.20	0.70–2.00
Perinatal event	Cesarean section	Cesarean section	Dichotomous		Yes	0.70	0.50–1.10
		Forceps delivery	Dichotomous		Yes	0.50	0.30–1.00
		Labor duration < 2 hours	Categorical	2–12 hours	Yes	1.60	0.90–2.80
		Labor duration 12–24 hours	Categorical	2–12 hours	Yes	1.10	0.70–1.80

Tomblin et al. (1998)	Pregnancy condition	Labor duration > 24 hours	Categorical	2–12 hours	Yes	1.10	0.50–2.40
		Induced labor	Dichotomous		Yes	1.00	0.60–1.50
		Birth complications	Dichotomous		Yes	0.80	0.60–1.20
		History of poor pregnancy outcomes	Dichotomous		No	1.10	0.50–1.60
		Gestational diabetes	Dichotomous		No	1.00	0.50–2.20
	Prenatal exposure	Hypertension	Dichotomous		No	1.10	0.70–1.80
		Maternal smoking	Dichotomous		No	1.60	1.10–2.20
		Maternal illicit drug use	Dichotomous		No	0.80	0.40–1.50
		Maternal alcohol use	Dichotomous		No	1.00	0.70–1.40
		Paternal smoking	Dichotomous		No	1.90	1.40–2.60
	Childhood exposure	Paternal illicit drug use	Dichotomous		No	1.30	0.90–2.90
		Paternal alcohol use	Dichotomous		No	0.70	0.40–1.20
		Occupational exposure	Dichotomous		No	0.90	0.60–1.40
		Maternal smoking	Dichotomous		No	1.70	1.20–2.30
		Paternal smoking	Dichotomous		No	1.80	1.30–2.50
	Maternal age*	One parent smoking	Categorical	No smoking	No	1.70	1.10–2.70
		Both parents smoking	Categorical	No smoking	No	2.30	1.50–3.40
			Continuous		No	1.05	1.01–1.09
	Minority status	African American	Dichotomous		No	2.70	1.50–4.70
		Hispanic	Dichotomous		No	0.70	0.20–3.10
	Parent education*	Average years (mother, father)	Continuous		No	1.32	1.20–1.46
	Prenatal exposure	Maternal alcohol use	Dichotomous		No	0.90	0.60–1.30
		Maternal marijuana	Dichotomous		No	0.80	0.40–1.40
		Maternal cocaine	Dichotomous		No	1.00	0.30–2.90
		Maternal smoking, but quit	Categorical	No smoking	No	1.60	0.90–2.50
		Maternal smoking throughout	Categorical	No smoking	No	1.60	0.10–2.30
Whitehouse et al. (2014)	Socioeconomic status*	Paternal smoking, but quit	Categorical	No smoking	No	1.00	0.40–3.10
		Paternal smoking throughout	Categorical	No smoking	No	1.90	1.40–2.70
		Income	Continuous		No	1.22	1.11–1.35
	Birth weight	SGA	Dichotomous		No	1.52	0.65–3.55
	Maternal age	> 35 years	Dichotomous		No	1.13	0.34–3.79

Maternal education	< 12 years	Dichotomous	No	3.08	1.16–8.20
Maternal illness	Preexisting diabetes	Dichotomous	No	0.55	0.03–9.17
	Kidney infection	Dichotomous	No	1.66	0.39–7.14
Newborn condition	Time to spontaneous respiration	Dichotomous	No	1.64	0.71–3.81
	Resuscitation	Dichotomous	No	1.75	0.65–4.70
	Birth trauma	Dichotomous	No	0.97	0.23–4.12
	1-min Apgar < 7	Dichotomous	No	1.63	0.73–3.61
	5-min Apgar < 8	Dichotomous	No	2.17	0.81–5.82
	NICU placement	Dichotomous	No	2.20	0.95–5.11
	Poor sucking/feeding	Dichotomous	No	2.33	0.54–10.10
	Hypoglycemia	Dichotomous	No	0.47	0.06–3.52
	Jaundice	Dichotomous	No	1.29	0.58–2.85
	Anemia	Dichotomous	No	5.10	0.65–40.29
	Temperature maintenance	Dichotomous	No	2.52	0.15–43.45
Parent marital status	Separated	Dichotomous	No	0.64	0.15–2.71
Perinatal event	Breech	Dichotomous	No	0.98	0.13–7.36
	Induced labor	Dichotomous	No	1.07	0.47–2.41
	Maternal fever	Dichotomous	No	1.30	0.30–5.59
	Abnormal fetal heart rate	Dichotomous	No	1.02	0.44–2.35
	Prostaglandins	Dichotomous	No	0.73	0.10–5.47
	Oxytocin	Dichotomous	No	1.18	0.53–2.62
	Narcotic analgesia	Dichotomous	No	0.90	0.41–2.00
	Epidural analgesia	Dichotomous	No	1.08	0.50–2.35
	Atypical placenta	Dichotomous	No	1.38	0.41–4.64
	Atypical umbilical cord	Dichotomous	No	1.74	0.69–4.38
	Elective cesarean section	Dichotomous	No	1.28	0.38–4.32
	Emergency cesarean section	Dichotomous	No	0.87	0.20–3.70
	Forceps/vacuum delivery	Dichotomous	No	0.40	0.10–1.72
	Labor duration > 10 hours	Dichotomous	No	0.25	0.03–1.85
	Expulsion > 120 min	Dichotomous	No	0.97	0.29–3.30
Pregnancy condition	Maternal BMI > 30	Dichotomous	No	0.26	0.02–4.26

	Hyperemesis	Dichotomous	No	1.35	0.08–22.82
	Gestational diabetes	Dichotomous	No	0.97	0.06–16.17
	Threatened abortion	Dichotomous	No	2.19	0.65–7.43
	Hemorrhage	Dichotomous	No	1.10	0.26–4.69
	Preeclampsia	Dichotomous	No	1.13	0.07–19.03
	Hospital admission < 20 weeks	Dichotomous	No	1.22	0.16–9.18
	Hospital admission ≥ 20 weeks	Dichotomous	No	0.69	0.24–2.01
Prenatal exposure	Maternal alcohol use	Dichotomous	No	1.65	0.38–7.18
	Maternal smoking	Dichotomous	No	1.39	0.57–3.38
Biological sex	Male	Dichotomous	No	2.53	1.06–6.04
Socioeconomic status	Below poverty	Dichotomous	No	0.39	0.18–0.87

Note. OR = odds ratio; CI = confidence interval; SEIFA = Socio-Economic Indexes for Areas; SGA = small for gestational age; NICU = neonatal intensive care unit; BMI = body mass index.

*Factor was weighted protectively; inverse OR was calculated to get risk value.

^aTomblin, Records, et al. (1997) used a two phase diagnostic process: (1) screening followed by (2) thorough diagnostic assessment. The screening sample included children with a variety of developmental disorders, whereas the diagnostic sample focused on children with SLI; thus, the diagnostic sample was used to calculate the OR for sex.

However, the ratio of males to females was not reported for the diagnostic sample. The male:female ratio for the diagnostic sample was assumed to be equivalent to the ratio for the full screening sample to perform this calculation.

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