

Investigating the autism and ADHD prevalence in Chile through
Bayesian prevalence analysis and clinical record data linkage

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This dissertation is submitted for the degree of Master of Philosophy. The dissertation does not exceed the word limit for the respective Degree Committee. Word count: xxx TODO

1 Abstract

TODO

2 Declaration

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration except where specifically indicated in the text.

USN: xxxxx July, 2022

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3 Introduction

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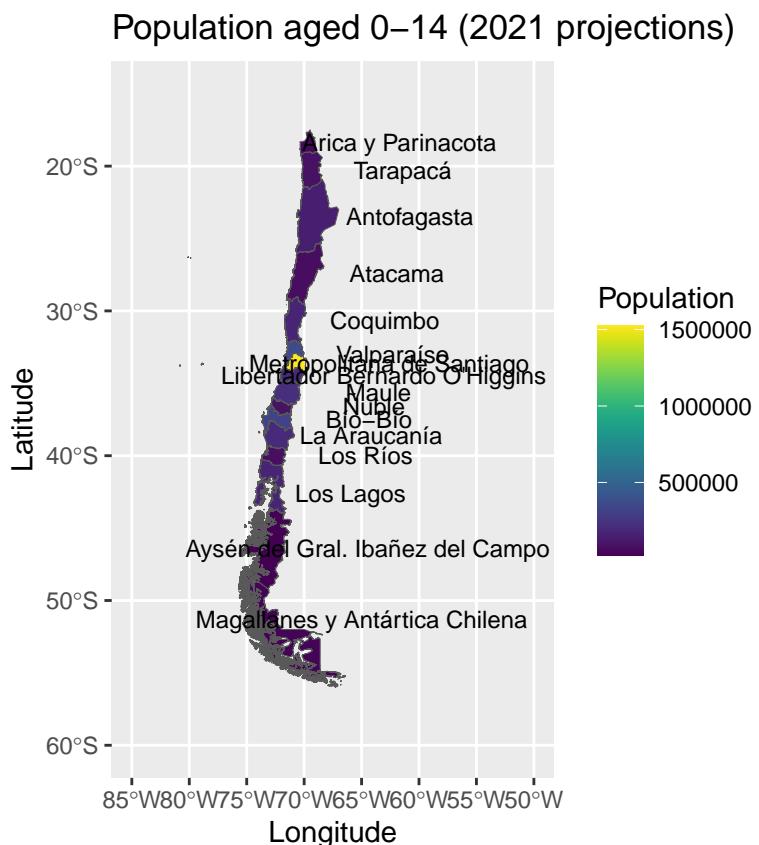


Figure 1: Population of 0-14 year olds in Chile in 2021 by region, from 2017 census projections.

4 Methods

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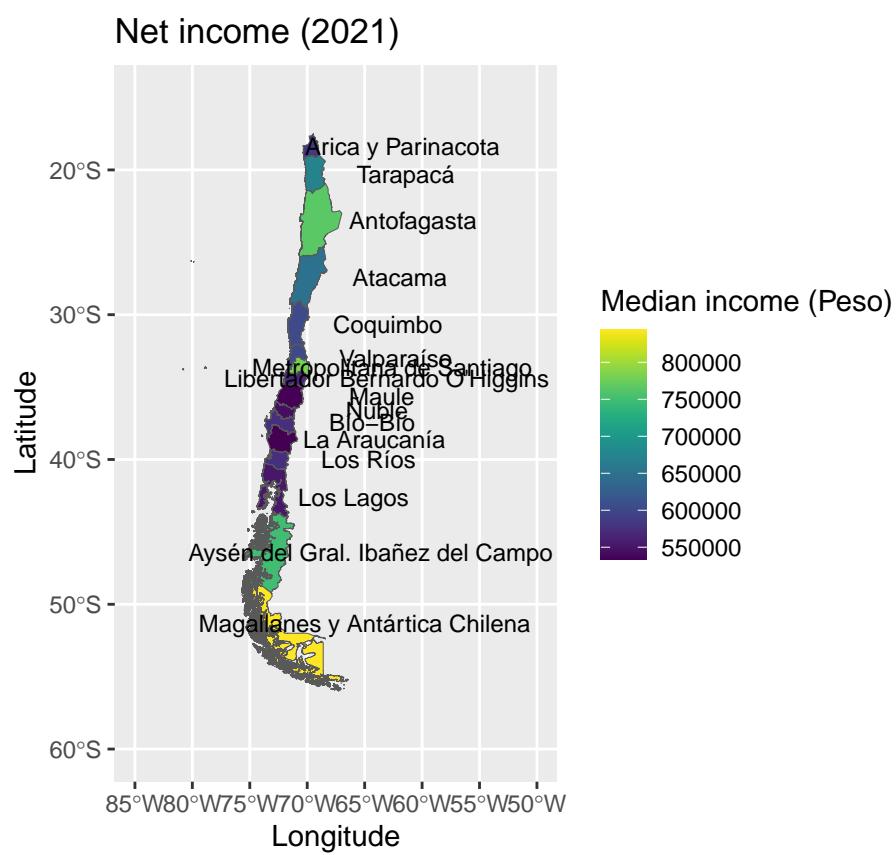


Figure 2: Net income from main job in Chile in 2021 by region, from the INE's Supplementary Income Survey.

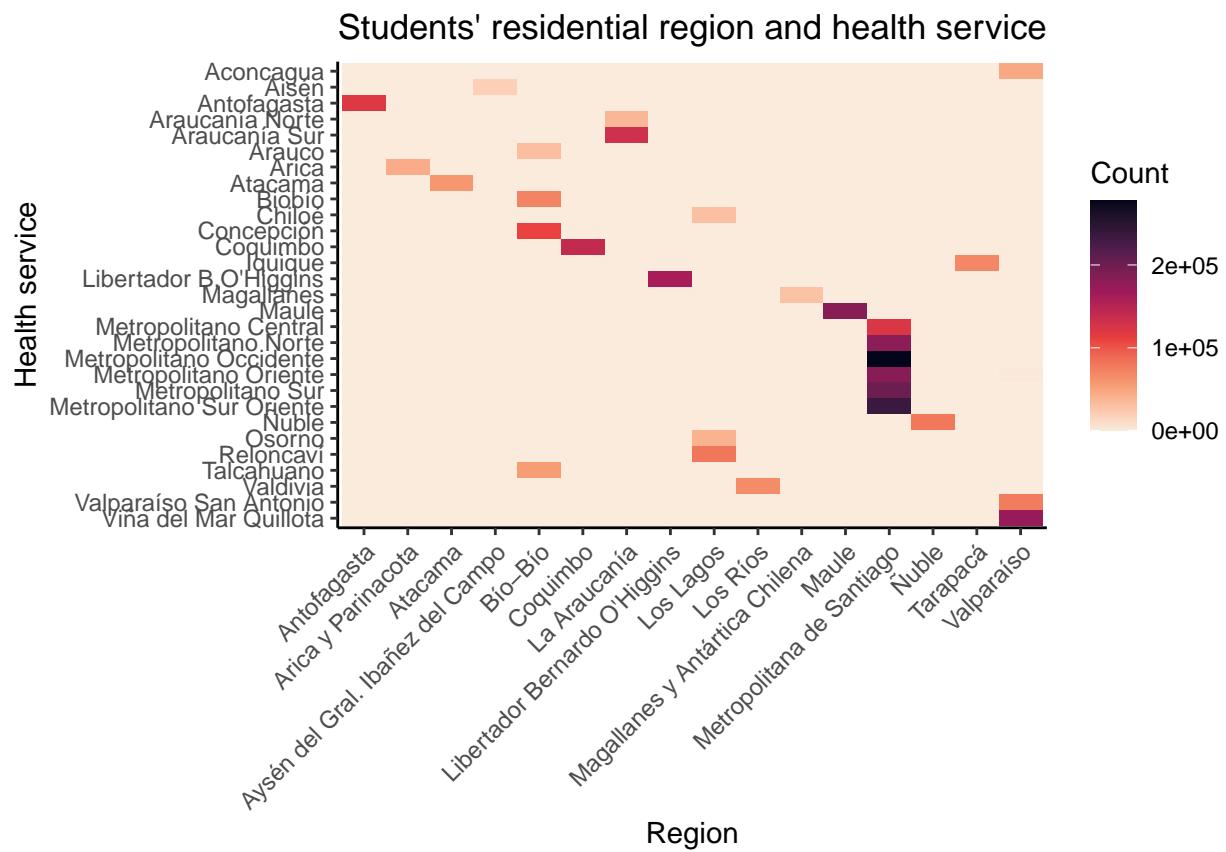


Figure 3: Residential communes aggregated to region level and the health services associated with the aggregated communes, with counts of the number of students resident in the communes in each health service's catchment area.

Communes in La Araucanía

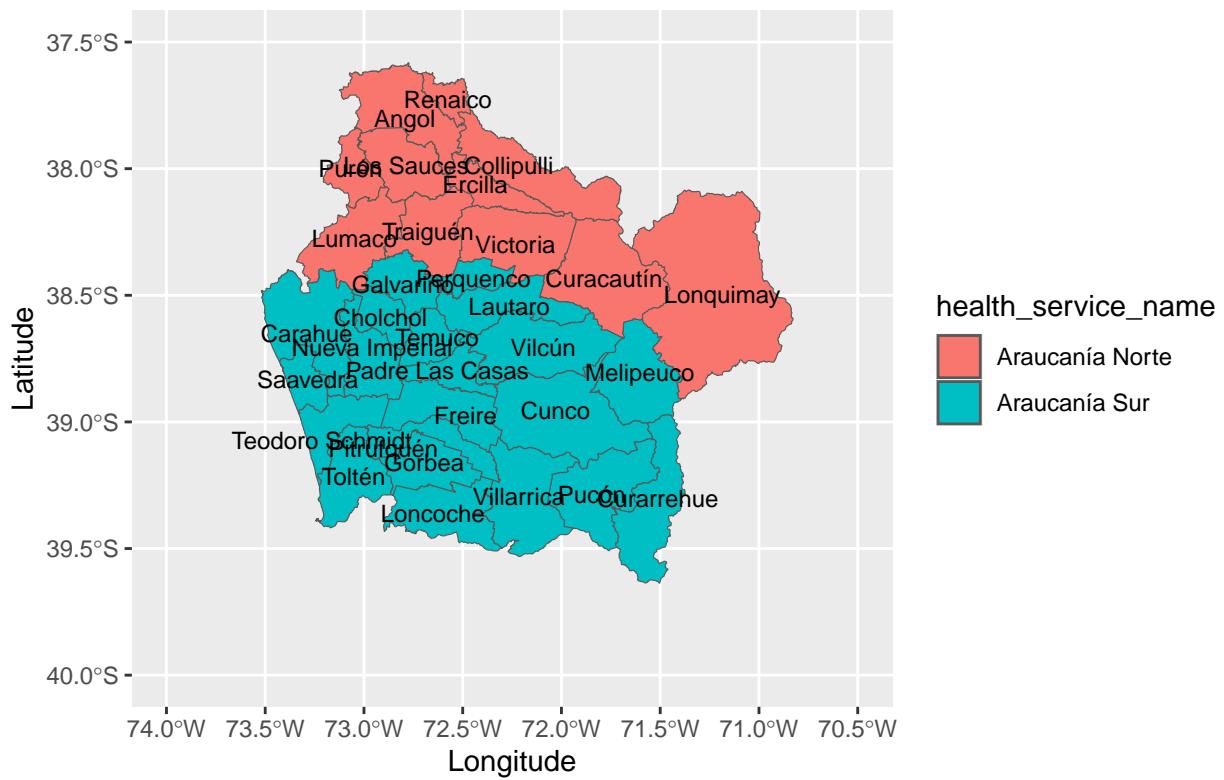


Figure 4: Communes in the Araucanía region, coloured red for the Araucanía Norte (north Araucanía) health services and blue for the Araucanía Sur (south Araucanía) health service.

Table 1: Count and prevalence of autism cases by age in Chile school data with normal confidence intervals.

Age	Autism cases	Prevalence % (95% CI)
6	1806	0.72 (0.69, 0.75)
7	1724	0.69 (0.66, 0.72)
8	1632	0.66 (0.63, 0.69)
9	1523	0.60 (0.57, 0.63)
10	1435	0.56 (0.53, 0.58)
11	1254	0.49 (0.46, 0.52)
12	1176	0.46 (0.43, 0.48)
13	1057	0.42 (0.40, 0.45)
14	805	0.33 (0.31, 0.36)
15	680	0.29 (0.27, 0.31)
16	665	0.28 (0.26, 0.30)
17	491	0.21 (0.19, 0.23)
18	301	0.34 (0.30, 0.38)

5 Results

5.1 School data

The school dataset contained records for 3,056,306 Chilean students aged 6-18 in 2021. Of these, 1,487,224 (48.66%) were female and the rest were male. A special needs code was recorded for 339,968 (11.12%) students, indicating they received SEED during that school year. Of these students, 14,549 (4.28%) received SEED for autism and 46,224 (13.6%) received SEED for ADHD. Thus the global crude prevalence of autism in the school data was 0.476% (0.468-0.484%) and the global crude prevalence of ADHD was 1.51% (1.50-1.53%).

Tables @ref(tab:prev age aut table) and @ref(tab:prev age adhd table) and Supplementary Figure x show the crude prevalences of autism and ADHD by age and Figure 5 shows these by 2-year age band. Autism prevalence is highest in the youngest ages and decreases with age while ADHD prevalence peaks at age 11 then decreases. Both conditions show a small increase in prevalence for age 18.

Tables 3 and 4 and figure 6 show prevalence by sex. Autism prevalence is 0.133% (0.127-0.139%) for females and 0.80% (0.79-0.82%) for males. ADHD prevalence is 1.01% (1.00-1.03%) for females and 1.98% (1.96-2.01%) for males. Autism and ADHD prevalences are higher in males than females for all ages.

Autism varies by health service, as shown in Table 5 and Figure 7. Autism prevalence is highest in Ñuble at 1.32% (1.24 - 1.40%) and Antofagasta at 0.84% (0.79- 0.89%), and is lowest in Metropolitano Norte at 0.29% (0.27 - 0.32%) and Araucanía Norte at 0.30% (0.24- 0.36%). Autism peaks in the 6-8 age band across all services except Chiloé and Magallanes where it peaks in the 9-11 band.

ADHD prevalence also varies across health services, as shown in Table 6 and Figure 8. ADHD prevalence is highest in Magallanes at 3.07% (2.87 - 3.27%) and Talcahuano at 3.07% (2.93- 3.22%), and is lowest in Atacama at 0.49% (0.44 - 0.55%) and Antofagasta at 1.00% (0.94- 1.06%).

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals.

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Aconcagua	6	8	0.42 (0.13, 0.70)	6	0.30 (0.06, 0.54)
Aisén	6	3	0.43 (0.00, 0.91)	5	0.68 (0.09, 1.28)

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals. (*continued*)

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Antofagasta	6	14	0.31 (0.15, 0.47)	12	0.26 (0.11, 0.40)
Araucanía Norte	6	4	0.30 (0.01, 0.60)	9	0.60 (0.21, 0.99)
Araucanía Sur	6	12	0.23 (0.10, 0.36)	26	0.50 (0.31, 0.69)
Arauco	6	4	0.33 (0.01, 0.66)	6	0.49 (0.10, 0.89)
Arica	6	0	0.00 (0.00, 0.00)	5	0.27 (0.03, 0.50)
Atacama	6	0	0.00 (0.00, 0.00)	2	0.09 (0.00, 0.21)
Biobío	6	10	0.36 (0.14, 0.59)	20	0.71 (0.40, 1.01)
Chiloé	6	3	0.28 (0.00, 0.59)	7	0.60 (0.16, 1.05)
Concepción	6	11	0.25 (0.10, 0.39)	12	0.27 (0.12, 0.42)
Coquimbo	6	23	0.42 (0.25, 0.59)	30	0.51 (0.33, 0.70)
Iquique	6	6	0.22 (0.04, 0.40)	12	0.41 (0.18, 0.64)
Libertador B.O'Higgins	6	14	0.23 (0.11, 0.35)	36	0.54 (0.37, 0.72)
Magallanes	6	2	0.20 (0.00, 0.47)	2	0.19 (0.00, 0.45)
Maule	6	7	0.10 (0.02, 0.17)	18	0.24 (0.13, 0.34)
Metropolitano Central	6	17	0.37 (0.20, 0.55)	32	0.66 (0.43, 0.89)
Metropolitano Norte	6	7	0.10 (0.03, 0.17)	22	0.30 (0.18, 0.43)
Metropolitano Occidente	6	34	0.21 (0.14, 0.28)	38	0.23 (0.16, 0.30)
Metropolitano Oriente	6	10	0.14 (0.05, 0.22)	25	0.34 (0.21, 0.48)
Metropolitano Sur	6	10	0.13 (0.05, 0.21)	33	0.40 (0.26, 0.53)
Metropolitano Sur Oriente	6	24	0.28 (0.17, 0.39)	40	0.43 (0.30, 0.57)
Osorno	6	3	0.22 (0.00, 0.46)	2	0.13 (0.00, 0.32)
Reloncaví	6	8	0.27 (0.08, 0.46)	11	0.36 (0.15, 0.57)
Talcahuano	6	5	0.24 (0.03, 0.46)	12	0.55 (0.24, 0.86)
Valdivia	6	6	0.25 (0.05, 0.45)	19	0.77 (0.42, 1.11)
Valparaíso San Antonio	6	2	0.07 (0.00, 0.16)	8	0.25 (0.08, 0.43)
Viña del Mar Quillota	6	8	0.12 (0.04, 0.20)	17	0.24 (0.13, 0.36)
Ñuble	6	7	0.23 (0.06, 0.40)	11	0.35 (0.14, 0.56)
Aconcagua	7	16	0.85 (0.43, 1.26)	25	1.23 (0.75, 1.71)
Aisén	7	3	0.38 (0.00, 0.81)	12	1.59 (0.70, 2.49)
Antofagasta	7	27	0.59 (0.37, 0.82)	44	0.90 (0.64, 1.17)
Araucanía Norte	7	3	0.21 (0.00, 0.44)	19	1.20 (0.66, 1.73)
Araucanía Sur	7	30	0.58 (0.37, 0.79)	63	1.16 (0.88, 1.45)
Arauco	7	6	0.46 (0.09, 0.82)	16	1.24 (0.64, 1.84)
Arica	7	5	0.28 (0.03, 0.52)	17	0.87 (0.46, 1.28)
Atacama	7	2	0.09 (0.00, 0.20)	5	0.21 (0.03, 0.39)
Biobío	7	30	1.09 (0.70, 1.47)	47	1.56 (1.12, 2.00)
Chiloé	7	8	0.72 (0.22, 1.21)	23	1.97 (1.17, 2.76)
Concepción	7	45	1.05 (0.75, 1.36)	56	1.25 (0.92, 1.57)
Coquimbo	7	31	0.53 (0.35, 0.72)	60	0.98 (0.74, 1.23)
Iquique	7	4	0.14 (0.00, 0.28)	30	0.99 (0.64, 1.35)
Libertador B.O'Higgins	7	31	0.48 (0.31, 0.65)	83	1.24 (0.98, 1.51)
Magallanes	7	4	0.38 (0.01, 0.74)	22	1.98 (1.16, 2.80)
Maule	7	31	0.42 (0.27, 0.57)	63	0.80 (0.60, 1.00)

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals. (*continued*)

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Metropolitano Central	7	30	0.64 (0.41, 0.86)	58	1.12 (0.83, 1.40)
Metropolitano Norte	7	36	0.49 (0.33, 0.65)	74	0.96 (0.74, 1.17)
Metropolitano Occidente	7	52	0.46 (0.33, 0.58)	96	0.80 (0.64, 0.96)
Metropolitano Oriente	7	44	0.59 (0.42, 0.76)	79	1.03 (0.80, 1.26)
Metropolitano Sur	7	49	0.60 (0.43, 0.77)	72	0.85 (0.66, 1.05)
Metropolitano Sur Oriente	7	57	0.60 (0.45, 0.76)	124	1.24 (1.02, 1.46)
Osorno	7	5	0.33 (0.04, 0.63)	11	0.68 (0.28, 1.07)
Reloncaví	7	13	0.42 (0.19, 0.65)	25	0.78 (0.47, 1.08)
Talcahuano	7	21	0.97 (0.56, 1.39)	39	1.71 (1.18, 2.24)
Valdivia	7	15	0.59 (0.29, 0.89)	30	1.10 (0.71, 1.50)
Valparaíso San Antonio	7	10	0.31 (0.12, 0.50)	27	0.81 (0.51, 1.12)
Viña del Mar Quillota	7	25	0.36 (0.22, 0.50)	55	0.76 (0.56, 0.96)
Ñuble	7	17	0.56 (0.30, 0.83)	40	1.21 (0.84, 1.59)
Aconcagua	8	32	1.76 (1.15, 2.36)	40	2.08 (1.44, 2.71)
Aisén	8	6	0.81 (0.16, 1.45)	21	2.67 (1.54, 3.80)
Antofagasta	8	25	0.53 (0.32, 0.74)	50	1.01 (0.73, 1.29)
Araucanía Norte	8	17	1.18 (0.62, 1.74)	24	1.59 (0.96, 2.22)
Araucanía Sur	8	57	1.09 (0.81, 1.37)	117	2.11 (1.73, 2.49)
Arauco	8	10	0.79 (0.30, 1.29)	27	2.18 (1.37, 2.99)
Arica	8	12	0.67 (0.29, 1.05)	24	1.25 (0.75, 1.74)
Atacama	8	5	0.22 (0.03, 0.42)	13	0.53 (0.24, 0.82)
Biobío	8	39	1.40 (0.96, 1.84)	66	2.34 (1.78, 2.90)
Chiloé	8	17	1.56 (0.83, 2.30)	36	2.97 (2.01, 3.93)
Concepción	8	45	1.03 (0.73, 1.32)	94	2.10 (1.68, 2.52)
Coquimbo	8	51	0.88 (0.64, 1.12)	144	2.32 (1.94, 2.69)
Iquique	8	25	0.90 (0.55, 1.25)	54	1.77 (1.31, 2.24)
Libertador B.O'Higgins	8	79	1.24 (0.97, 1.51)	133	2.02 (1.68, 2.36)
Magallanes	8	11	1.06 (0.44, 1.69)	33	3.13 (2.08, 4.18)
Maule	8	31	0.42 (0.28, 0.57)	101	1.36 (1.10, 1.63)
Metropolitano Central	8	40	0.86 (0.59, 1.12)	83	1.62 (1.28, 1.97)
Metropolitano Norte	8	71	0.99 (0.76, 1.21)	122	1.60 (1.32, 1.88)
Metropolitano Occidente	8	81	0.75 (0.58, 0.91)	162	1.43 (1.21, 1.65)
Metropolitano Oriente	8	62	0.83 (0.63, 1.04)	99	1.30 (1.05, 1.56)
Metropolitano Sur	8	72	0.90 (0.69, 1.11)	135	1.61 (1.34, 1.88)
Metropolitano Sur Oriente	8	108	1.17 (0.95, 1.39)	191	1.95 (1.68, 2.23)
Osorno	8	8	0.49 (0.15, 0.83)	19	1.18 (0.65, 1.70)
Reloncaví	8	20	0.66 (0.37, 0.94)	40	1.30 (0.90, 1.70)
Talcahuano	8	36	1.74 (1.17, 2.30)	59	2.79 (2.09, 3.50)
Valdivia	8	20	0.76 (0.43, 1.10)	53	1.94 (1.42, 2.45)
Valparaíso San Antonio	8	21	0.68 (0.39, 0.98)	53	1.63 (1.20, 2.07)
Viña del Mar Quillota	8	46	0.67 (0.48, 0.87)	99	1.38 (1.11, 1.65)
Ñuble	8	33	1.08 (0.71, 1.45)	59	1.91 (1.42, 2.39)
Aconcagua	9	52	2.62 (1.92, 3.33)	84	4.00 (3.16, 4.83)

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals. (*continued*)

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Aisén	9	8	1.10 (0.34, 1.87)	24	2.97 (1.80, 4.14)
Antofagasta	9	46	0.97 (0.69, 1.25)	77	1.52 (1.18, 1.86)
Araucanía Norte	9	9	0.61 (0.21, 1.00)	41	2.62 (1.83, 3.41)
Araucanía Sur	9	84	1.57 (1.23, 1.90)	148	2.69 (2.26, 3.12)
Arauco	9	12	0.96 (0.42, 1.51)	26	2.00 (1.24, 2.76)
Arica	9	20	1.09 (0.61, 1.56)	37	1.85 (1.26, 2.44)
Atacama	9	16	0.66 (0.34, 0.98)	17	0.70 (0.37, 1.03)
Biobío	9	63	2.20 (1.66, 2.74)	89	3.08 (2.45, 3.71)
Chiloé	9	25	2.20 (1.35, 3.05)	59	4.57 (3.43, 5.70)
Concepción	9	82	1.85 (1.45, 2.25)	174	3.72 (3.18, 4.26)
Coquimbo	9	90	1.47 (1.17, 1.78)	164	2.68 (2.28, 3.09)
Iquique	9	34	1.22 (0.81, 1.63)	74	2.34 (1.81, 2.86)
Libertador B.O'Higgins	9	101	1.57 (1.27, 1.87)	193	2.81 (2.42, 3.20)
Magallanes	9	22	1.91 (1.12, 2.70)	52	4.79 (3.52, 6.06)
Maule	9	65	0.91 (0.69, 1.13)	166	2.22 (1.89, 2.55)
Metropolitano Central	9	46	0.93 (0.66, 1.19)	95	1.81 (1.45, 2.18)
Metropolitano Norte	9	83	1.13 (0.89, 1.37)	133	1.69 (1.41, 1.98)
Metropolitano Occidente	9	119	1.09 (0.90, 1.29)	197	1.69 (1.46, 1.92)
Metropolitano Oriente	9	64	0.88 (0.66, 1.09)	129	1.67 (1.38, 1.95)
Metropolitano Sur	9	117	1.39 (1.14, 1.64)	186	2.13 (1.82, 2.43)
Metropolitano Sur Oriente	9	121	1.29 (1.06, 1.52)	237	2.40 (2.09, 2.70)
Osorno	9	10	0.63 (0.24, 1.02)	25	1.45 (0.89, 2.02)
Reloncaví	9	18	0.58 (0.31, 0.85)	74	2.30 (1.78, 2.82)
Talcahuano	9	70	3.15 (2.42, 3.87)	84	3.49 (2.76, 4.22)
Valdivia	9	23	0.86 (0.51, 1.21)	54	1.97 (1.45, 2.50)
Valparaíso San Antonio	9	22	0.70 (0.41, 0.99)	52	1.57 (1.15, 1.99)
Viña del Mar Quillota	9	58	0.81 (0.60, 1.02)	171	2.32 (1.98, 2.67)
Ñuble	9	53	1.71 (1.25, 2.16)	105	3.22 (2.62, 3.83)
Aconcagua	10	42	2.12 (1.48, 2.75)	82	3.95 (3.11, 4.79)
Aisén	10	9	1.06 (0.37, 1.74)	35	4.10 (2.77, 5.43)
Antofagasta	10	47	0.94 (0.67, 1.21)	107	2.04 (1.65, 2.42)
Araucanía Norte	10	12	0.81 (0.35, 1.26)	43	2.87 (2.02, 3.72)
Araucanía Sur	10	82	1.51 (1.18, 1.83)	168	2.89 (2.46, 3.32)
Arauco	10	19	1.41 (0.78, 2.04)	35	2.55 (1.72, 3.39)
Arica	10	24	1.25 (0.75, 1.75)	39	1.92 (1.32, 2.51)
Atacama	10	5	0.20 (0.02, 0.37)	17	0.65 (0.34, 0.95)
Biobío	10	59	2.09 (1.56, 2.62)	119	4.01 (3.30, 4.71)
Chiloé	10	30	2.40 (1.55, 3.25)	58	4.66 (3.49, 5.83)
Concepción	10	116	2.38 (1.95, 2.81)	224	4.41 (3.85, 4.98)
Coquimbo	10	107	1.77 (1.44, 2.10)	188	2.98 (2.56, 3.40)
Iquique	10	36	1.21 (0.82, 1.60)	84	2.73 (2.16, 3.31)
Libertador B.O'Higgins	10	106	1.59 (1.29, 1.89)	234	3.37 (2.95, 3.79)
Magallanes	10	35	3.11 (2.09, 4.12)	56	4.69 (3.49, 5.89)

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals. (*continued*)

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Maule	10	73	0.98 (0.76, 1.21)	205	2.57 (2.22, 2.91)
Metropolitano Central	10	80	1.65 (1.29, 2.00)	169	3.23 (2.75, 3.70)
Metropolitano Norte	10	101	1.38 (1.11, 1.65)	181	2.30 (1.97, 2.64)
Metropolitano Occidente	10	143	1.32 (1.10, 1.53)	267	2.27 (2.00, 2.54)
Metropolitano Oriente	10	87	1.15 (0.91, 1.39)	173	2.16 (1.84, 2.47)
Metropolitano Sur	10	135	1.62 (1.35, 1.89)	230	2.63 (2.29, 2.96)
Metropolitano Sur Oriente	10	159	1.66 (1.41, 1.92)	315	3.09 (2.75, 3.43)
Osorno	10	13	0.76 (0.35, 1.17)	27	1.57 (0.98, 2.16)
Reloncaví	10	25	0.77 (0.47, 1.06)	63	1.81 (1.37, 2.25)
Talcahuano	10	60	2.69 (2.02, 3.37)	104	4.48 (3.64, 5.33)
Valdivia	10	24	0.86 (0.52, 1.21)	66	2.35 (1.79, 2.92)
Valparaíso San Antonio	10	42	1.33 (0.93, 1.73)	68	2.11 (1.62, 2.61)
Viña del Mar Quillota	10	84	1.20 (0.95, 1.46)	170	2.29 (1.95, 2.63)
Ñuble	10	66	2.06 (1.57, 2.55)	137	4.16 (3.48, 4.84)
Aconcagua	11	50	2.63 (1.91, 3.35)	80	3.99 (3.13, 4.85)
Aisén	11	21	2.64 (1.53, 3.76)	35	4.29 (2.90, 5.68)
Antofagasta	11	50	0.98 (0.71, 1.26)	91	1.73 (1.37, 2.08)
Araucanía Norte	11	13	0.92 (0.42, 1.41)	46	3.07 (2.20, 3.94)
Araucanía Sur	11	74	1.36 (1.05, 1.67)	171	3.03 (2.59, 3.48)
Arauco	11	16	1.23 (0.63, 1.83)	46	3.33 (2.38, 4.27)
Arica	11	16	0.87 (0.44, 1.29)	42	2.14 (1.50, 2.78)
Atacama	11	7	0.28 (0.07, 0.48)	28	1.08 (0.68, 1.47)
Biobío	11	53	1.79 (1.32, 2.27)	121	3.90 (3.22, 4.58)
Chiloé	11	28	2.30 (1.46, 3.15)	66	5.05 (3.86, 6.24)
Concepción	11	135	3.01 (2.51, 3.51)	235	4.96 (4.34, 5.58)
Coquimbo	11	124	2.06 (1.70, 2.41)	193	3.11 (2.68, 3.54)
Iquique	11	38	1.32 (0.90, 1.74)	87	2.81 (2.23, 3.39)
Libertador B.O'Higgins	11	111	1.65 (1.34, 1.95)	223	3.16 (2.75, 3.57)
Magallanes	11	26	2.19 (1.36, 3.02)	59	4.98 (3.74, 6.22)
Maule	11	89	1.21 (0.96, 1.46)	196	2.50 (2.16, 2.85)
Metropolitano Central	11	72	1.44 (1.11, 1.78)	166	3.11 (2.65, 3.58)
Metropolitano Norte	11	115	1.56 (1.28, 1.85)	193	2.45 (2.11, 2.79)
Metropolitano Occidente	11	110	1.01 (0.82, 1.20)	249	2.20 (1.93, 2.47)
Metropolitano Oriente	11	87	1.16 (0.92, 1.41)	176	2.27 (1.94, 2.60)
Metropolitano Sur	11	134	1.62 (1.35, 1.89)	240	2.69 (2.35, 3.02)
Metropolitano Sur Oriente	11	166	1.71 (1.46, 1.97)	261	2.60 (2.29, 2.91)
Osorno	11	17	1.04 (0.55, 1.53)	43	2.50 (1.76, 3.24)
Reloncaví	11	37	1.12 (0.76, 1.48)	64	1.84 (1.39, 2.28)
Talcahuano	11	70	3.21 (2.47, 3.95)	128	5.47 (4.55, 6.40)
Valdivia	11	34	1.24 (0.82, 1.65)	59	2.02 (1.51, 2.54)
Valparaíso San Antonio	11	35	1.11 (0.75, 1.48)	80	2.48 (1.95, 3.02)
Viña del Mar Quillota	11	89	1.25 (0.99, 1.51)	190	2.57 (2.21, 2.93)
Ñuble	11	56	1.73 (1.28, 2.19)	123	3.70 (3.06, 4.34)
Aconcagua	12	39	2.00 (1.38, 2.62)	83	4.36 (3.45, 5.28)

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals. (*continued*)

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Aisén	12	17	1.91 (1.01, 2.82)	35	3.80 (2.56, 5.03)
Antofagasta	12	41	0.83 (0.57, 1.08)	72	1.35 (1.04, 1.65)
Araucanía Norte	12	18	1.18 (0.64, 1.73)	48	2.99 (2.16, 3.83)
Araucanía Sur	12	66	1.17 (0.89, 1.45)	156	2.74 (2.32, 3.17)
Arauco	12	10	0.81 (0.31, 1.31)	46	3.43 (2.45, 4.40)
Arica	12	13	0.72 (0.33, 1.11)	56	2.90 (2.15, 3.65)
Atacama	12	13	0.52 (0.24, 0.80)	19	0.75 (0.41, 1.09)
Biobío	12	49	1.67 (1.20, 2.13)	131	4.20 (3.50, 4.90)
Chiloé	12	28	2.17 (1.37, 2.96)	70	4.94 (3.81, 6.06)
Concepción	12	129	2.96 (2.46, 3.46)	220	4.82 (4.20, 5.45)
Coquimbo	12	103	1.74 (1.41, 2.08)	234	3.85 (3.37, 4.34)
Iquique	12	42	1.48 (1.04, 1.93)	67	2.14 (1.63, 2.65)
Libertador B.O'Higgins	12	114	1.71 (1.40, 2.02)	277	3.95 (3.50, 4.41)
Magallanes	12	27	2.30 (1.44, 3.16)	55	4.62 (3.43, 5.81)
Maule	12	88	1.15 (0.91, 1.39)	187	2.35 (2.02, 2.69)
Metropolitano Central	12	69	1.39 (1.06, 1.71)	143	2.73 (2.29, 3.17)
Metropolitano Norte	12	101	1.35 (1.09, 1.61)	189	2.39 (2.05, 2.73)
Metropolitano Occidente	12	113	1.05 (0.85, 1.24)	233	2.04 (1.78, 2.30)
Metropolitano Oriente	12	76	1.01 (0.79, 1.24)	157	2.04 (1.72, 2.35)
Metropolitano Sur	12	118	1.43 (1.17, 1.69)	208	2.34 (2.03, 2.66)
Metropolitano Sur Oriente	12	167	1.72 (1.46, 1.98)	265	2.57 (2.27, 2.88)
Osorno	12	14	0.81 (0.39, 1.23)	32	1.82 (1.19, 2.44)
Reloncaví	12	26	0.77 (0.47, 1.06)	54	1.56 (1.15, 1.97)
Talcahuano	12	66	2.90 (2.21, 3.59)	121	5.01 (4.14, 5.88)
Valdivia	12	21	0.77 (0.44, 1.10)	53	1.83 (1.34, 2.32)
Valparaíso San Antonio	12	23	0.74 (0.44, 1.05)	81	2.50 (1.96, 3.03)
Viña del Mar Quillota	12	85	1.22 (0.96, 1.47)	165	2.25 (1.91, 2.59)
Ñuble	12	67	1.99 (1.52, 2.46)	125	3.61 (2.99, 4.23)
Aconcagua	13	26	1.43 (0.88, 1.97)	61	3.20 (2.41, 3.98)
Aisén	13	11	1.39 (0.57, 2.21)	38	4.38 (3.02, 5.75)
Antofagasta	13	34	0.71 (0.47, 0.94)	92	1.78 (1.42, 2.14)
Araucanía Norte	13	13	0.88 (0.40, 1.36)	49	3.00 (2.17, 3.83)
Araucanía Sur	13	44	0.84 (0.59, 1.08)	137	2.46 (2.05, 2.87)
Arauco	13	12	0.98 (0.43, 1.53)	30	2.39 (1.54, 3.23)
Arica	13	13	0.73 (0.33, 1.12)	43	2.35 (1.66, 3.05)
Atacama	13	12	0.50 (0.22, 0.78)	25	1.00 (0.61, 1.38)
Biobío	13	49	1.69 (1.22, 2.16)	126	4.28 (3.55, 5.01)
Chiloé	13	35	2.68 (1.81, 3.56)	70	5.17 (3.99, 6.35)
Concepción	13	119	2.75 (2.26, 3.24)	211	4.65 (4.04, 5.26)
Coquimbo	13	98	1.76 (1.41, 2.10)	167	2.94 (2.50, 3.38)
Iquique	13	24	0.88 (0.53, 1.24)	78	2.61 (2.04, 3.18)
Libertador B.O'Higgins	13	100	1.50 (1.21, 1.79)	211	3.10 (2.69, 3.51)
Magallanes	13	28	2.42 (1.53, 3.30)	60	5.08 (3.82, 6.33)

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals. (*continued*)

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Maule	13	60	0.83 (0.62, 1.04)	197	2.56 (2.21, 2.92)
Metropolitano Central	13	55	1.12 (0.82, 1.41)	133	2.52 (2.09, 2.94)
Metropolitano Norte	13	75	1.05 (0.81, 1.28)	185	2.43 (2.08, 2.77)
Metropolitano Occidente	13	99	0.94 (0.76, 1.13)	203	1.83 (1.58, 2.08)
Metropolitano Oriente	13	70	0.95 (0.73, 1.17)	151	2.00 (1.69, 2.32)
Metropolitano Sur	13	101	1.26 (1.01, 1.50)	192	2.27 (1.96, 2.59)
Metropolitano Sur Oriente	13	130	1.35 (1.12, 1.58)	244	2.42 (2.12, 2.72)
Osorno	13	11	0.65 (0.27, 1.03)	49	2.88 (2.09, 3.68)
Reloncaví	13	23	0.70 (0.42, 0.99)	49	1.39 (1.01, 1.78)
Talcahuano	13	60	2.75 (2.07, 3.44)	137	5.71 (4.78, 6.64)
Valdivia	13	18	0.68 (0.37, 0.99)	59	2.06 (1.54, 2.59)
Valparaíso San Antonio	13	35	1.16 (0.78, 1.55)	77	2.42 (1.89, 2.96)
Viña del Mar Quillota	13	56	0.80 (0.59, 1.01)	160	2.21 (1.87, 2.55)
Ñuble	13	61	1.90 (1.43, 2.37)	142	4.13 (3.47, 4.80)
Aconcagua	14	19	1.08 (0.60, 1.56)	43	2.26 (1.59, 2.93)
Aisén	14	11	1.39 (0.58, 2.21)	39	4.50 (3.12, 5.88)
Antofagasta	14	19	0.40 (0.22, 0.59)	84	1.66 (1.31, 2.01)
Araucanía Norte	14	13	0.83 (0.38, 1.29)	21	1.38 (0.80, 1.97)
Araucanía Sur	14	43	0.83 (0.59, 1.08)	96	1.80 (1.44, 2.15)
Arauco	14	11	0.89 (0.37, 1.41)	42	3.19 (2.24, 4.13)
Arica	14	9	0.56 (0.19, 0.92)	37	2.15 (1.47, 2.84)
Atacama	14	6	0.26 (0.05, 0.46)	15	0.60 (0.30, 0.91)
Biobío	14	42	1.47 (1.03, 1.91)	101	3.24 (2.62, 3.87)
Chiloé	14	32	2.61 (1.72, 3.51)	69	5.35 (4.12, 6.58)
Concepción	14	126	3.02 (2.50, 3.54)	210	4.68 (4.07, 5.30)
Coquimbo	14	85	1.64 (1.29, 1.99)	164	2.98 (2.53, 3.42)
Iquique	14	34	1.29 (0.86, 1.73)	64	2.25 (1.71, 2.80)
Libertador B.O'Higgins	14	49	0.79 (0.57, 1.01)	145	2.22 (1.86, 2.58)
Magallanes	14	26	2.33 (1.45, 3.22)	63	5.38 (4.09, 6.67)
Maule	14	49	0.69 (0.50, 0.88)	160	2.16 (1.83, 2.49)
Metropolitano Central	14	47	0.97 (0.69, 1.24)	124	2.47 (2.04, 2.90)
Metropolitano Norte	14	94	1.38 (1.10, 1.65)	144	2.04 (1.71, 2.36)
Metropolitano Occidente	14	66	0.65 (0.50, 0.81)	161	1.50 (1.27, 1.73)
Metropolitano Oriente	14	66	0.91 (0.69, 1.13)	152	2.04 (1.72, 2.36)
Metropolitano Sur	14	64	0.82 (0.62, 1.02)	157	1.90 (1.61, 2.20)
Metropolitano Sur Oriente	14	81	0.88 (0.69, 1.08)	178	1.86 (1.59, 2.13)
Osorno	14	5	0.32 (0.04, 0.61)	25	1.50 (0.92, 2.08)
Reloncaví	14	15	0.48 (0.24, 0.73)	53	1.61 (1.18, 2.04)
Talcahuano	14	47	2.14 (1.54, 2.75)	109	4.81 (3.93, 5.70)
Valdivia	14	13	0.47 (0.22, 0.73)	27	1.00 (0.63, 1.38)
Valparaíso San Antonio	14	18	0.61 (0.33, 0.89)	58	1.90 (1.42, 2.39)
Viña del Mar Quillota	14	42	0.61 (0.43, 0.80)	107	1.58 (1.28, 1.88)
Ñuble	14	38	1.18 (0.81, 1.56)	108	3.26 (2.65, 3.86)

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals. (*continued*)

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Aconcagua	15	20	1.11 (0.63, 1.60)	47	2.71 (1.95, 3.47)
Aisén	15	10	1.28 (0.49, 2.07)	25	3.08 (1.89, 4.27)
Antofagasta	15	22	0.49 (0.29, 0.70)	69	1.43 (1.10, 1.77)
Araucanía Norte	15	7	0.49 (0.13, 0.85)	15	1.01 (0.50, 1.52)
Araucanía Sur	15	37	0.73 (0.50, 0.97)	86	1.63 (1.29, 1.98)
Arauco	15	12	1.01 (0.44, 1.58)	37	2.97 (2.03, 3.91)
Arica	15	13	0.77 (0.36, 1.19)	18	1.05 (0.57, 1.53)
Atacama	15	7	0.31 (0.08, 0.54)	28	1.21 (0.77, 1.66)
Biobío	15	28	1.01 (0.64, 1.38)	76	2.58 (2.01, 3.15)
Chiloé	15	26	1.97 (1.22, 2.72)	63	4.89 (3.71, 6.07)
Concepción	15	101	2.43 (1.96, 2.90)	187	4.27 (3.67, 4.87)
Coquimbo	15	81	1.54 (1.20, 1.87)	161	2.96 (2.51, 3.40)
Iquique	15	24	0.94 (0.57, 1.32)	55	1.99 (1.47, 2.52)
Libertador B.O'Higgins	15	56	0.92 (0.68, 1.16)	126	1.97 (1.63, 2.31)
Magallanes	15	24	2.11 (1.27, 2.94)	58	4.69 (3.51, 5.87)
Maule	15	30	0.44 (0.28, 0.60)	125	1.72 (1.42, 2.02)
Metropolitano Central	15	48	1.04 (0.75, 1.33)	98	2.01 (1.62, 2.41)
Metropolitano Norte	15	71	1.07 (0.82, 1.32)	117	1.68 (1.38, 1.98)
Metropolitano Occidente	15	62	0.64 (0.48, 0.80)	122	1.17 (0.96, 1.38)
Metropolitano Oriente	15	61	0.88 (0.66, 1.10)	123	1.72 (1.42, 2.02)
Metropolitano Sur	15	59	0.80 (0.60, 1.00)	131	1.68 (1.39, 1.96)
Metropolitano Sur Oriente	15	102	1.10 (0.89, 1.32)	166	1.75 (1.48, 2.01)
Osorno	15	8	0.50 (0.16, 0.85)	24	1.45 (0.87, 2.03)
Reloncaví	15	13	0.42 (0.19, 0.65)	51	1.55 (1.13, 1.98)
Talcahuano	15	34	1.66 (1.11, 2.22)	74	3.39 (2.63, 4.15)
Valdivia	15	12	0.46 (0.20, 0.71)	26	0.96 (0.59, 1.32)
Valparaíso San Antonio	15	15	0.51 (0.25, 0.77)	50	1.62 (1.17, 2.06)
Viña del Mar Quillota	15	37	0.57 (0.39, 0.76)	93	1.35 (1.08, 1.62)
Ñuble	15	48	1.53 (1.10, 1.96)	101	3.11 (2.52, 3.71)
Aconcagua	16	18	0.96 (0.52, 1.40)	35	1.92 (1.29, 2.54)
Aisén	16	9	1.15 (0.40, 1.89)	22	2.68 (1.58, 3.79)
Antofagasta	16	23	0.50 (0.29, 0.70)	52	1.12 (0.82, 1.42)
Araucanía Norte	16	15	1.06 (0.52, 1.59)	14	0.90 (0.43, 1.37)
Araucanía Sur	16	22	0.44 (0.25, 0.62)	45	0.86 (0.61, 1.10)
Arauco	16	12	0.98 (0.43, 1.53)	33	2.65 (1.76, 3.55)
Arica	16	7	0.42 (0.11, 0.74)	24	1.37 (0.83, 1.92)
Atacama	16	9	0.42 (0.14, 0.69)	12	0.52 (0.23, 0.82)
Biobío	16	48	1.72 (1.23, 2.20)	90	3.11 (2.48, 3.74)
Chiloé	16	18	1.52 (0.82, 2.21)	51	4.00 (2.92, 5.08)
Concepción	16	104	2.53 (2.05, 3.01)	179	4.18 (3.58, 4.78)
Coquimbo	16	60	1.16 (0.86, 1.45)	148	2.76 (2.32, 3.20)
Iquique	16	13	0.51 (0.23, 0.79)	46	1.68 (1.20, 2.16)
Libertador B.O'Higgins	16	60	0.98 (0.73, 1.23)	111	1.72 (1.40, 2.03)
Magallanes	16	22	1.97 (1.15, 2.78)	63	5.34 (4.06, 6.62)

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals. (*continued*)

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Maule	16	32	0.47 (0.30, 0.63)	82	1.13 (0.89, 1.38)
Metropolitano Central	16	40	0.84 (0.58, 1.10)	74	1.52 (1.17, 1.86)
Metropolitano Norte	16	69	1.05 (0.80, 1.29)	102	1.50 (1.21, 1.78)
Metropolitano Occidente	16	47	0.49 (0.35, 0.62)	125	1.23 (1.02, 1.44)
Metropolitano Oriente	16	52	0.74 (0.54, 0.94)	104	1.44 (1.16, 1.71)
Metropolitano Sur	16	66	0.90 (0.68, 1.11)	120	1.59 (1.31, 1.87)
Metropolitano Sur Oriente	16	92	1.03 (0.82, 1.24)	164	1.73 (1.47, 2.00)
Osorno	16	7	0.45 (0.12, 0.77)	17	1.03 (0.54, 1.51)
Reloncaví	16	18	0.59 (0.32, 0.86)	48	1.49 (1.07, 1.91)
Talcahuano	16	59	2.77 (2.08, 3.47)	93	4.26 (3.41, 5.11)
Valdivia	16	13	0.51 (0.23, 0.79)	21	0.77 (0.44, 1.10)
Valparaíso San Antonio	16	15	0.51 (0.25, 0.77)	46	1.50 (1.07, 1.93)
Viña del Mar Quillota	16	28	0.44 (0.28, 0.61)	95	1.39 (1.11, 1.67)
Ñuble	16	45	1.44 (1.02, 1.85)	81	2.45 (1.92, 2.98)
Aconcagua	17	12	0.72 (0.32, 1.13)	36	2.00 (1.35, 2.64)
Aisén	17	12	1.61 (0.71, 2.51)	21	2.71 (1.57, 3.85)
Antofagasta	17	21	0.48 (0.28, 0.68)	47	1.01 (0.72, 1.30)
Araucanía Norte	17	11	0.79 (0.32, 1.25)	18	1.33 (0.72, 1.94)
Araucanía Sur	17	26	0.50 (0.31, 0.70)	61	1.17 (0.88, 1.46)
Arauco	17	9	0.73 (0.25, 1.20)	20	1.61 (0.91, 2.32)
Arica	17	7	0.41 (0.11, 0.72)	16	0.93 (0.48, 1.38)
Atacama	17	4	0.19 (0.00, 0.38)	13	0.58 (0.27, 0.90)
Biobío	17	40	1.40 (0.97, 1.84)	77	2.71 (2.11, 3.31)
Chiloé	17	29	2.36 (1.51, 3.20)	42	3.18 (2.23, 4.13)
Concepción	17	113	2.81 (2.30, 3.32)	167	3.97 (3.38, 4.56)
Coquimbo	17	62	1.24 (0.93, 1.54)	138	2.61 (2.18, 3.04)
Iquique	17	21	0.85 (0.49, 1.21)	55	2.13 (1.57, 2.68)
Libertador B.O'Higgins	17	45	0.75 (0.53, 0.96)	85	1.33 (1.05, 1.61)
Magallanes	17	23	2.06 (1.23, 2.89)	56	4.75 (3.54, 5.96)
Maule	17	32	0.46 (0.30, 0.62)	60	0.83 (0.62, 1.04)
Metropolitano Central	17	36	0.75 (0.51, 1.00)	73	1.44 (1.12, 1.77)
Metropolitano Norte	17	78	1.23 (0.96, 1.50)	93	1.36 (1.08, 1.63)
Metropolitano Occidente	17	55	0.58 (0.43, 0.73)	111	1.13 (0.92, 1.34)
Metropolitano Oriente	17	49	0.70 (0.50, 0.89)	83	1.15 (0.90, 1.39)
Metropolitano Sur	17	61	0.82 (0.62, 1.03)	91	1.20 (0.95, 1.44)
Metropolitano Sur Oriente	17	72	0.78 (0.60, 0.96)	143	1.54 (1.29, 1.79)
Osorno	17	12	0.79 (0.34, 1.23)	24	1.51 (0.91, 2.11)
Reloncaví	17	12	0.39 (0.17, 0.61)	39	1.24 (0.86, 1.63)
Talcahuano	17	58	2.64 (1.97, 3.30)	94	4.10 (3.29, 4.91)
Valdivia	17	4	0.16 (0.00, 0.31)	25	0.98 (0.60, 1.36)
Valparaíso San Antonio	17	25	0.86 (0.52, 1.19)	40	1.29 (0.89, 1.69)
Viña del Mar Quillota	17	27	0.42 (0.26, 0.57)	76	1.13 (0.88, 1.38)
Ñuble	17	38	1.21 (0.83, 1.59)	72	2.22 (1.71, 2.72)

Table 6: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals. (*continued*)

Health service	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Aconcagua	18	8	1.50 (0.47, 2.53)	10	1.41 (0.54, 2.28)
Aisén	18	4	1.42 (0.04, 2.80)	8	1.96 (0.61, 3.30)
Antofagasta	18	6	0.44 (0.09, 0.78)	23	1.34 (0.80, 1.89)
Araucanía Norte	18	1	0.27 (0.00, 0.79)	6	1.09 (0.22, 1.97)
Araucanía Sur	18	13	0.86 (0.39, 1.32)	16	0.78 (0.40, 1.16)
Arauco	18	4	1.10 (0.03, 2.18)	13	2.66 (1.24, 4.09)
Arica	18	3	0.66 (0.00, 1.41)	8	1.39 (0.43, 2.34)
Atacama	18	2	0.29 (0.00, 0.69)	7	0.79 (0.21, 1.37)
Biobío	18	12	1.66 (0.73, 2.60)	35	3.05 (2.05, 4.04)
Chiloé	18	11	2.38 (0.99, 3.77)	11	1.66 (0.69, 2.64)
Concepción	18	55	4.10 (3.04, 5.16)	72	4.34 (3.36, 5.32)
Coquimbo	18	28	1.91 (1.21, 2.62)	61	2.93 (2.20, 3.65)
Iquique	18	14	1.59 (0.76, 2.41)	23	2.22 (1.32, 3.11)
Libertador B.O'Higgins	18	17	0.99 (0.52, 1.46)	44	1.65 (1.17, 2.13)
Magallanes	18	11	3.19 (1.33, 5.04)	21	4.49 (2.61, 6.36)
Maule	18	5	0.25 (0.03, 0.46)	24	0.87 (0.52, 1.21)
Metropolitano Central	18	15	0.95 (0.47, 1.43)	27	1.31 (0.82, 1.80)
Metropolitano Norte	18	38	1.43 (0.98, 1.89)	58	1.78 (1.33, 2.24)
Metropolitano Occidente	18	25	0.78 (0.47, 1.08)	60	1.44 (1.08, 1.80)
Metropolitano Oriente	18	25	0.88 (0.54, 1.23)	32	0.89 (0.58, 1.20)
Metropolitano Sur	18	17	0.70 (0.37, 1.04)	64	1.99 (1.51, 2.47)
Metropolitano Sur Oriente	18	26	0.79 (0.49, 1.09)	65	1.51 (1.15, 1.87)
Osorno	18	4	0.71 (0.02, 1.41)	6	0.83 (0.17, 1.49)
Reloncaví	18	2	0.18 (0.00, 0.43)	14	0.94 (0.45, 1.43)
Talcahuano	18	11	1.90 (0.79, 3.01)	28	3.61 (2.30, 4.92)
Valdivia	18	3	0.41 (0.00, 0.87)	15	1.44 (0.72, 2.17)
Valparaíso San Antonio	18	4	0.41 (0.01, 0.81)	25	2.00 (1.22, 2.78)
Viña del Mar Quillota	18	13	0.59 (0.27, 0.92)	28	0.91 (0.58, 1.25)
Ñuble	18	13	1.50 (0.69, 2.32)	36	2.87 (1.95, 3.80)

For school fees, which are used here as a proxy for SES, autism prevalence is highest, at . . . , among

Ethnicity

Rurality

5.2 Frequentist prevalence estimation

Text about adjusted prevalence

```
## # A tibble: 1 x 6
##   crude_ci_lower crude_rate crude_ci_upper adjusted_ci_lower adjusted_~1 adjus~2
##   <dbl>        <dbl>        <dbl>        <dbl>        <dbl>        <dbl>
## 1     0.00468    0.00476    0.00484    0.00457    0.00465  0.00473
## # ... with abbreviated variable names 1: adjusted_rate, 2: adjusted_ci_upper
```

Table 2: Count and prevalence of ADHD cases by age in Chile school data with normal confidence intervals.

Age	ADHD cases	Prevalence % (95% CI)
6	740	0.29 (0.27, 0.32)
7	1965	0.78 (0.75, 0.82)
8	3231	1.31 (1.27, 1.36)
9	4500	1.78 (1.73, 1.83)
10	5485	2.13 (2.07, 2.18)
11	5564	2.17 (2.11, 2.23)
12	5325	2.07 (2.01, 2.12)
13	4848	1.94 (1.88, 1.99)
14	3926	1.62 (1.57, 1.67)
15	3420	1.45 (1.40, 1.50)
16	3120	1.33 (1.28, 1.38)
17	2870	1.23 (1.19, 1.28)
18	1230	1.40 (1.33, 1.48)

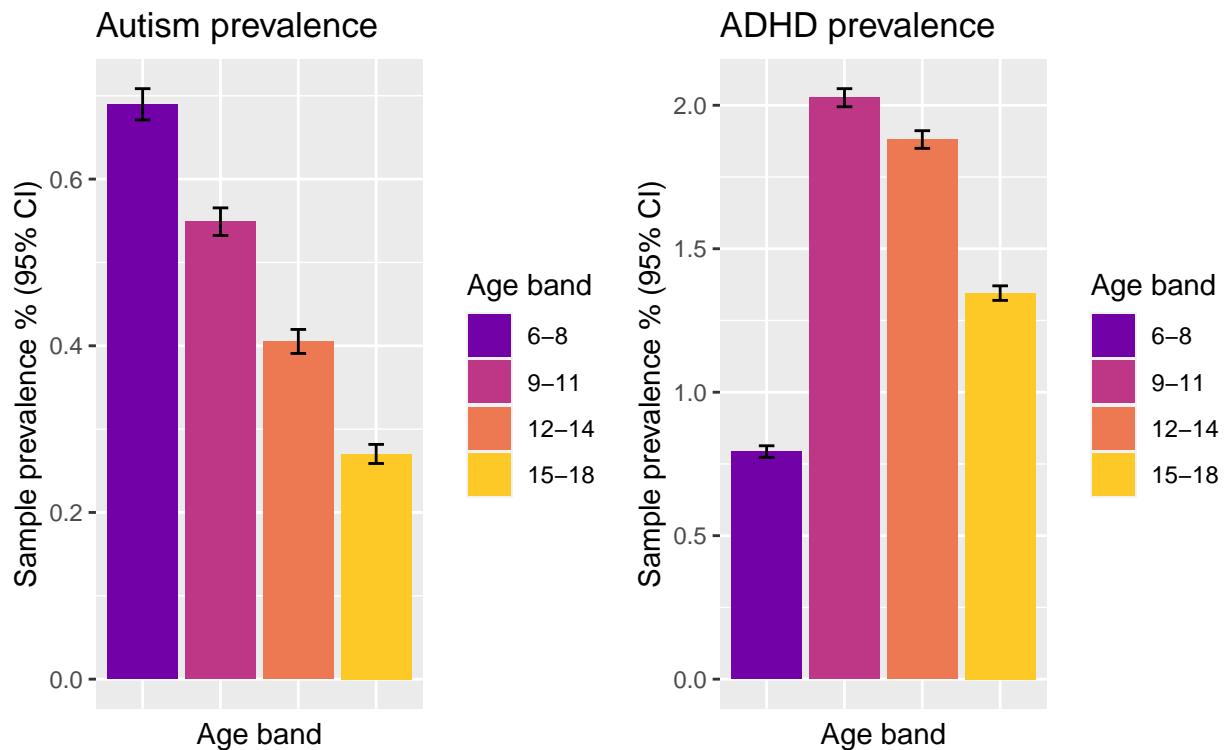


Figure 5: Sample prevalence of autism and ADHD by age band. Bars show 95% normal confidence intervals.

Table 3: Count and prevalence of autism cases by age in Chile school data for females and males with normal confidence intervals.

Age	Female		Male	
	Autism cases	Prevalence % (95% CI)	Autism cases	Prevalence % (95% CI)
6	294	0.24 (0.21, 0.27)	1512	1.18 (1.12, 1.24)
7	241	0.20 (0.17, 0.22)	1483	1.15 (1.10, 1.21)
8	239	0.20 (0.17, 0.22)	1393	1.11 (1.05, 1.16)
9	198	0.16 (0.14, 0.18)	1325	1.02 (0.97, 1.08)
10	162	0.13 (0.11, 0.15)	1273	0.96 (0.91, 1.01)
11	163	0.13 (0.11, 0.15)	1091	0.83 (0.78, 0.88)
12	134	0.11 (0.09, 0.12)	1042	0.79 (0.74, 0.84)
13	145	0.12 (0.10, 0.14)	912	0.71 (0.66, 0.76)
14	112	0.09 (0.08, 0.11)	693	0.56 (0.52, 0.60)
15	96	0.08 (0.07, 0.10)	584	0.48 (0.44, 0.52)
16	100	0.09 (0.07, 0.10)	565	0.47 (0.43, 0.51)
17	55	0.05 (0.04, 0.06)	436	0.37 (0.33, 0.40)
18	39	0.10 (0.07, 0.14)	262	0.52 (0.46, 0.59)

Table 4: Count and prevalence of ADHD cases by age in Chile school data for females and males with normal confidence intervals.

Age	Female		Male	
	ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
6	294	0.24 (0.21, 0.27)	478	0.37 (0.34, 0.41)
7	241	0.20 (0.17, 0.22)	1315	1.02 (0.97, 1.08)
8	239	0.20 (0.17, 0.22)	2151	1.71 (1.64, 1.78)
9	198	0.16 (0.14, 0.18)	2967	2.29 (2.21, 2.37)
10	162	0.13 (0.11, 0.15)	3664	2.77 (2.68, 2.86)
11	163	0.13 (0.11, 0.15)	3691	2.81 (2.72, 2.90)
12	134	0.11 (0.09, 0.12)	3582	2.72 (2.63, 2.81)
13	145	0.12 (0.10, 0.14)	3376	2.63 (2.54, 2.72)
14	112	0.09 (0.08, 0.11)	2756	2.23 (2.15, 2.31)
15	96	0.08 (0.07, 0.10)	2352	1.95 (1.87, 2.02)
16	100	0.09 (0.07, 0.10)	2097	1.75 (1.67, 1.82)
17	55	0.05 (0.04, 0.06)	1876	1.58 (1.51, 1.65)
18	39	0.10 (0.07, 0.14)	840	1.68 (1.57, 1.79)

Table 5: Count and prevalence of autism cases by health service and age in Chile school data for females and males with normal confidence intervals.

Health service	Age	Female		Male		
		Autism cases	Prevalence % (95% CI)	Autism cases	Prevalence % (95% CI)	
Aconcagua	6	4	0.21 (0.00, 0.41)	23	1.14 (0.68, 1.61)	
Aisén	6	5	0.71 (0.09, 1.33)	12	1.63 (0.72, 2.55)	
Antofagasta	6	17	0.38 (0.20, 0.56)	108	2.31 (1.88, 2.74)	
Araucanía Norte	6	1	0.08 (0.00, 0.22)	15	0.99 (0.49, 1.50)	
Araucanía Sur	6	9	0.17 (0.06, 0.28)	46	0.88 (0.63, 1.14)	
Arauco	6	6	0.50 (0.10, 0.90)	26	2.14 (1.33, 2.96)	
Arica	6	11	0.63 (0.26, 1.01)	33	1.77 (1.17, 2.37)	
Atacama	6	8	0.36 (0.11, 0.61)	15	0.67 (0.33, 1.00)	
Biobío	6	6	0.22 (0.04, 0.39)	33	1.16 (0.77, 1.56)	
Chiloé	6	1	0.09 (0.00, 0.27)	10	0.86 (0.33, 1.39)	
Concepción	6	13	0.29 (0.13, 0.45)	82	1.81 (1.42, 2.20)	
Coquimbo	6	16	0.29 (0.15, 0.43)	74	1.26 (0.98, 1.55)	
Iquique	6	7	0.26 (0.07, 0.45)	45	1.53 (1.09, 1.98)	
Libertador B.O'Higgins	6	8	0.13 (0.04, 0.22)	69	1.04 (0.80, 1.28)	
Magallanes	6	1	0.10 (0.00, 0.29)	11	1.04 (0.43, 1.66)	
Maule	6	15	0.21 (0.10, 0.31)	75	0.98 (0.76, 1.20)	
Metropolitano Central	6	6	0.13 (0.03, 0.24)	55	1.14 (0.84, 1.43)	
Metropolitano Norte	6	11	0.15 (0.06, 0.25)	56	0.77 (0.57, 0.97)	
Metropolitano Occidente	6	32	0.20 (0.13, 0.26)	141	0.85 (0.71, 0.98)	
Metropolitano Oriente	6	7	0.10 (0.03, 0.17)	52	0.72 (0.52, 0.91)	
Metropolitano Sur	6	18	0.23 (0.12, 0.34)	91	1.10 (0.87, 1.32)	
Metropolitano Sur Oriente	6	14	0.16 (0.08, 0.25)	73	0.79 (0.61, 0.97)	
Osorno	6	4	0.29 (0.01, 0.57)	20	1.35 (0.76, 1.93)	
Reloncaví	6	9	0.30 (0.11, 0.50)	30	0.98 (0.63, 1.33)	
Talcahuano	6	15	0.73 (0.36, 1.10)	48	2.19 (1.58, 2.81)	
Valdivia	6	3	0.12 (0.00, 0.27)	22	0.89 (0.52, 1.26)	
Valparaíso San Antonio	6	8	0.26 (0.08, 0.44)	48	1.51 (1.09, 1.94)	
Viña del Mar Quillota	6	23	0.34 (0.20, 0.48)	94	1.34 (1.07, 1.61)	
Ñuble	6	16	0.53 (0.27, 0.79)	105	3.37 (2.73, 4.00)	
Aconcagua	7	5	0.27 (0.03, 0.50)	19	0.93 (0.52, 1.35)	
Aisén	7	4	0.51 (0.01, 1.00)	17	2.26 (1.20, 3.32)	
Antofagasta	7	18	0.39 (0.21, 0.58)	98	2.01 (1.62, 2.40)	
Araucanía Norte	7	2	0.14 (0.00, 0.33)	6	0.38 (0.08, 0.68)	
Araucanía Sur	7	5	0.10 (0.01, 0.18)	45	0.83 (0.59, 1.07)	
Arauco	7	3	0.23 (0.00, 0.49)	19	1.47 (0.81, 2.13)	
Arica	7	3	0.17 (0.00, 0.36)	33	1.68 (1.11, 2.25)	
Atacama	7	8	0.34 (0.10, 0.58)	22	0.92 (0.54, 1.31)	
Biobío	7	2	0.07 (0.00, 0.17)	30	1.00 (0.64, 1.35)	
Chiloé	7	0	0.00 (0.00, 0.00)	14	1.20 (0.57, 1.82)	
Concepción	7	14	0.33 (0.16, 0.50)	99	2.20 (1.77, 2.63)	
Coquimbo	7	9	0.16 (0.05, 0.26)	78	1.28 (1.00, 1.56)	
Iquique	7	4	0.14 (0.00, 0.28)	31	1.03 (0.67, 1.38)	
Libertador B.O'Higgins	7	16	0.25 (0.13, 0.37)	61	0.91 (0.69, 1.14)	
Magallanes	7	2	0.19 (0.00, 0.45)	16	1.44 (0.74, 2.14)	
Maule	7	12	0.16 (0.07, 0.26)	71	0.90 (0.69, 1.11)	
Metropolitano Central	7	9	0.19 (0.07, 0.32)	42	0.81 (0.56, 1.05)	
Metropolitano Norte	7	6	18	0.08 (0.02, 0.15)	62	0.80 (0.60, 1.00)
Metropolitano Occidente	7	15	0.13 (0.07, 0.20)	87	0.73 (0.57, 0.88)	
Metropolitano Oriente	7	11	0.15 (0.06, 0.23)	57	0.74 (0.55, 0.94)	
Metropolitano Sur	7	16	0.20 (0.10, 0.29)	85	1.01 (0.79, 1.22)	

Table 7: Count and prevalence of Autism cases by health service and age in Chile school data for females and males with normal confidence intervals.

School fee	Age	Female		Male	
		Autism cases	Prevalence % (95% CI)	Autism cases	Prevalence % (95% CI)
Free	6	256	0.29 (0.26, 0.33)	1293	1.39 (1.31, 1.46)
\$1,000-\$10,000	6	0	0.00 (0.00, 0.00)	0	0.00 (0.00, 0.00)
\$10,001-\$25,000	6	2	0.13 (0.00, 0.31)	6	0.41 (0.08, 0.73)
\$25,001-\$50,000	6	7	0.08 (0.02, 0.15)	73	0.94 (0.72, 1.15)
\$50,001-\$100,000	6	21	0.21 (0.12, 0.30)	105	1.05 (0.85, 1.25)
\$100,001+	6	4	0.03 (0.00, 0.06)	12	0.10 (0.04, 0.15)
No information	6	4	0.14 (0.00, 0.28)	23	0.73 (0.43, 1.03)
Free	7	196	0.23 (0.20, 0.26)	1274	1.38 (1.30, 1.45)
\$1,000-\$10,000	7	0	0.00 (0.00, 0.00)	1	1.54 (0.00, 4.53)
\$10,001-\$25,000	7	2	0.13 (0.00, 0.30)	6	0.39 (0.08, 0.70)
\$25,001-\$50,000	7	18	0.21 (0.11, 0.30)	48	0.58 (0.42, 0.75)
\$50,001-\$100,000	7	14	0.13 (0.06, 0.20)	119	1.10 (0.90, 1.30)
\$100,001+	7	3	0.02 (0.00, 0.05)	10	0.08 (0.03, 0.13)
No information	7	8	0.38 (0.12, 0.64)	25	1.03 (0.63, 1.43)
Free	8	203	0.24 (0.20, 0.27)	1232	1.36 (1.28, 1.43)
\$1,000-\$10,000	8	0	0.00 (0.00, 0.00)	1	2.22 (0.00, 6.53)
\$10,001-\$25,000	8	1	0.07 (0.00, 0.20)	8	0.53 (0.16, 0.90)
\$25,001-\$50,000	8	12	0.14 (0.06, 0.22)	47	0.58 (0.41, 0.75)
\$50,001-\$100,000	8	18	0.18 (0.10, 0.26)	72	0.67 (0.52, 0.82)
\$100,001+	8	1	0.01 (0.00, 0.02)	8	0.06 (0.02, 0.11)
No information	8	4	0.21 (0.00, 0.41)	25	1.06 (0.65, 1.48)
Free	9	169	0.19 (0.16, 0.22)	1132	1.21 (1.14, 1.28)
\$1,000-\$10,000	9	0	0.00 (0.00, 0.00)	2	4.26 (0.00, 10.03)
\$10,001-\$25,000	9	1	0.07 (0.00, 0.19)	8	0.55 (0.17, 0.93)
\$25,001-\$50,000	9	5	0.06 (0.01, 0.11)	53	0.64 (0.47, 0.81)
\$50,001-\$100,000	9	15	0.14 (0.07, 0.21)	91	0.82 (0.66, 0.99)
\$100,001+	9	3	0.02 (0.00, 0.05)	13	0.10 (0.05, 0.16)
No information	9	5	0.25 (0.03, 0.47)	26	1.15 (0.71, 1.59)
Free	10	131	0.15 (0.12, 0.17)	1078	1.12 (1.05, 1.19)
\$1,000-\$10,000	10	0	0.00 (0.00, 0.00)	0	0.00 (0.00, 0.00)
\$10,001-\$25,000	10	0	0.00 (0.00, 0.00)	8	0.56 (0.17, 0.94)
\$25,001-\$50,000	10	10	0.11 (0.04, 0.18)	51	0.61 (0.45, 0.78)
\$50,001-\$100,000	10	16	0.15 (0.08, 0.22)	92	0.82 (0.65, 0.99)
\$100,001+	10	3	0.02 (0.00, 0.05)	13	0.10 (0.05, 0.16)
No information	10	2	0.10 (0.00, 0.24)	31	1.34 (0.87, 1.81)
Free	11	134	0.15 (0.12, 0.17)	937	0.97 (0.91, 1.04)
\$1,000-\$10,000	11	0	0.00 (0.00, 0.00)	0	0.00 (0.00, 0.00)
\$10,001-\$25,000	11	0	0.00 (0.00, 0.00)	7	0.45 (0.12, 0.78)
\$25,001-\$50,000	11	11	0.13 (0.05, 0.20)	48	0.59 (0.42, 0.75)
\$50,001-\$100,000	11	14	0.13 (0.06, 0.20)	72	0.66 (0.50, 0.81)
\$100,001+	11	0	0.00 (0.00, 0.00)	9	0.07 (0.03, 0.12)
No information	11	4	0.22 (0.00, 0.44)	18	0.83 (0.45, 1.21)
Free	12	113	0.12 (0.10, 0.15)	892	0.92 (0.86, 0.98)
\$1,000-\$10,000	12	0	0.00 (0.00, 0.00)	3	6.52 (0.00, 13.66)
\$10,001-\$25,000	12	1	0.06 (0.00, 0.18)	3	0.20 (0.00, 0.42)
\$25,001-\$50,000	12	6	0.07 (0.01, 0.12)	49	0.62 (0.45, 0.79)
\$50,001-\$100,000	12	12	0.19 (0.05, 0.18)	70	0.62 (0.47, 0.76)
\$100,001+	12	2	0.02 (0.00, 0.04)	10	0.08 (0.03, 0.13)
No information	12	0	0.00 (0.00, 0.00)	15	0.70 (0.35, 1.06)
Free	13	130	0.15 (0.12, 0.17)	777	0.83 (0.77, 0.88)

Table 8: Count and prevalence of ADHD cases by health service and age in Chile school data for females and males with normal confidence intervals.

School fee	Age	Female		Male	
		ADHD cases	Prevalence % (95% CI)	ADHD cases	Prevalence % (95% CI)
Free	6	190	0.22 (0.19, 0.25)	363	0.39 (0.35, 0.43)
\$1,000-\$10,000	6	0	0.00 (0.00, 0.00)	0	0.00 (0.00, 0.00)
\$10,001-\$25,000	6	5	0.33 (0.04, 0.61)	2	0.14 (0.00, 0.32)
\$25,001-\$50,000	6	25	0.30 (0.18, 0.42)	39	0.50 (0.34, 0.66)
\$50,001-\$100,000	6	31	0.31 (0.20, 0.42)	66	0.66 (0.50, 0.82)
\$100,001+	6	3	0.02 (0.00, 0.05)	2	0.02 (0.00, 0.04)
No information	6	8	0.29 (0.09, 0.49)	6	0.19 (0.04, 0.34)
Free	7	492	0.57 (0.52, 0.62)	1031	1.11 (1.05, 1.18)
\$1,000-\$10,000	7	0	0.00 (0.00, 0.00)	1	1.54 (0.00, 4.53)
\$10,001-\$25,000	7	5	0.32 (0.04, 0.60)	12	0.78 (0.34, 1.22)
\$25,001-\$50,000	7	59	0.68 (0.51, 0.85)	104	1.26 (1.02, 1.51)
\$50,001-\$100,000	7	79	0.76 (0.59, 0.92)	137	1.27 (1.05, 1.48)
\$100,001+	7	3	0.02 (0.00, 0.05)	8	0.06 (0.02, 0.11)
No information	7	12	0.56 (0.25, 0.88)	22	0.91 (0.53, 1.28)
Free	8	861	1.01 (0.94, 1.07)	1723	1.90 (1.81, 1.99)
\$1,000-\$10,000	8	0	0.00 (0.00, 0.00)	0	0.00 (0.00, 0.00)
\$10,001-\$25,000	8	22	1.46 (0.86, 2.07)	18	1.20 (0.65, 1.75)
\$25,001-\$50,000	8	83	0.98 (0.77, 1.19)	124	1.53 (1.26, 1.80)
\$50,001-\$100,000	8	90	0.89 (0.70, 1.07)	234	2.18 (1.90, 2.45)
\$100,001+	8	14	0.11 (0.05, 0.17)	22	0.18 (0.10, 0.25)
No information	8	10	0.51 (0.20, 0.83)	30	1.28 (0.82, 1.73)
Free	9	1181	1.34 (1.27, 1.42)	2386	2.54 (2.44, 2.64)
\$1,000-\$10,000	9	0	0.00 (0.00, 0.00)	0	0.00 (0.00, 0.00)
\$10,001-\$25,000	9	17	1.11 (0.59, 1.64)	32	2.21 (1.45, 2.97)
\$25,001-\$50,000	9	121	1.39 (1.14, 1.63)	172	2.08 (1.78, 2.39)
\$50,001-\$100,000	9	170	1.61 (1.37, 1.85)	300	2.72 (2.41, 3.02)
\$100,001+	9	13	0.10 (0.05, 0.16)	28	0.22 (0.14, 0.30)
No information	9	31	1.55 (1.01, 2.09)	49	2.17 (1.57, 2.77)
Free	10	1422	1.59 (1.50, 1.67)	2960	3.08 (2.97, 3.18)
\$1,000-\$10,000	10	0	0.00 (0.00, 0.00)	0	0.00 (0.00, 0.00)
\$10,001-\$25,000	10	19	1.23 (0.68, 1.78)	25	1.74 (1.06, 2.42)
\$25,001-\$50,000	10	148	1.66 (1.39, 1.92)	224	2.69 (2.35, 3.04)
\$50,001-\$100,000	10	188	1.73 (1.49, 1.98)	367	3.27 (2.94, 3.59)
\$100,001+	10	20	0.16 (0.09, 0.23)	45	0.35 (0.25, 0.45)
No information	10	24	1.20 (0.72, 1.68)	43	1.86 (1.31, 2.41)
Free	11	1458	1.62 (1.54, 1.71)	2977	3.10 (2.99, 3.21)
\$1,000-\$10,000	11	0	0.00 (0.00, 0.00)	0	0.00 (0.00, 0.00)
\$10,001-\$25,000	11	11	0.69 (0.28, 1.10)	45	2.89 (2.06, 3.72)
\$25,001-\$50,000	11	148	1.69 (1.42, 1.96)	220	2.68 (2.33, 3.03)
\$50,001-\$100,000	11	209	1.94 (1.68, 2.20)	357	3.25 (2.92, 3.58)
\$100,001+	11	29	0.23 (0.15, 0.32)	39	0.32 (0.22, 0.42)
No information	11	18	1.00 (0.54, 1.45)	53	2.44 (1.79, 3.09)
Free	12	1326	1.46 (1.38, 1.54)	2845	2.95 (2.84, 3.05)
\$1,000-\$10,000	12	0	0.00 (0.00, 0.00)	0	0.00 (0.00, 0.00)
\$10,001-\$25,000	12	18	1.11 (0.60, 1.63)	33	2.16 (1.43, 2.89)
\$25,001-\$50,000	12	147	1.68 (1.41, 1.95)	237	2.99 (2.62, 3.37)
\$50,001-\$100,000	12	198	1.80 (1.60, 2.11)	347	3.07 (2.75, 3.39)
\$100,001+	12	28	0.23 (0.14, 0.31)	52	0.43 (0.31, 0.54)
No information	12	26	1.55 (0.96, 2.14)	68	3.19 (2.44, 3.94)
Free	13	1147	1.31 (1.23, 1.38)	2649	2.81 (2.71, 2.92)

Table 9: Count and prevalence of autism cases by ethnicity and age in Chile school data for females (left) and males (right) with normal confidence intervals.

Ethnicity	Age	Autism cases	Prevalence % (95% CI)	Ethnicity	Age	Autism cases	Pre
Mapuche	6	9	0.14 (0.05, 0.23)	Mapuche	6	64	
No Indigenous group	6	281	0.24 (0.22, 0.27)	No Indigenous group	6	1420	
Other ethnic group	6	4	0.22 (0.00, 0.43)	Other ethnic group	6	28	
Mapuche	7	11	0.15 (0.06, 0.24)	Mapuche	7	82	
No Indigenous group	7	225	0.20 (0.17, 0.22)	No Indigenous group	7	1364	
Other ethnic group	7	5	0.31 (0.04, 0.58)	Other ethnic group	7	37	
Mapuche	8	13	0.18 (0.08, 0.27)	Mapuche	8	64	
No Indigenous group	8	222	0.20 (0.17, 0.23)	No Indigenous group	8	1305	
Other ethnic group	8	4	0.27 (0.01, 0.53)	Other ethnic group	8	24	
Mapuche	9	6	0.08 (0.02, 0.15)	Mapuche	9	59	
No Indigenous group	9	188	0.16 (0.14, 0.19)	No Indigenous group	9	1247	
Other ethnic group	9	4	0.28 (0.01, 0.55)	Other ethnic group	9	19	
Mapuche	10	7	0.09 (0.02, 0.16)	Mapuche	10	49	
No Indigenous group	10	153	0.13 (0.11, 0.15)	No Indigenous group	10	1211	
Other ethnic group	10	2	0.14 (0.00, 0.33)	Other ethnic group	10	13	
Mapuche	11	3	0.04 (0.00, 0.08)	Mapuche	11	58	
No Indigenous group	11	157	0.14 (0.11, 0.16)	No Indigenous group	11	1013	
Other ethnic group	11	3	0.20 (0.00, 0.43)	Other ethnic group	11	20	
Mapuche	12	5	0.06 (0.01, 0.12)	Mapuche	12	33	
No Indigenous group	12	129	0.11 (0.09, 0.13)	No Indigenous group	12	993	
Other ethnic group	12	0	0.00 (0.00, 0.00)	Other ethnic group	12	16	
Mapuche	13	5	0.07 (0.01, 0.12)	Mapuche	13	56	
No Indigenous group	13	136	0.12 (0.10, 0.14)	No Indigenous group	13	840	
Other ethnic group	13	4	0.27 (0.01, 0.53)	Other ethnic group	13	16	
Mapuche	14	3	0.04 (0.00, 0.09)	Mapuche	14	33	
No Indigenous group	14	107	0.10 (0.08, 0.12)	No Indigenous group	14	654	
Other ethnic group	14	2	0.16 (0.00, 0.37)	Other ethnic group	14	6	
Mapuche	15	2	0.03 (0.00, 0.08)	Mapuche	15	30	
No Indigenous group	15	94	0.09 (0.07, 0.10)	No Indigenous group	15	552	
Other ethnic group	15	0	0.00 (0.00, 0.00)	Other ethnic group	15	2	
Mapuche	16	0	0.00 (0.00, 0.00)	Mapuche	16	27	
No Indigenous group	16	100	0.09 (0.07, 0.11)	No Indigenous group	16	532	
Other ethnic group	16	0	0.00 (0.00, 0.00)	Other ethnic group	16	6	
Mapuche	17	1	0.02 (0.00, 0.05)	Mapuche	17	15	
No Indigenous group	17	53	0.05 (0.04, 0.06)	No Indigenous group	17	414	
Other ethnic group	17	1	0.08 (0.00, 0.24)	Other ethnic group	17	7	
Mapuche	18	0	0.00 (0.00, 0.00)	Mapuche	18	5	
No Indigenous group	18	39	0.11 (0.08, 0.15)	No Indigenous group	18	251	
Other ethnic group	18	0	0.00 (0.00, 0.00)	Other ethnic group	18	6	

Table 10: Count and prevalence of ADHD cases by ethnicity and age in Chile school data for females (left) and males (right) with normal confidence intervals.

Ethnicity	Age	ADHD cases	Prevalence % (95% CI)	Ethnicity	Age	ADHD cases	Prevalence % (95% CI)
Mapuche	6	12	0.19 (0.08, 0.29)	Mapuche	6	37	
No Indigenous group	6	247	0.21 (0.19, 0.24)	No Indigenous group	6	438	
Other ethnic group	6	3	0.16 (0.00, 0.35)	Other ethnic group	6	3	
Mapuche	7	35	0.48 (0.32, 0.64)	Mapuche	7	78	
No Indigenous group	7	611	0.54 (0.50, 0.58)	No Indigenous group	7	1226	
Other ethnic group	7	4	0.25 (0.01, 0.49)	Other ethnic group	7	11	
Mapuche	8	74	1.00 (0.78, 1.23)	Mapuche	8	125	
No Indigenous group	8	993	0.89 (0.83, 0.95)	No Indigenous group	8	2002	
Other ethnic group	8	13	0.87 (0.40, 1.33)	Other ethnic group	8	24	
Mapuche	9	77	1.04 (0.81, 1.27)	Mapuche	9	163	
No Indigenous group	9	1444	1.26 (1.20, 1.33)	No Indigenous group	9	2778	
Other ethnic group	9	12	0.84 (0.37, 1.31)	Other ethnic group	9	26	
Mapuche	10	106	1.43 (1.16, 1.70)	Mapuche	10	215	
No Indigenous group	10	1699	1.46 (1.39, 1.52)	No Indigenous group	10	3413	
Other ethnic group	10	16	1.12 (0.57, 1.67)	Other ethnic group	10	36	
Mapuche	11	87	1.16 (0.91, 1.40)	Mapuche	11	230	
No Indigenous group	11	1766	1.52 (1.45, 1.59)	No Indigenous group	11	3423	
Other ethnic group	11	20	1.36 (0.77, 1.95)	Other ethnic group	11	38	
Mapuche	12	90	1.17 (0.93, 1.40)	Mapuche	12	198	
No Indigenous group	12	1639	1.41 (1.34, 1.47)	No Indigenous group	12	3347	
Other ethnic group	12	14	0.98 (0.47, 1.50)	Other ethnic group	12	37	
Mapuche	13	80	1.05 (0.82, 1.28)	Mapuche	13	180	
No Indigenous group	13	1380	1.22 (1.16, 1.28)	No Indigenous group	13	3168	
Other ethnic group	13	12	0.81 (0.35, 1.26)	Other ethnic group	13	28	
Mapuche	14	60	0.86 (0.64, 1.07)	Mapuche	14	138	
No Indigenous group	14	1094	1.00 (0.94, 1.05)	No Indigenous group	14	2601	
Other ethnic group	14	16	1.25 (0.64, 1.86)	Other ethnic group	14	17	
Mapuche	15	51	0.85 (0.62, 1.08)	Mapuche	15	93	
No Indigenous group	15	1006	0.93 (0.87, 0.99)	No Indigenous group	15	2245	
Other ethnic group	15	11	1.10 (0.45, 1.74)	Other ethnic group	15	14	
Mapuche	16	31	0.51 (0.33, 0.69)	Mapuche	16	89	
No Indigenous group	16	985	0.92 (0.86, 0.97)	No Indigenous group	16	1991	
Other ethnic group	16	7	0.59 (0.16, 1.03)	Other ethnic group	16	17	
Mapuche	17	44	0.72 (0.51, 0.94)	Mapuche	17	91	
No Indigenous group	17	940	0.88 (0.82, 0.94)	No Indigenous group	17	1776	
Other ethnic group	17	10	0.80 (0.31, 1.30)	Other ethnic group	17	9	
Mapuche	18	18	0.77 (0.42, 1.13)	Mapuche	18	30	
No Indigenous group	18	369	1.06 (0.95, 1.17)	No Indigenous group	18	800	
Other ethnic group	18	3	0.75 (0.00, 1.59)	Other ethnic group	18	10	

Table 11: Count and prevalence of autism cases by rurality of students' school and age in Chile school data for females (left) and males (right) with normal confidence intervals.

School's rurality	Age	Autism cases	Prevalence % (95% CI)	School's rurality	Age	Autism cases	Prevalence %
Rural	6	33	0.28 (0.19, 0.38)	Rural	6	168	1.33 (
Urban	6	261	0.23 (0.21, 0.26)	Urban	6	1344	1.16 (
Rural	7	31	0.26 (0.17, 0.35)	Rural	7	184	1.37 (
Urban	7	210	0.19 (0.17, 0.22)	Urban	7	1299	1.13 (
Rural	8	29	0.24 (0.15, 0.33)	Rural	8	167	1.30 (
Urban	8	210	0.19 (0.17, 0.22)	Urban	8	1226	1.08 (
Rural	9	26	0.21 (0.13, 0.29)	Rural	9	166	1.24 (
Urban	9	172	0.16 (0.13, 0.18)	Urban	9	1159	1.00 (
Rural	10	13	0.10 (0.05, 0.16)	Rural	10	157	1.12 (
Urban	10	149	0.13 (0.11, 0.15)	Urban	10	1116	0.94 (
Rural	11	22	0.17 (0.10, 0.24)	Rural	11	149	1.06 (
Urban	11	141	0.13 (0.10, 0.15)	Urban	11	942	0.80 (
Rural	12	20	0.17 (0.10, 0.25)	Rural	12	120	0.93 (
Urban	12	114	0.10 (0.08, 0.12)	Urban	12	922	0.78 (
Rural	13	20	0.19 (0.11, 0.27)	Rural	13	107	0.89 (
Urban	13	125	0.11 (0.09, 0.13)	Urban	13	805	0.69 (
Rural	14	4	0.09 (0.00, 0.17)	Rural	14	64	1.00 (
Urban	14	108	0.10 (0.08, 0.11)	Urban	14	629	0.54 (
Rural	15	2	0.05 (0.00, 0.13)	Rural	15	35	0.72 (
Urban	15	94	0.08 (0.07, 0.10)	Urban	15	549	0.47 (
Rural	16	6	0.17 (0.04, 0.31)	Rural	16	30	0.70 (
Urban	16	94	0.08 (0.07, 0.10)	Urban	16	535	0.46 (
Rural	17	0	0.00 (0.00, 0.00)	Rural	17	16	0.39 (
Urban	17	55	0.05 (0.04, 0.06)	Urban	17	420	0.37 (
Rural	18	1	0.08 (0.00, 0.25)	Rural	18	11	0.59 (
Urban	18	38	0.10 (0.07, 0.14)	Urban	18	251	0.52 (

Table 12: Count and prevalence of ADHD cases by rurality of students' school and age in Chile school data for females (left) and males (right) with normal confidence intervals.

School's rurality	Age	ADHD cases	Prevalence % (95% CI)	School's rurality	Age	ADHD cases	Prevalence %
Rural	6	25	0.21 (0.13, 0.30)	Rural	6	65	0.52 (0.40, 0.64)
Urban	6	237	0.21 (0.19, 0.24)	Urban	6	413	0.36 (0.30, 0.42)
Rural	7	58	0.48 (0.36, 0.60)	Rural	7	172	1.28 (1.08, 1.48)
Urban	7	592	0.54 (0.50, 0.58)	Urban	7	1143	0.99 (0.95, 1.03)
Rural	8	138	1.14 (0.95, 1.33)	Rural	8	266	2.06 (1.86, 2.26)
Urban	8	942	0.87 (0.81, 0.92)	Urban	8	1885	1.67 (1.57, 1.77)
Rural	9	155	1.26 (1.06, 1.45)	Rural	9	382	2.85 (2.65, 3.05)
Urban	9	1378	1.24 (1.18, 1.31)	Urban	9	2585	2.23 (2.03, 2.43)
Rural	10	177	1.41 (1.20, 1.61)	Rural	10	483	3.43 (3.23, 3.63)
Urban	10	1644	1.45 (1.38, 1.52)	Urban	10	3181	2.69 (2.59, 2.79)
Rural	11	200	1.56 (1.35, 1.78)	Rural	11	439	3.12 (2.92, 3.32)
Urban	11	1673	1.49 (1.42, 1.56)	Urban	11	3252	2.77 (2.67, 2.87)
Rural	12	141	1.23 (1.03, 1.43)	Rural	12	402	3.10 (2.90, 3.30)
Urban	12	1602	1.40 (1.34, 1.47)	Urban	12	3180	2.68 (2.58, 2.78)
Rural	13	123	1.16 (0.96, 1.37)	Rural	13	344	2.87 (2.67, 3.07)
Urban	13	1349	1.21 (1.15, 1.27)	Urban	13	3032	2.61 (2.41, 2.81)
Rural	14	59	1.26 (0.94, 1.58)	Rural	14	200	3.11 (2.91, 3.31)
Urban	14	1111	0.98 (0.92, 1.04)	Urban	14	2556	2.18 (2.08, 2.28)
Rural	15	45	1.21 (0.86, 1.56)	Rural	15	106	2.18 (1.98, 2.38)
Urban	15	1023	0.92 (0.86, 0.98)	Urban	15	2246	1.94 (1.84, 2.04)
Rural	16	29	0.84 (0.54, 1.15)	Rural	16	81	1.88 (1.68, 2.08)
Urban	16	994	0.89 (0.84, 0.95)	Urban	16	2016	1.74 (1.64, 1.84)
Rural	17	30	0.93 (0.60, 1.26)	Rural	17	71	1.74 (1.54, 1.94)
Urban	17	964	0.87 (0.81, 0.92)	Urban	17	1805	1.58 (1.48, 1.68)
Rural	18	8	0.67 (0.21, 1.13)	Rural	18	29	1.55 (1.35, 1.75)
Urban	18	382	1.05 (0.95, 1.16)	Urban	18	811	1.68 (1.58, 1.78)

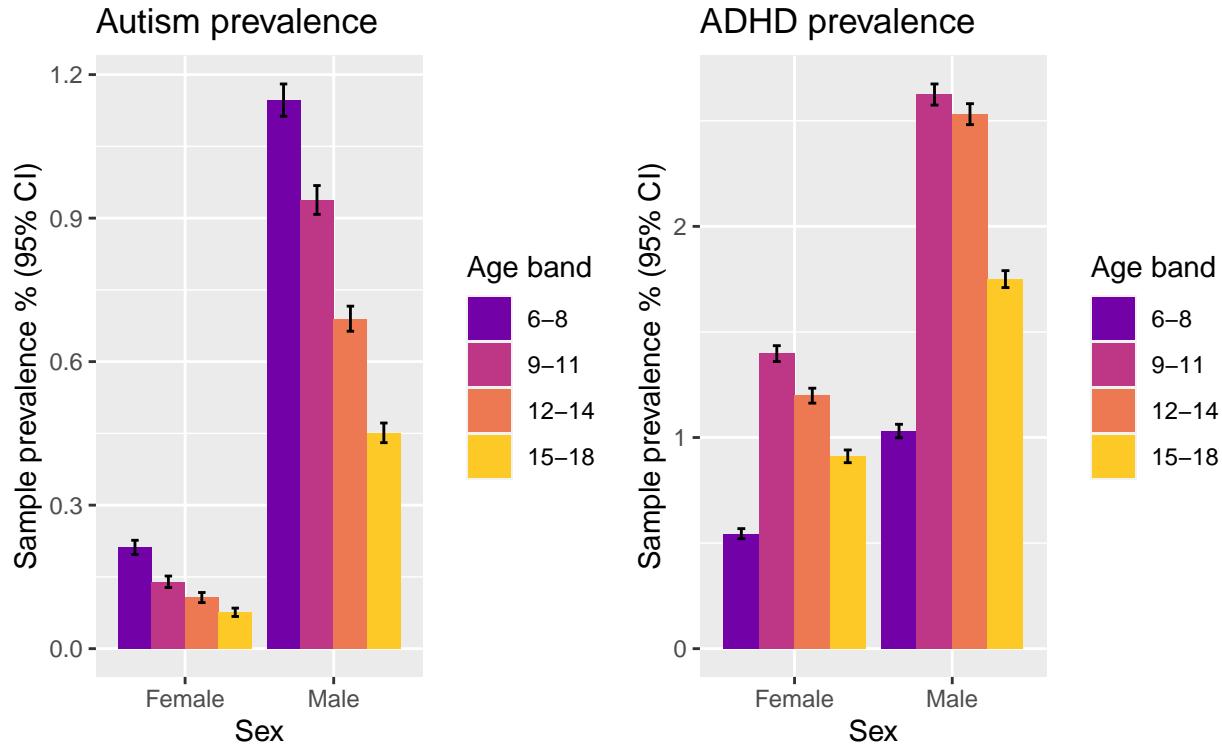


Figure 6: Sample prevalence of autism and ADHD by age band and sex. Bars show 95% normal confidence intervals.

```
## # A tibble: 1 x 6
##   crude_ci_lower crude_rate crude_ci_upper adjusted_ci_lower adjusted_~1 adjus~2
##       <dbl>        <dbl>        <dbl>        <dbl>        <dbl>      <dbl>
## 1     0.0150      0.0151      0.0153      0.0148      0.0150    0.0151
## # ... with abbreviated variable names 1: adjusted_rate, 2: adjusted_ci_upper

Adjusted sex.

## # A tibble: 2 x 7
##   sex_desc crude_ci_lower crude_rate crude_ci_upper adjusted_c~1 adjus~2 adjus~3
##   <chr>        <dbl>        <dbl>        <dbl>        <dbl>      <dbl>      <dbl>
## 1 Female      0.00127     0.00133     0.00139     0.00125  0.00131  0.00138
## 2 Male        0.00787     0.00801     0.00815     0.00773  0.00787  0.00801
## # ... with abbreviated variable names 1: adjusted_ci_lower, 2: adjusted_rate,
## #   3: adjusted_ci_upper

## # A tibble: 2 x 7
##   sex_desc crude_ci_lower crude_rate crude_ci_upper adjusted_c~1 adjus~2 adjus~3
##   <chr>        <dbl>        <dbl>        <dbl>        <dbl>      <dbl>      <dbl>
## 1 Female      0.00127     0.00133     0.00139     0.00125  0.00131  0.00138
## 2 Male        0.00787     0.00801     0.00815     0.00773  0.00787  0.00801
## # ... with abbreviated variable names 1: adjusted_ci_lower, 2: adjusted_rate,
## #   3: adjusted_ci_upper

Adjusted health.

##   health_service_name crude_ci_lower crude_rate crude_ci_upper
## 1 Aconcagua         0.00378      0.00438      0.00497
```

Autism prevalence by health service

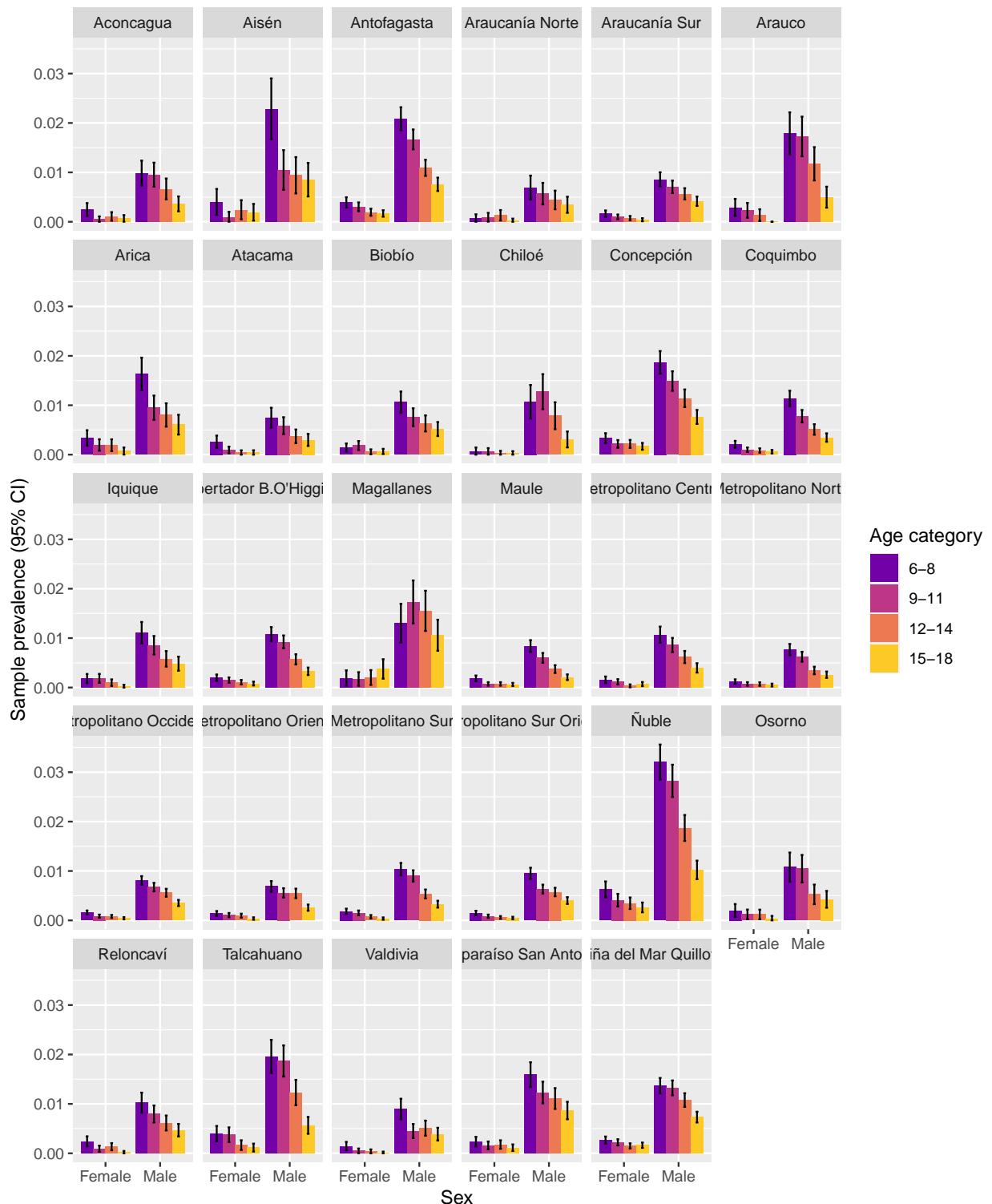


Figure 7: Sample prevalence of autism by health service, age band and sex. Bars show 95% normal confidence intervals.

ADHD prevalence by health service

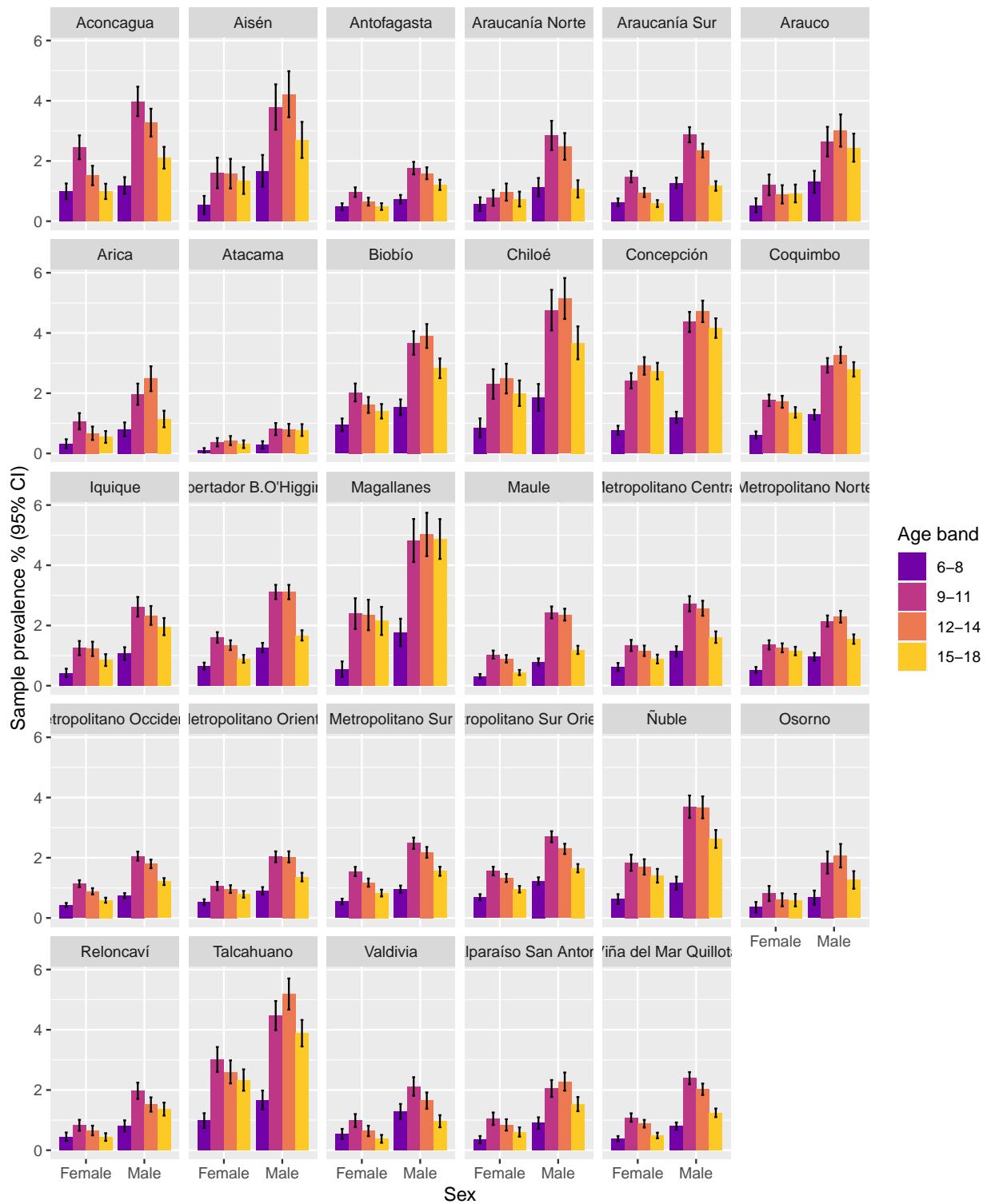


Figure 8: Sample prevalence of ADHD by health service, age band and sex. Bars show 95% normal confidence intervals.

Autism prevalence by SES status

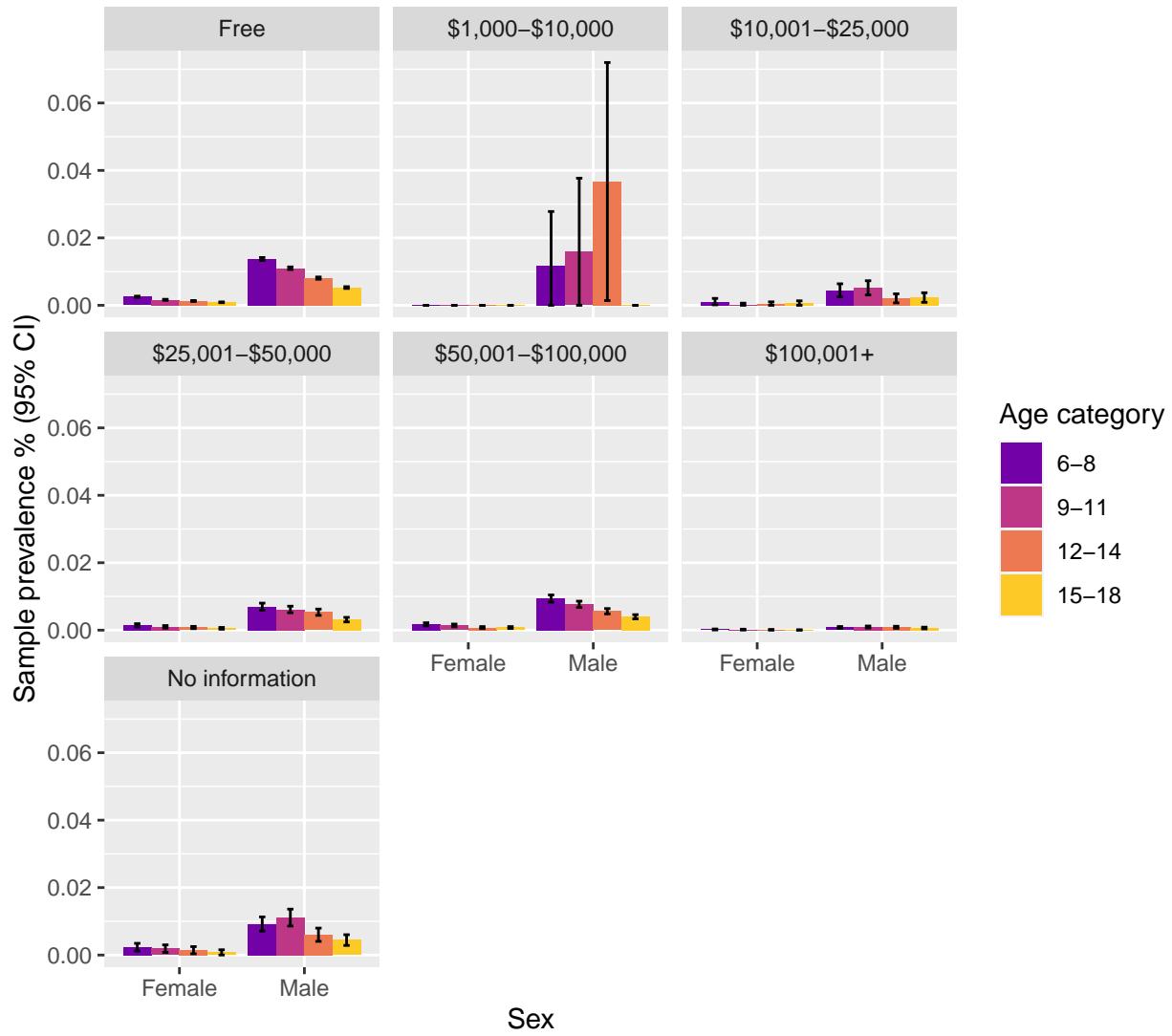


Figure 9: Sample prevalence of autism by socio-economic (SES) status of student's family, age band and sex. Bars show 95% normal confidence intervals.

ADHD prevalence by SES status

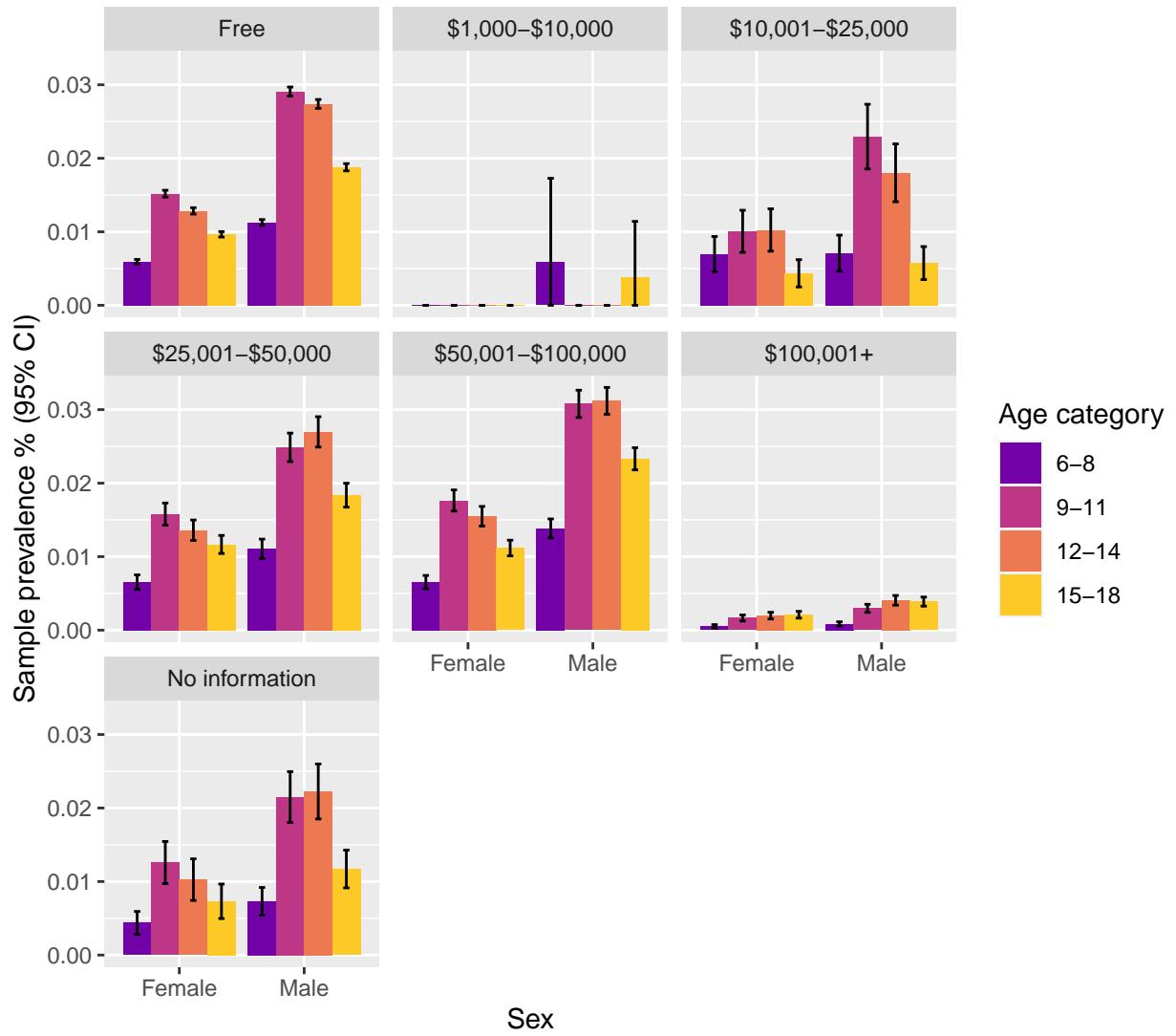


Figure 10: Sample prevalence of ADHD by socio-economic (SES) status of student's family, age band and sex. Bars show 95% normal confidence intervals.

Autism prevalence by ethnicity

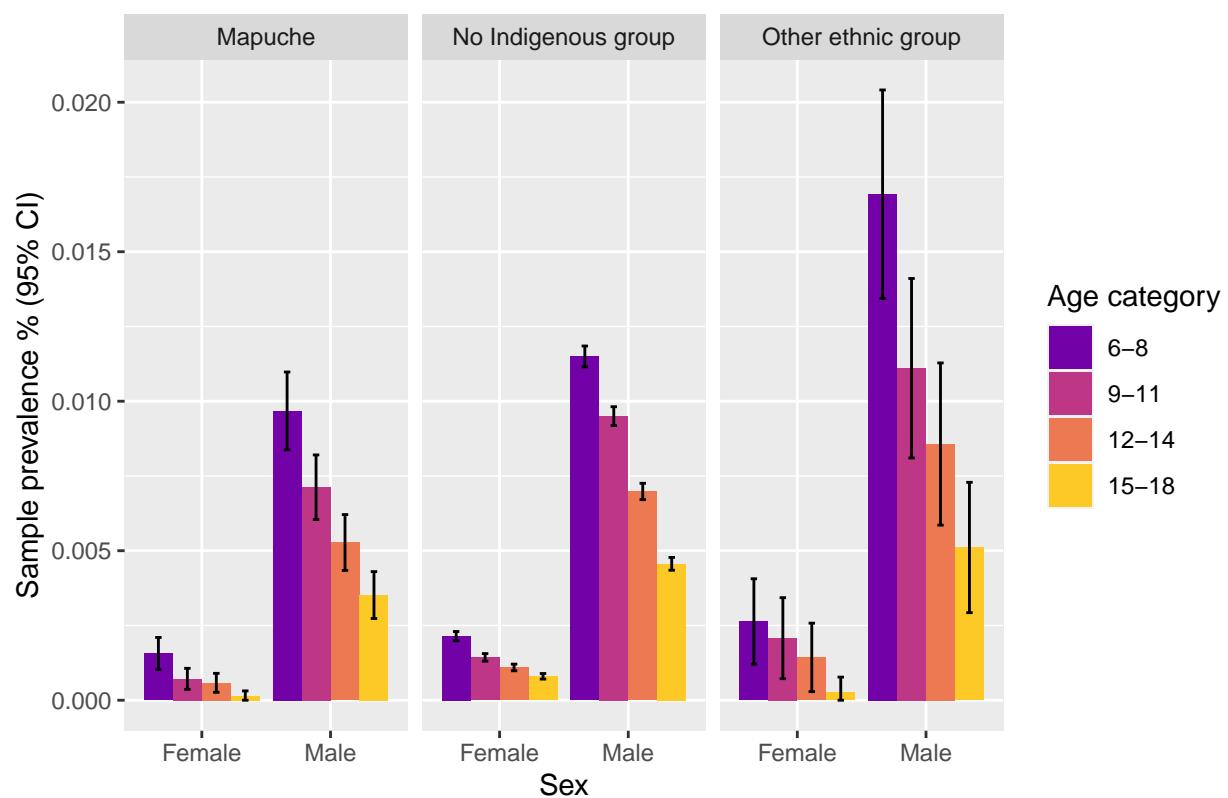


Figure 11: Sample prevalence of autism by ethnicity, age band and sex. Bars show 95% normal confidence intervals.

ADHD prevalence by ethnicity

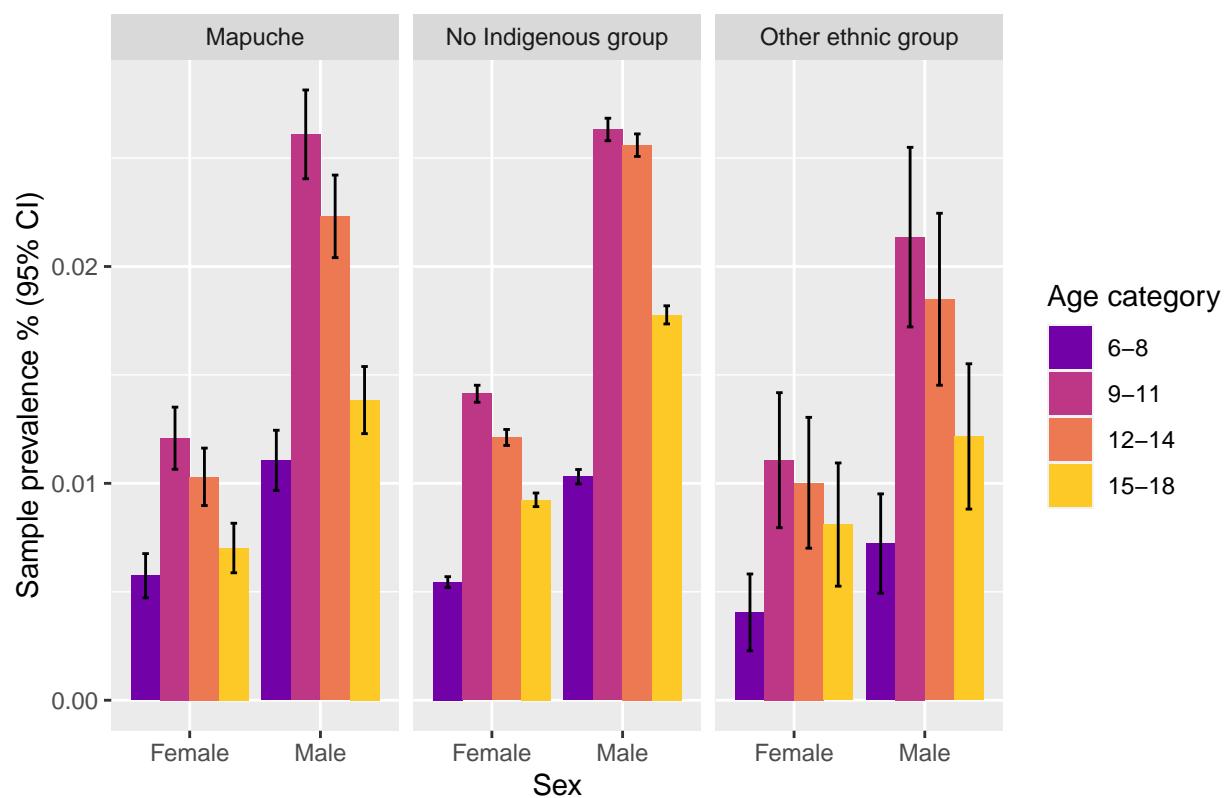


Figure 12: Sample prevalence of ADHD by ethnicity, age band and sex. Bars show 95% normal confidence intervals.

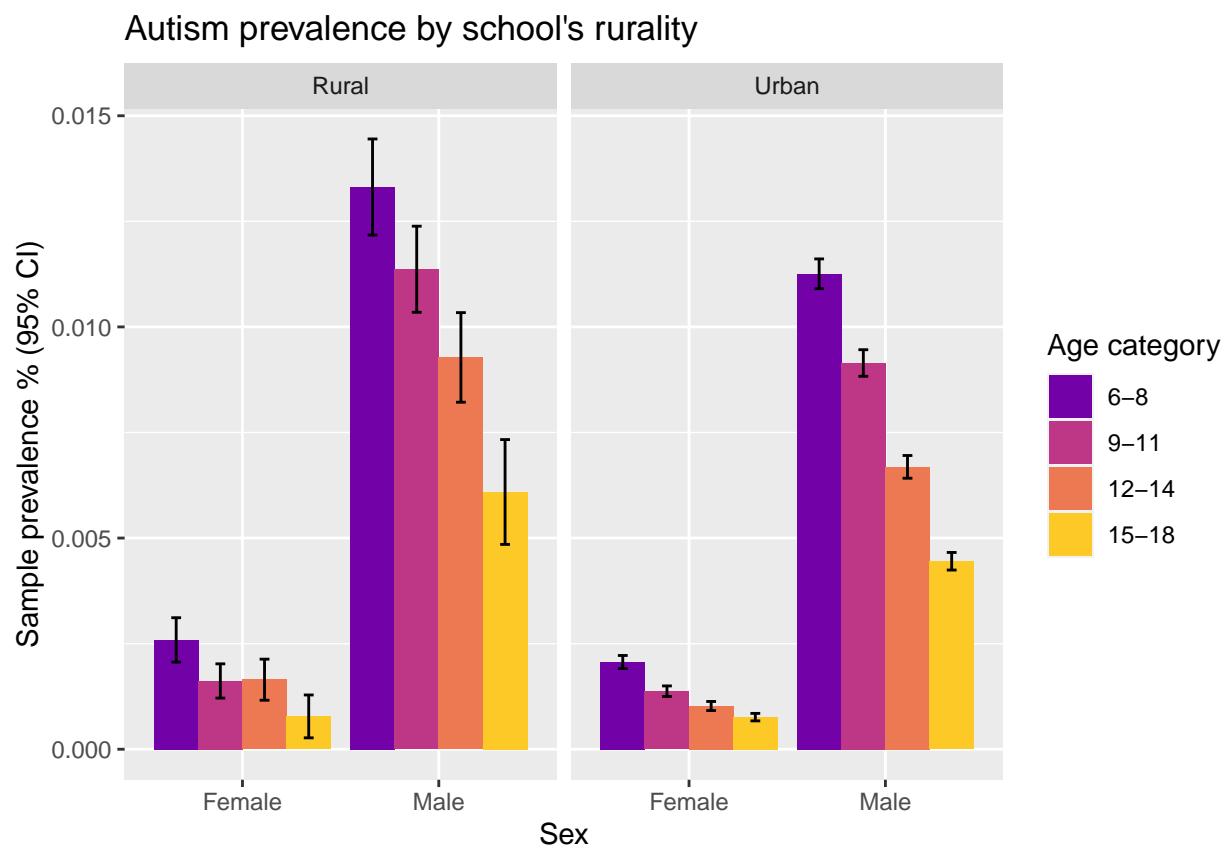


Figure 13: Sample prevalence of autism by school's rurality, age band and sex. Bars show 95% normal confidence intervals.

ADHD prevalence by school's rurality

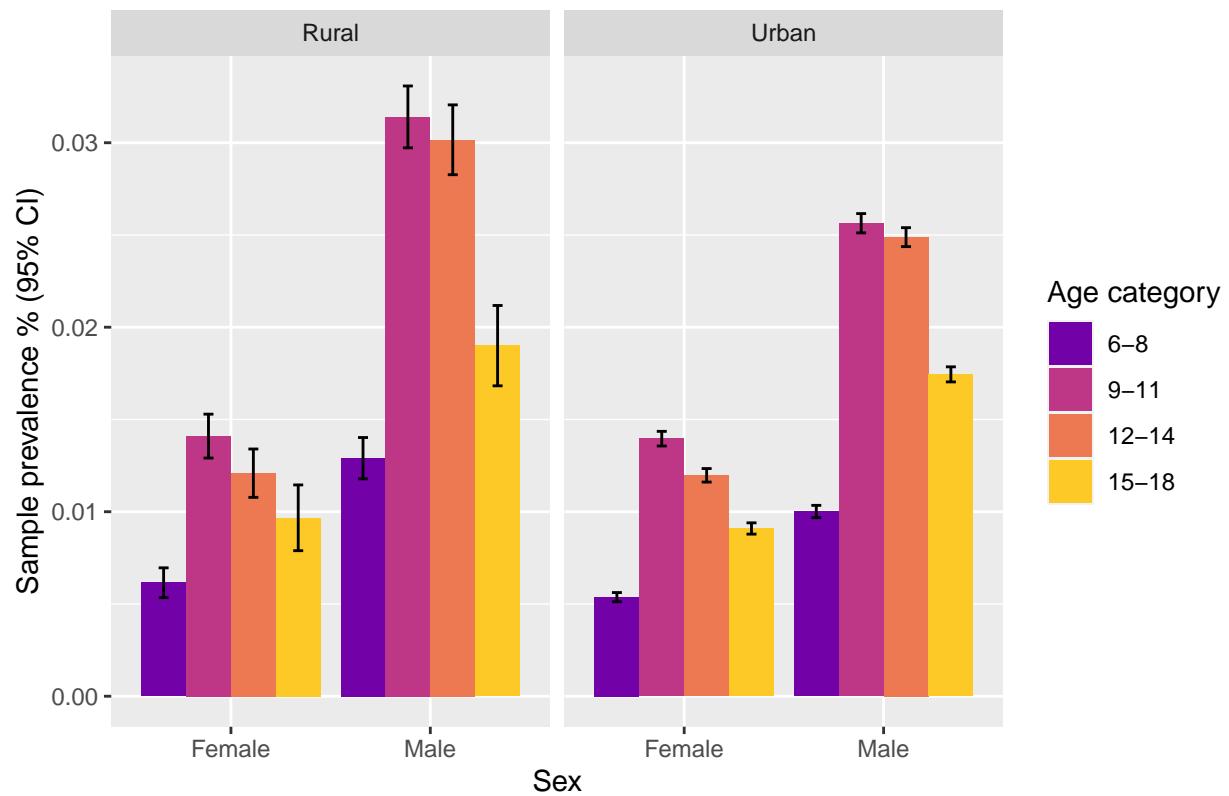


Figure 14: Sample prevalence of ADHD by school's rurality, age band and sex. Bars show 95% normal confidence intervals.

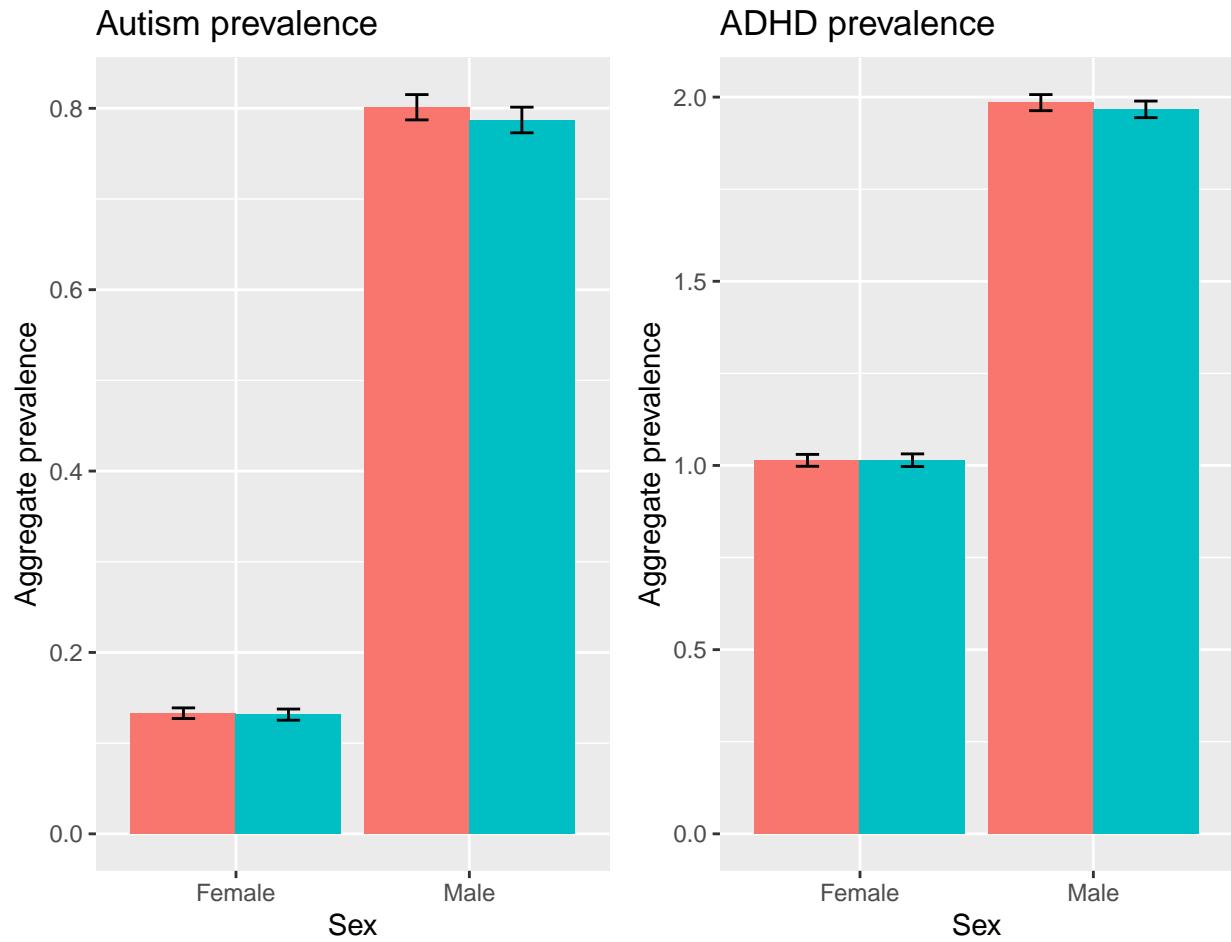


Figure 15: Crude and age- and sex-adjusted sample prevalences of autism and ADHD by sex. Bars for crude prevalence show 95% normal confidence intervals and bars for adjusted prevalence show 95% gamma confidence intervals.

## 2	Aisén	0.00629	0.00749	0.00869
## 3	Antofagasta	0.00789	0.00841	0.00893
## 4	Araucanía Norte	0.00244	0.00300	0.00356
## 5	Araucanía Sur	0.00336	0.00369	0.00402
## 6	Arauco	0.00637	0.00731	0.00826
## 7	Arica	0.00540	0.00612	0.00684
## 8	Atacama	0.00262	0.00306	0.00351
## 9	Biobío	0.00383	0.00431	0.00479
## 10	Chiloé	0.00375	0.00450	0.00524
## 11	Concepción	0.00732	0.00784	0.00837
## 12	Coquimbo	0.00378	0.00412	0.00445
## 13	Libertador B.O'Higgins	0.00402	0.00434	0.00467
## 14	Maule	0.00280	0.00305	0.00331
## 15	Reloncaví	0.00379	0.00424	0.00469
## 16	Iquique	0.00403	0.00453	0.00503
## 17	Magallanes	0.00725	0.00831	0.00938
## 18	Metropolitano Central	0.00385	0.00421	0.00457
## 19	Metropolitano Norte	0.00269	0.00294	0.00318
## 20	Metropolitano Occidente	0.00336	0.00358	0.00381
## 21	Metropolitano Oriente	0.00279	0.00304	0.00329
## 22	Metropolitano Sur	0.00385	0.00413	0.00442
## 23	Metropolitano Sur Oriente	0.00342	0.00367	0.00391
## 24	Osorno	0.00380	0.00445	0.00510
## 25	Talcahuano	0.00763	0.00839	0.00916
## 26	Valdivia	0.00269	0.00311	0.00354
## 27	Valparaíso San Antonio	0.00635	0.00694	0.00752
## 28	Viña del Mar Quillota	0.00632	0.00670	0.00709
## 29	Ñuble	0.01238	0.01317	0.01396
##	adjusted_ci_lower	adjusted_rate	adjusted_ci_upper	
## 1	0.00369	0.00427	0.00499	
## 2	0.00634	0.00752	0.00895	
## 3	0.00773	0.00825	0.00882	
## 4	0.00245	0.00300	0.00376	
## 5	0.00338	0.00372	0.00410	
## 6	0.00624	0.00715	0.00825	
## 7	0.00539	0.00614	0.00704	
## 8	0.00266	0.00312	0.00368	
## 9	0.00373	0.00420	0.00475	
## 10	0.00364	0.00433	0.00518	
## 11	0.00718	0.00771	0.00828	
## 12	0.00364	0.00396	0.00433	
## 13	0.00393	0.00425	0.00460	
## 14	0.00277	0.00303	0.00332	
## 15	0.00373	0.00417	0.00467	
## 16	0.00384	0.00431	0.00486	
## 17	0.00724	0.00831	0.00958	
## 18	0.00380	0.00416	0.00456	
## 19	0.00262	0.00287	0.00314	
## 20	0.00316	0.00338	0.00361	
## 21	0.00274	0.00298	0.00325	
## 22	0.00371	0.00398	0.00427	
## 23	0.00339	0.00364	0.00390	
## 24	0.00371	0.00433	0.00507	
## 25	0.00739	0.00813	0.00898	

```

## 26      0.00260    0.00300    0.00349
## 27      0.00625    0.00683    0.00749
## 28      0.00620    0.00658    0.00699
## 29      0.01208    0.01286    0.01371

##           health_service_name crude_ci_lower crude_rate crude_ci_upper
## 1             Aconcagua        0.01950    0.02079    0.02209
## 2               Aisén          0.02027    0.02232    0.02438
## 3            Antofagasta       0.00945    0.01001    0.01057
## 4        Araucanía Norte     0.01217    0.01334    0.01452
## 5        Araucanía Sur       0.01358    0.01422    0.01485
## 6             Arauco          0.01501    0.01641    0.01782
## 7              Arica          0.01040    0.01139    0.01237
## 8            Atacama          0.00435    0.00492    0.00549
## 9             Biobío          0.02159    0.02269    0.02378
## 10            Chiloé          0.02771    0.02960    0.03149
## 11            Concepción       0.02842    0.02942    0.03043
## 12            Coquimbo         0.01907    0.01980    0.02053
## 13        Libertador B.O'Higgins 0.01662    0.01726    0.01789
## 14             Maule          0.01143    0.01193    0.01243
## 15            Reloncaví        0.00952    0.01022    0.01092
## 16             Iquique         0.01403    0.01493    0.01583
## 17            Magallanes        0.02870    0.03072    0.03274
## 18        Metropolitano Central 0.01457    0.01526    0.01594
## 19        Metropolitano Norte   0.01361    0.01416    0.01471
## 20        Metropolitano Occidente 0.01054    0.01093    0.01131
## 21        Metropolitano Oriente   0.01163    0.01213    0.01263
## 22        Metropolitano Sur       0.01372    0.01424    0.01476
## 23        Metropolitano Sur Oriente 0.01512    0.01562    0.01611
## 24             Osorno          0.00946    0.01046    0.01145
## 25            Talcahuano        0.02926    0.03071    0.03215
## 26             Valdivia         0.00998    0.01077    0.01156
## 27        Valparaíso San Antonio 0.01132    0.01209    0.01286
## 28            Viña del Mar Quillota 0.01123    0.01174    0.01224
## 29             Ñuble           0.02019    0.02120    0.02220

##           adjusted_ci_lower adjusted_rate adjusted_ci_upper
## 1            0.01913    0.02044    0.02187
## 2            0.01970    0.02171    0.02398
## 3            0.00925    0.00983    0.01045
## 4            0.01179    0.01294    0.01426
## 5            0.01320    0.01384    0.01452
## 6            0.01497    0.01642    0.01806
## 7            0.01022    0.01122    0.01237
## 8            0.00431    0.00488    0.00556
## 9            0.02146    0.02260    0.02382
## 10           0.02680    0.02867    0.03069
## 11           0.02889    0.02998    0.03112
## 12           0.01922    0.02000    0.02082
## 13           0.01626    0.01691    0.01759
## 14           0.01105    0.01154    0.01207
## 15           0.00923    0.00991    0.01065
## 16           0.01403    0.01497    0.01599
## 17           0.02853    0.03064    0.03294
## 18           0.01426    0.01495    0.01568

```

```

## 19      0.01361    0.01417    0.01476
## 20      0.01082    0.01123    0.01166
## 21      0.01146    0.01196    0.01248
## 22      0.01354    0.01407    0.01462
## 23      0.01481    0.01531    0.01583
## 24      0.00922    0.01020    0.01129
## 25      0.02872    0.03022    0.03182
## 26      0.00983    0.01062    0.01150
## 27      0.01129    0.01208    0.01294
## 28      0.01097    0.01147    0.01201
## 29      0.02001    0.02105    0.02217

```

Autism prevalence by health service



Figure 16: Crude and age- and sex-adjusted sample prevalences of autism by health service. Bars for crude prevalence show 95% normal confidence intervals and bars for adjusted prevalence show 95% gamma confidence intervals.

Adjusted school fees.

```

## # A tibble: 7 x 7
##   school_fee      crude_ci_lower crude_rate crude_ci_~1 adjus~2 adjus~3 adjus~4
##   <fct>          <dbl>        <dbl>        <dbl>        <dbl>        <dbl>        <dbl>
## 1 Free            0.00556     0.00566     0.00576     0.00537     0.00547     0.00557
## 2 $1,000-$10,000 0.00221     0.00714     0.0121      0.00293     0.00686     0.0325
## 3 $10,001-$25,000 0.00154     0.002       0.00246     0.00157     0.00203     0.00269
## 4 $25,001-$50,000 0.0028      0.00303     0.00327     0.0029      0.00316     0.00345
## 5 $50,001-$100,000 0.00365     0.00388     0.00411     0.00373     0.00399     0.00427
## 6 $100,001+
       0.00039     0.00047     0.00055     0.00039     0.00046     0.00056

```

ADHD prevalence by health service



Figure 17: Crude and age- and sex-adjusted sample prevalences of ADHD by health service. Bars for crude prevalence show 95% normal confidence intervals and bars for adjusted prevalence show 95% gamma confidence intervals.

```

## 7 No information          0.00442   0.00504   0.00566 0.00403 0.00458 0.00524
## # ... with abbreviated variable names 1: crude_ci_upper, 2: adjusted_ci_lower,
## #   3: adjusted_rate, 4: adjusted_ci_upper

## # A tibble: 7 x 7
##   school_fee      crude_ci_lower crude_rate crude_ci_~1 adjus~2 adjus~3 adjus~4
##   <fct>            <dbl>       <dbl>       <dbl>     <dbl>     <dbl>     <dbl>
## 1 Free              0.0163      0.0165      0.0167  0.0160  0.0162  0.0164
## 2 $1,000-$10,000    0          0.00179     0.00426 0.00013 0.00108 0.0274
## 3 $10,001-$25,000   0.00953    0.0106      0.0116  0.0094  0.0105  0.0117
## 4 $25,001-$50,000   0.0154     0.0159      0.0165  0.0159  0.0165  0.0172
## 5 $50,001-$100,000  0.0184     0.0190      0.0195  0.0184  0.0190  0.0196
## 6 $100,001+         0.00208    0.00225     0.00242 0.00212 0.00231 0.00251
## 7 No information     0.0111     0.0121      0.0131  0.0113  0.0122  0.0133
## # ... with abbreviated variable names 1: crude_ci_upper, 2: adjusted_ci_lower,
## #   3: adjusted_rate, 4: adjusted_ci_upper

```

Autism prevalence by SES status

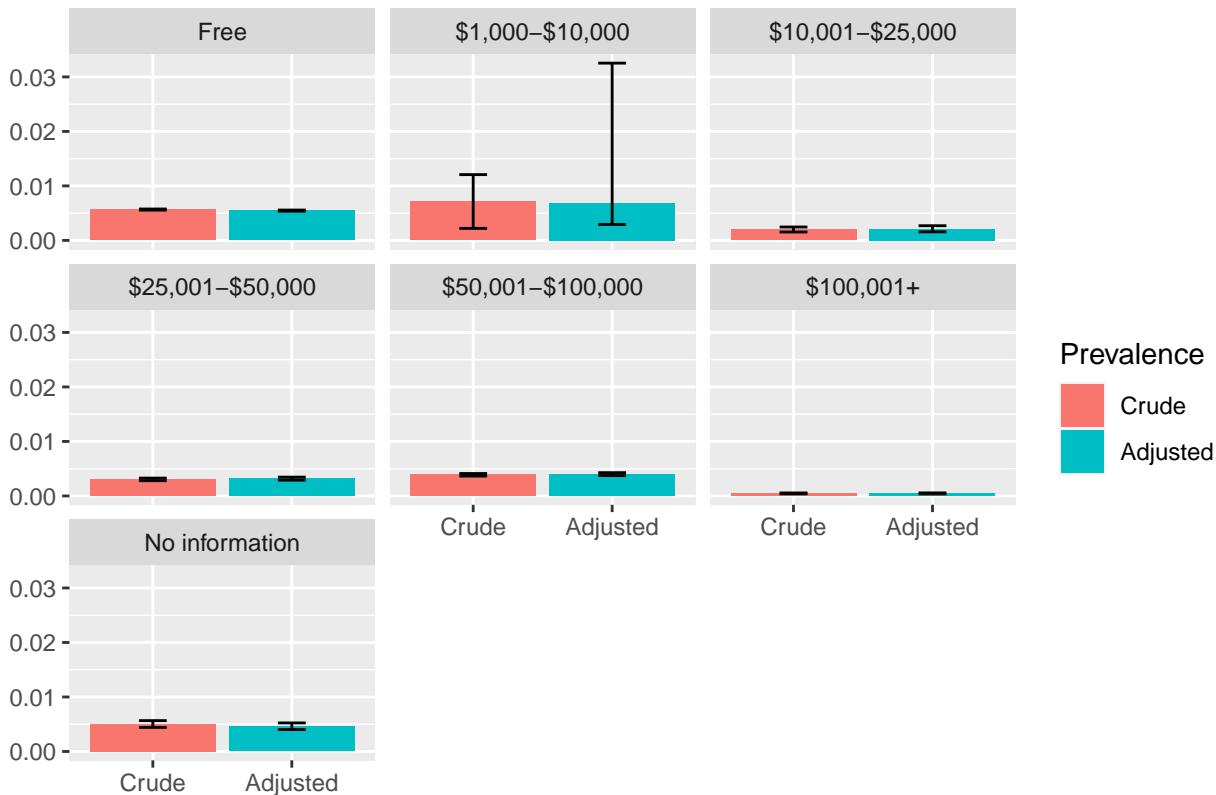


Figure 18: Crude and age- and sex-adjusted sample prevalences of autism by socio-economic (SES) status of student's family. Bars for crude prevalence show 95% normal confidence intervals and bars for adjusted prevalence show 95% gamma confidence intervals.

Adjusted ethnicity.

```

## # A tibble: 3 x 7
##   ethnic_2_group      crude_ci_lower crude_rate crude_~1 adjus~2 adjus~3 adjus~4
##   <chr>            <dbl>       <dbl>       <dbl>     <dbl>     <dbl>     <dbl>
## 1 Mapuche           0.00335    0.00363    0.00391 0.0032  0.00347 0.00376

```

ADHD prevalence by SES status



Figure 19: Crude and age- and sex-adjusted sample prevalences of ADHD by socio-economic (SES) status of student's family. Bars for crude prevalence show 95% normal confidence intervals and bars for adjusted prevalence show 95% gamma confidence intervals.

```

## 2 No Indigenous group      0.00473   0.00481   0.00489   0.00462   0.0047   0.00479
## 3 Other ethnic group      0.00557   0.0064    0.00723   0.00523   0.00604   0.00702
## # ... with abbreviated variable names 1: crude_ci_upper, 2: adjusted_ci_lower,
## #   3: adjusted_rate, 4: adjusted_ci_upper

## # A tibble: 3 x 7
##   ethnic_2_group   crude_ci_lower crude_rate crude_~1 adjus~2 adjus~3 adjus~4
##   <chr>           <dbl>       <dbl>       <dbl>       <dbl>       <dbl>
## 1 Mapuche         0.0132      0.0138      0.0143      0.0128      0.0133      0.0139
## 2 No Indigenous group 0.0151      0.0152      0.0154      0.0150      0.0151      0.0153
## 3 Other ethnic group 0.0104      0.0115      0.0126      0.0106      0.0118      0.0132
## # ... with abbreviated variable names 1: crude_ci_upper, 2: adjusted_ci_lower,
## #   3: adjusted_rate, 4: adjusted_ci_upper

```

Adjusted rurality.

Autism prevalence by school's rurality

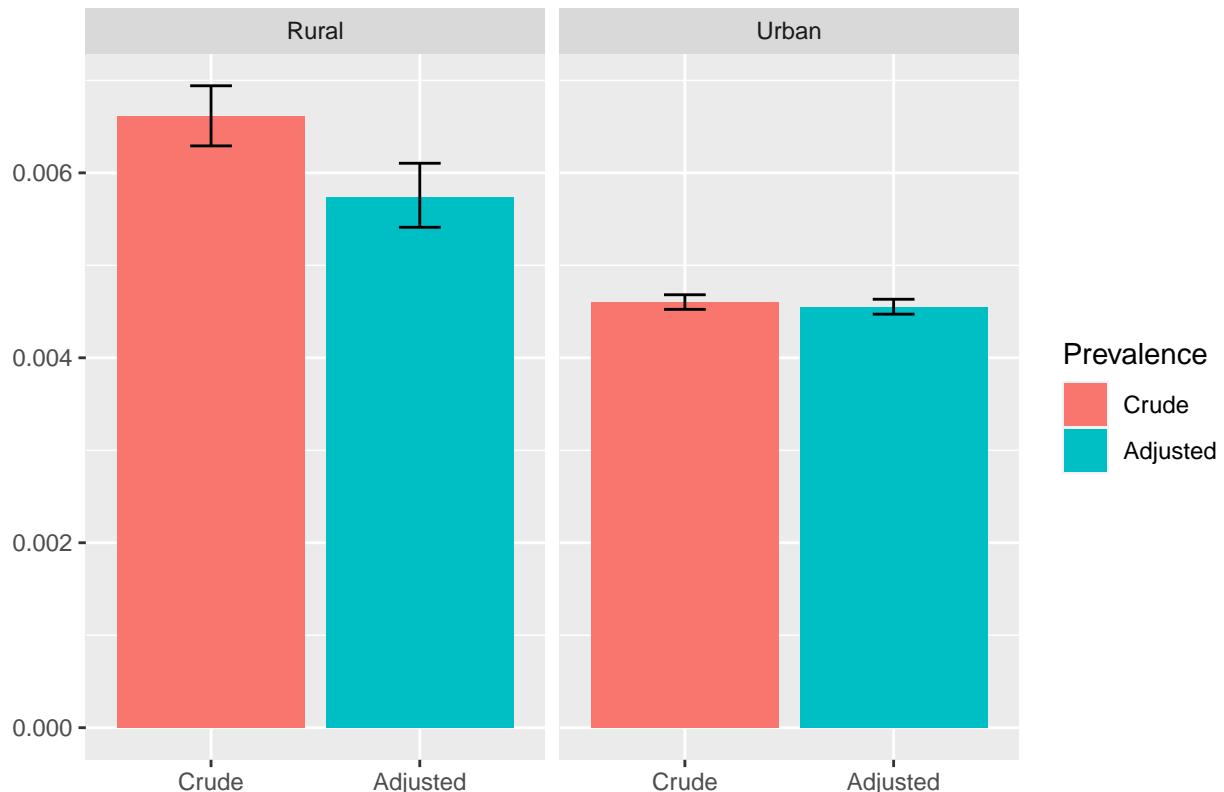


Figure 20: Crude and age- and sex-adjusted sample prevalences of autism by school's rurality. Bars for crude prevalence show 95% normal confidence intervals and bars for adjusted prevalence show 95% gamma confidence intervals.

5.3 Clinical data

TODO - table summarising data content. Number of unique patients

ADHD prevalence by rurality

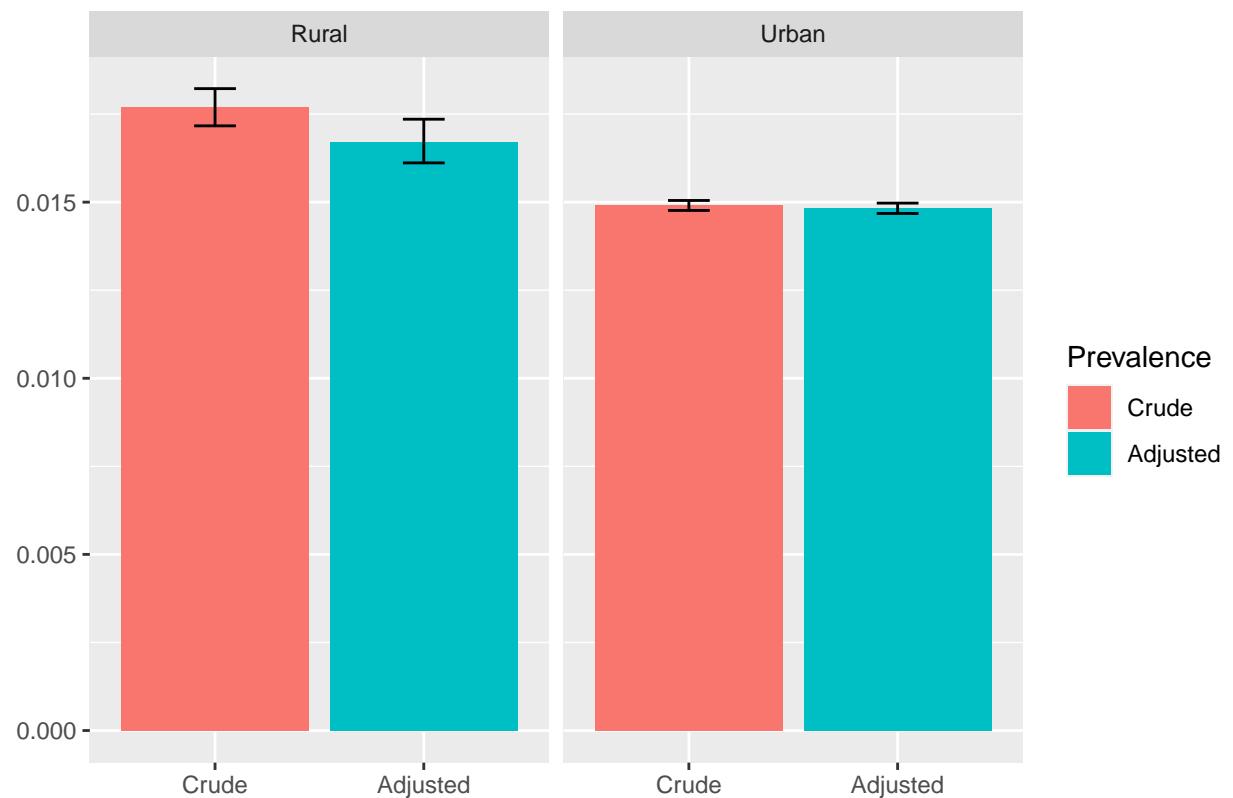
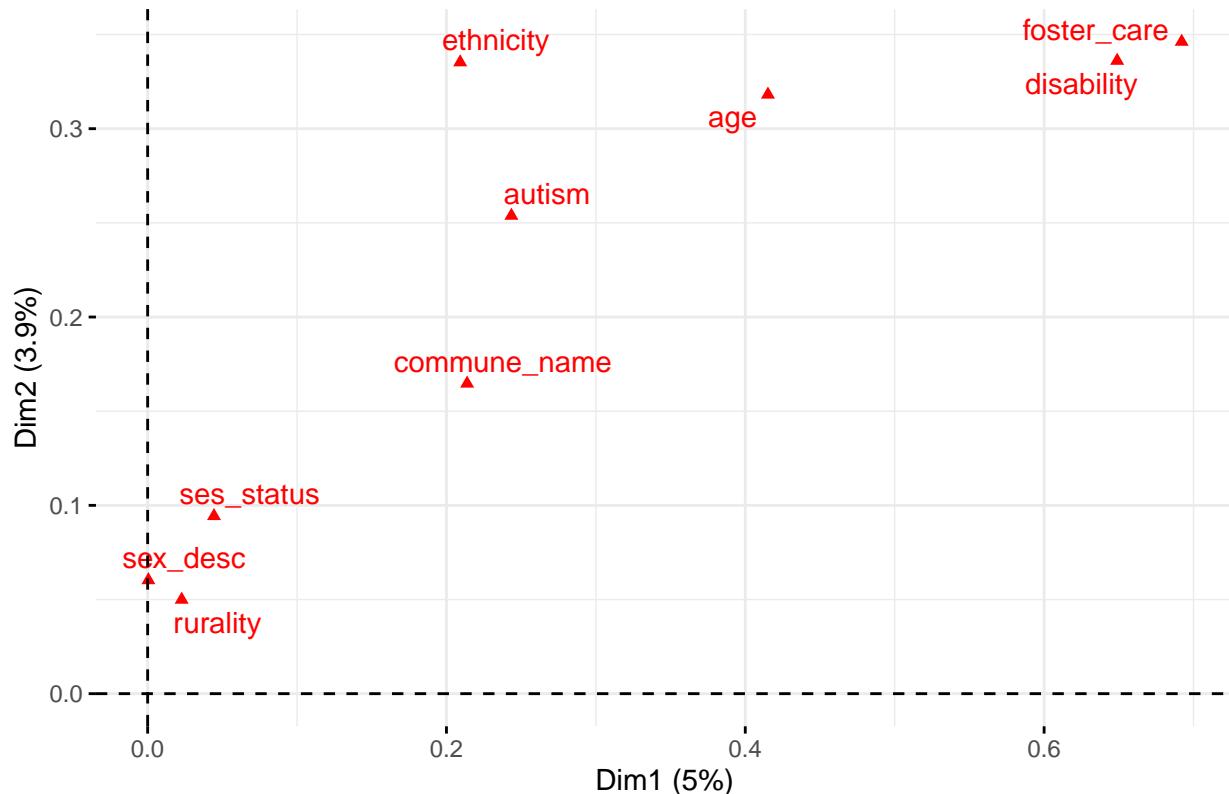


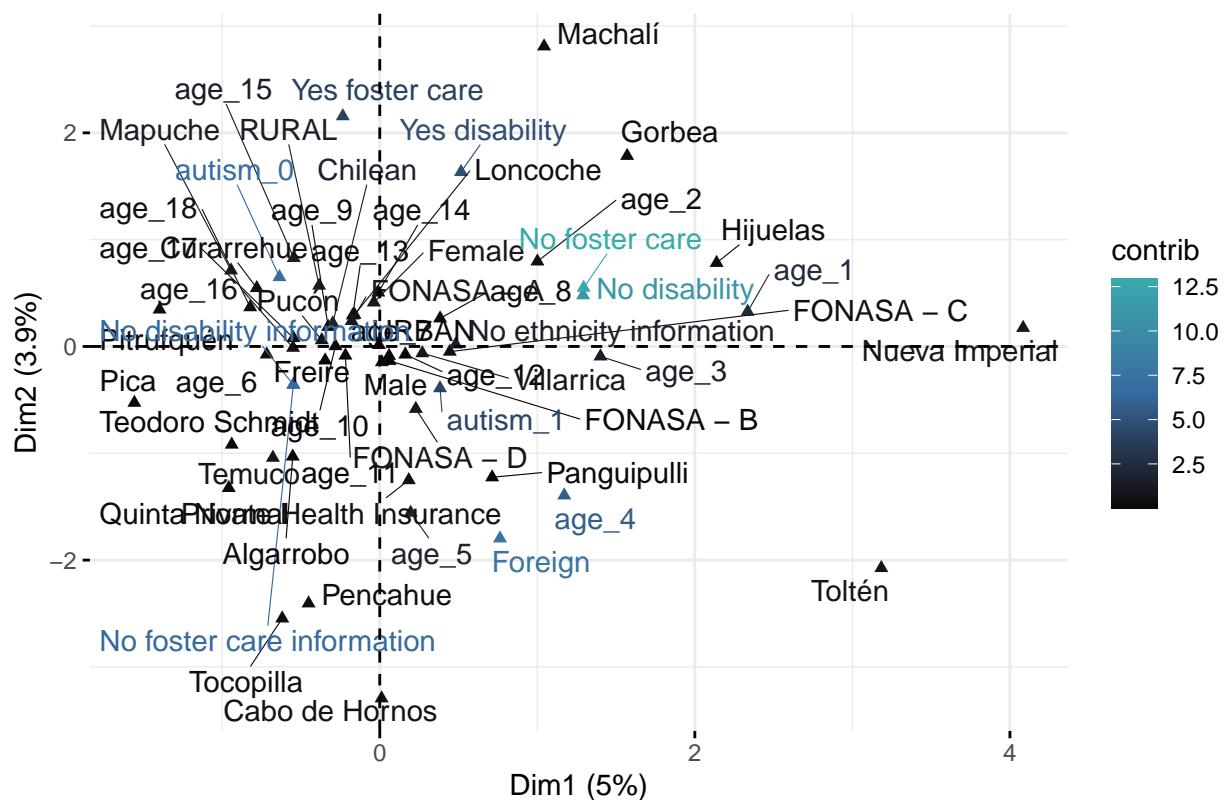
Figure 21: Crude and age- and sex-adjusted sample prevalences of ADHD by school's rurality. Bars for crude prevalence show 95% normal confidence intervals and bars for adjusted prevalence show 95% gamma confidence intervals.

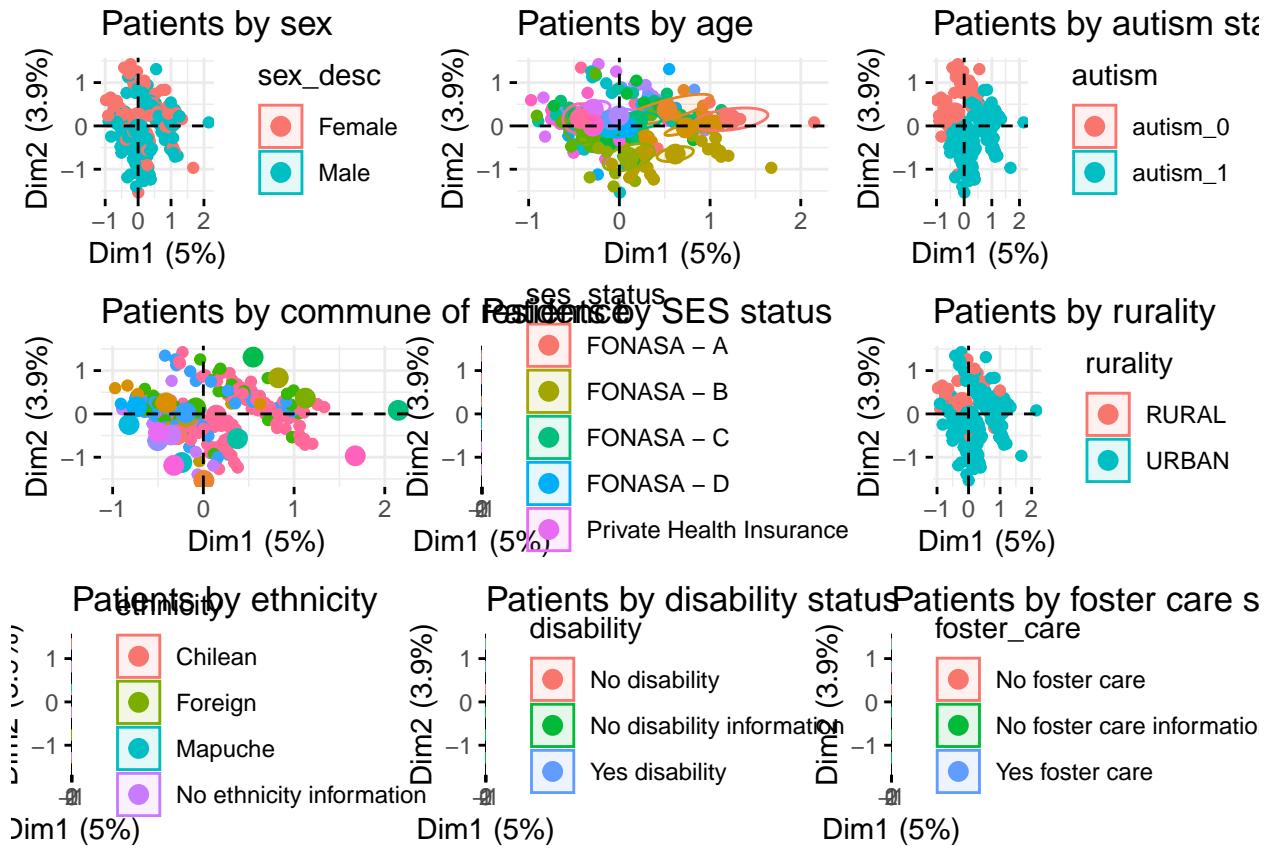
5.4 MCA

Variables – MCA

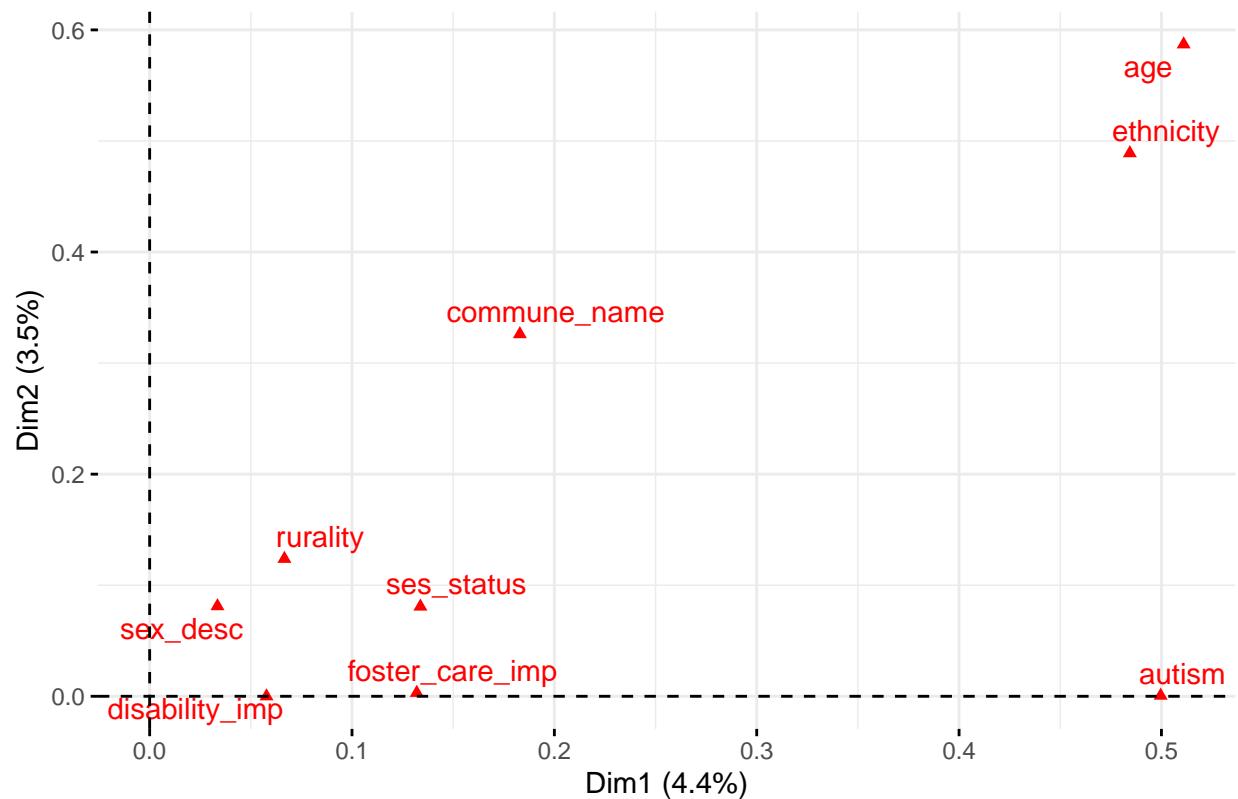


Variable categories – MCA

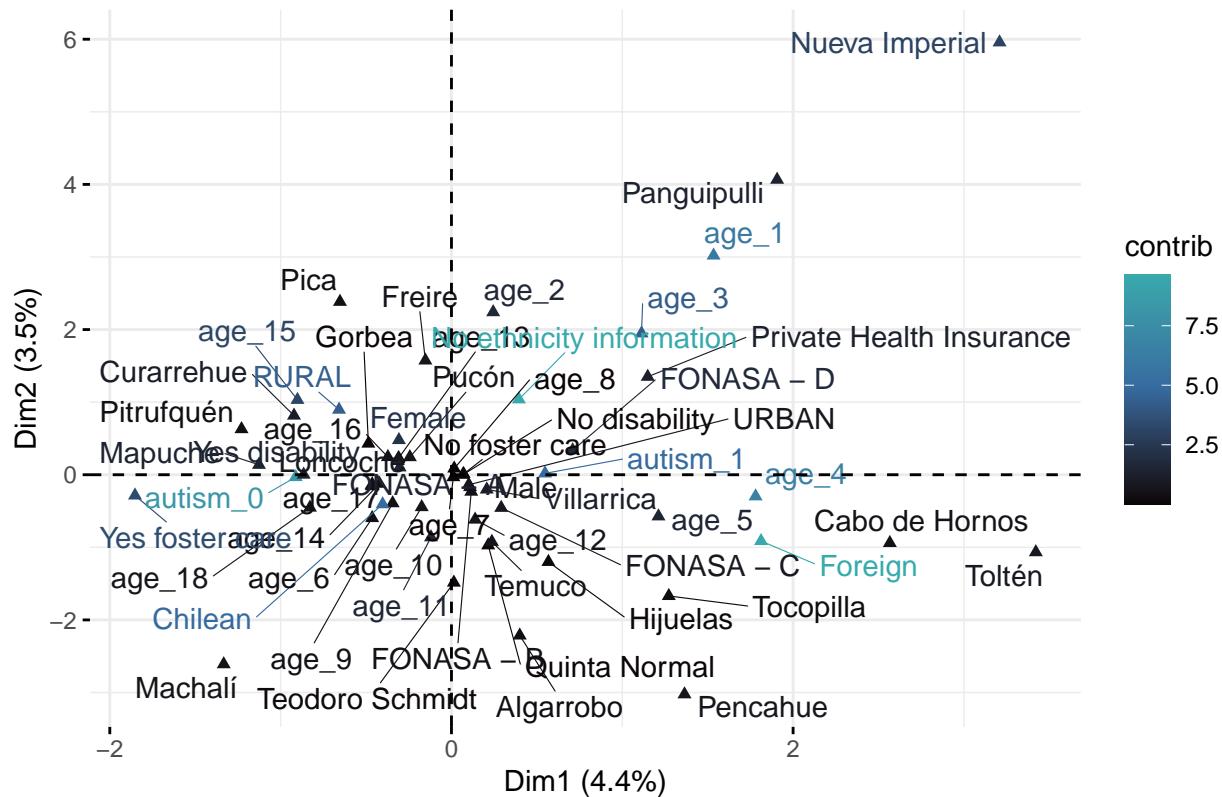


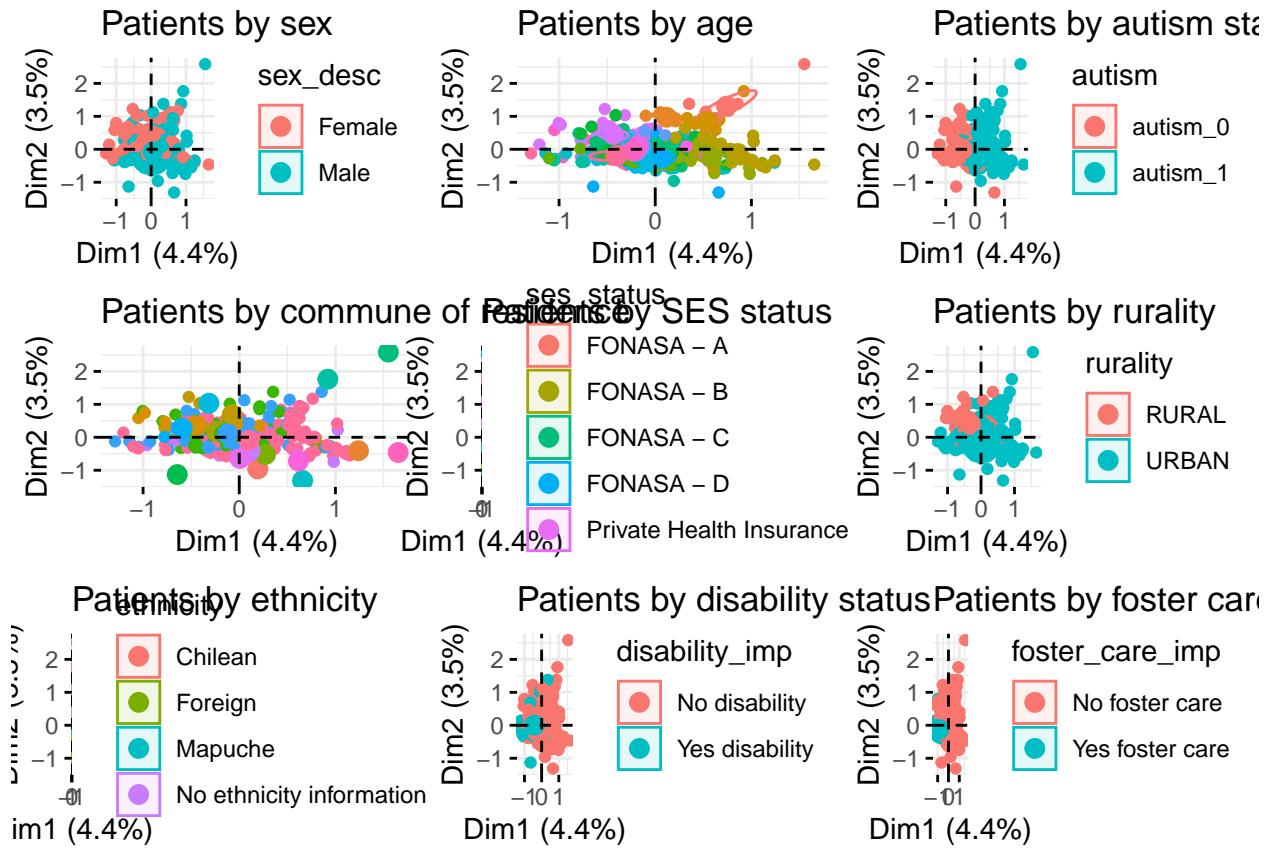


Variables – MCA



Variable categories – MCA





5.5 Probabilistic data linkage

NB: there are 1688 unique ID's in patients and it's 1702 rows long because some people are represented in 2 communes.

5.5.1 Number matched

Using perfect match on sex, date of birth and commune of residence, 197 matches can be found between the school and patient records. 187 unique school records can be perfectly matched to clinical records. 193 patients can be linked to school records.

There are no patients that lived in different communes therefore were in the patient dataset twice that are matched to multiple school records.

5.5.2 Differences between un/matched

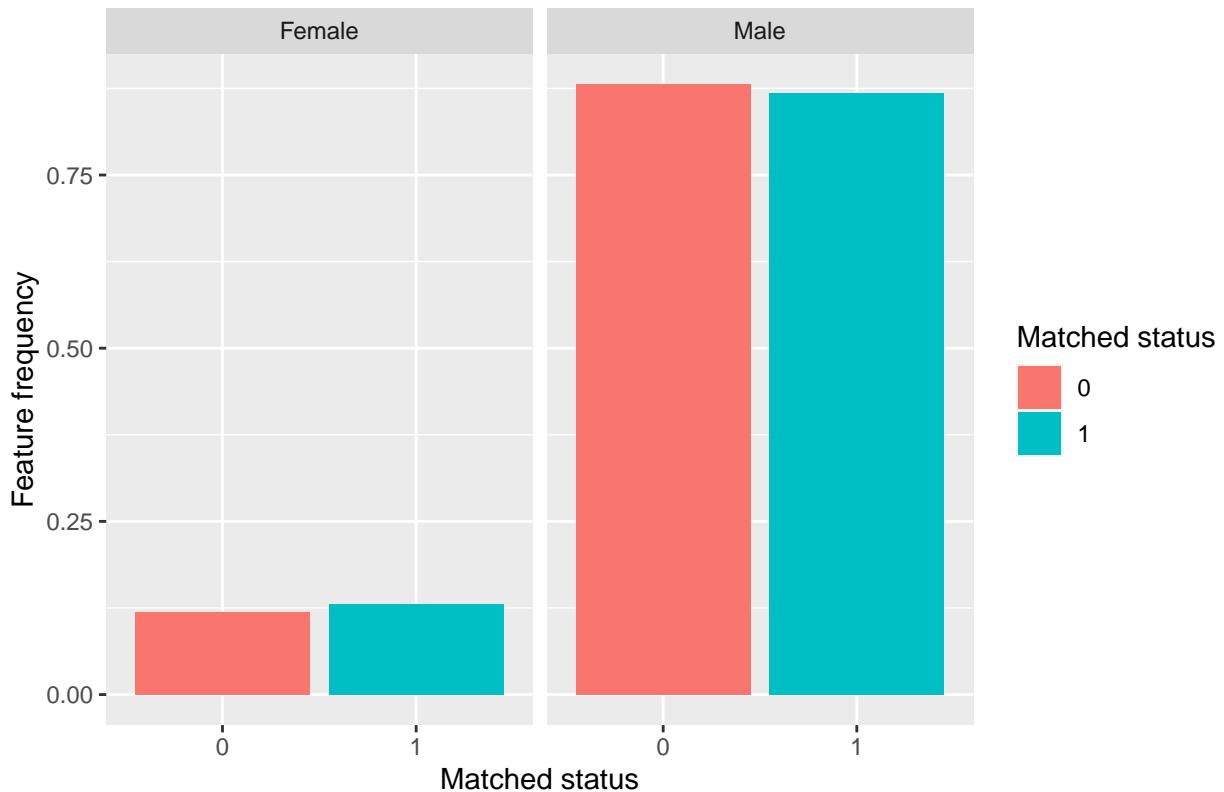
```
##  
## Two-sample Kolmogorov-Smirnov test  
##  
## data: na.omit(school_yes$sex.school) and na.omit(school_no$sex.school)  
## D = 0.012308, p-value = 1  
## alternative hypothesis: two-sided  
  
##  
## Two-sample Kolmogorov-Smirnov test  
##  
## data: as.numeric(na.omit(school_yes$ses_status.school)) and as.numeric(na.omit(school_no$ses_status.school))
```

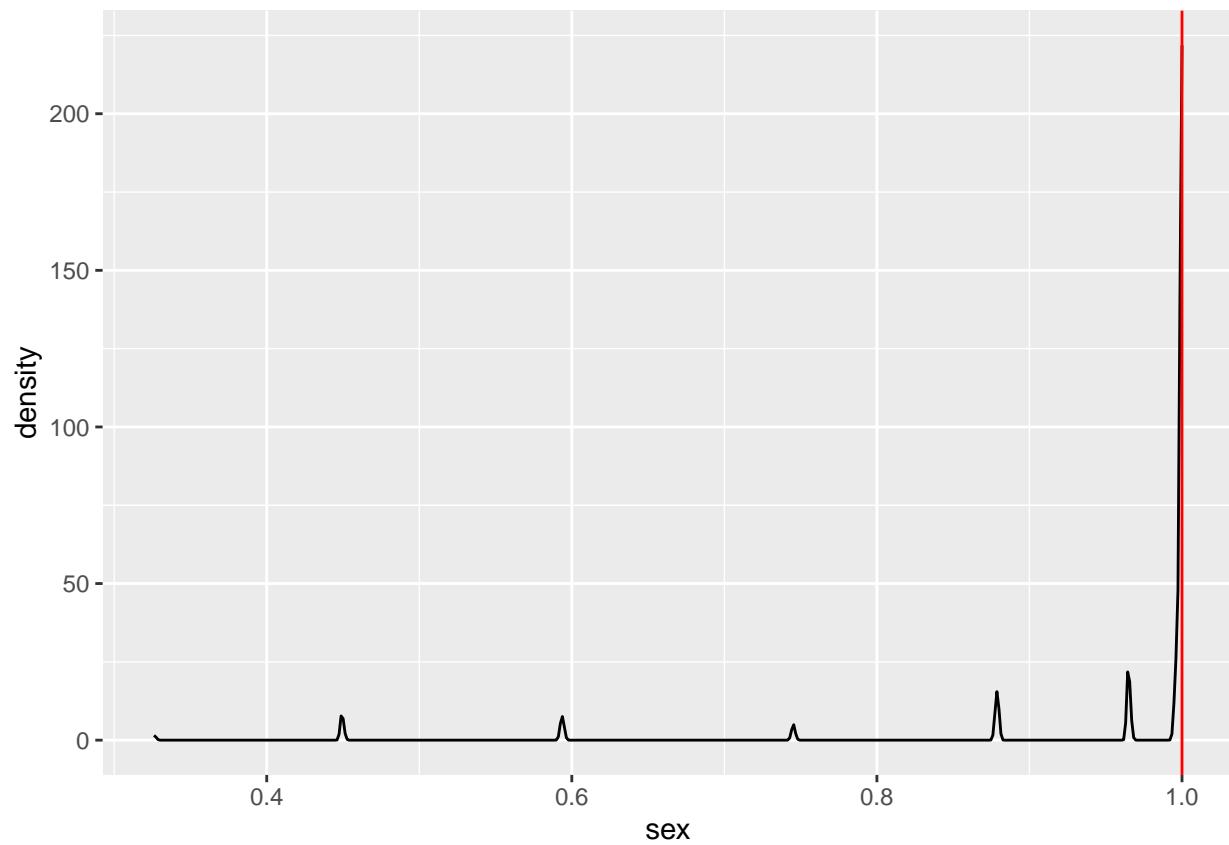
```

## D = 0.094886, p-value = 0.2286
## alternative hypothesis: two-sided
##
## Two-sample Kolmogorov-Smirnov test
##
## data: as.numeric(na.omit(school_yes$commune_code)) and as.numeric(na.omit(school_no$commune_code))
## D = 0.20245, p-value = 9.174e-05
## alternative hypothesis: two-sided

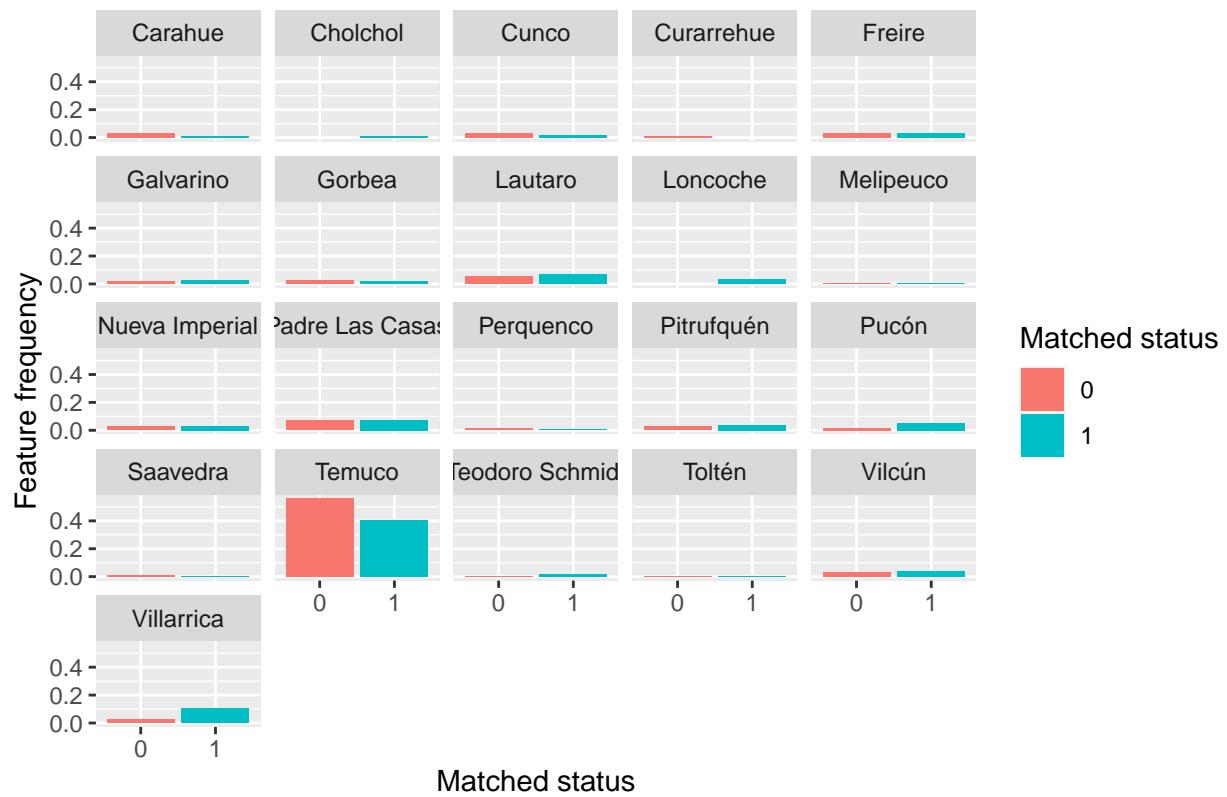
```

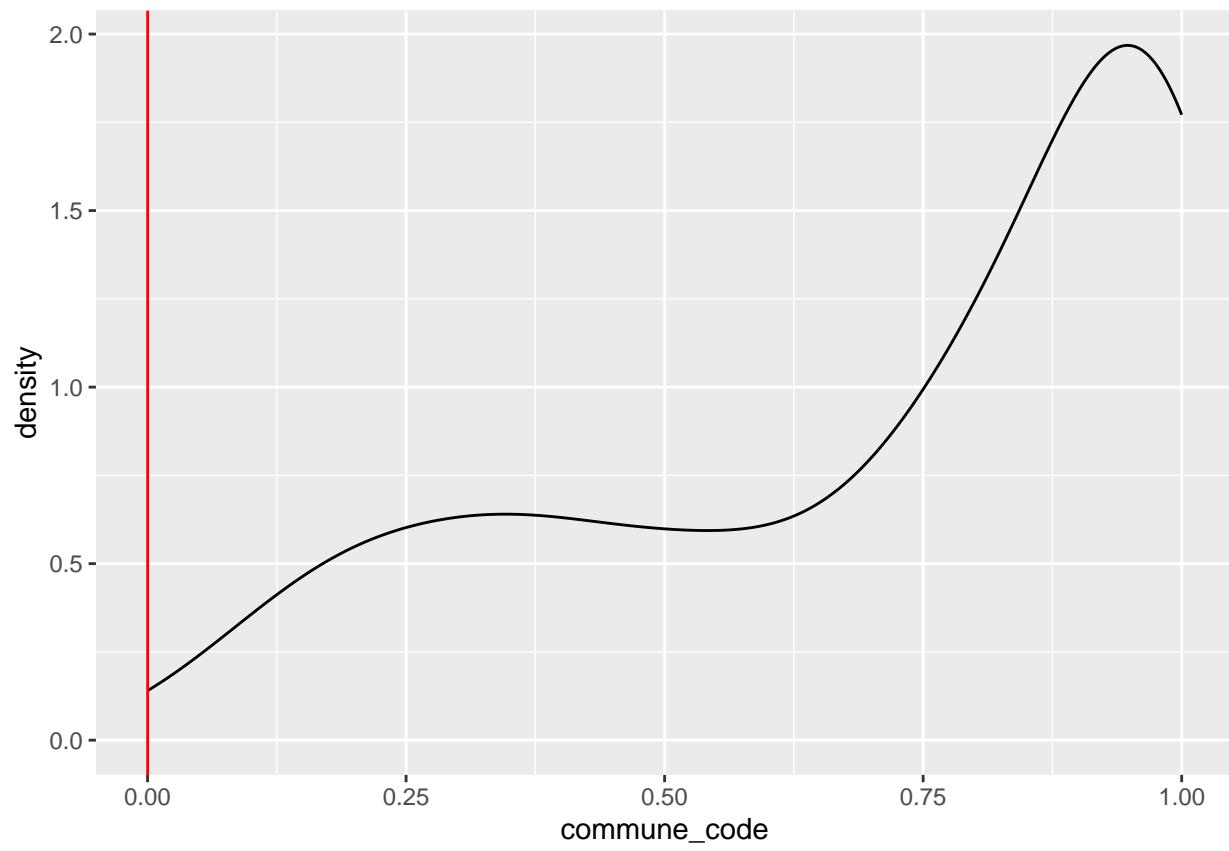
Matching of school record to clinical record by sex



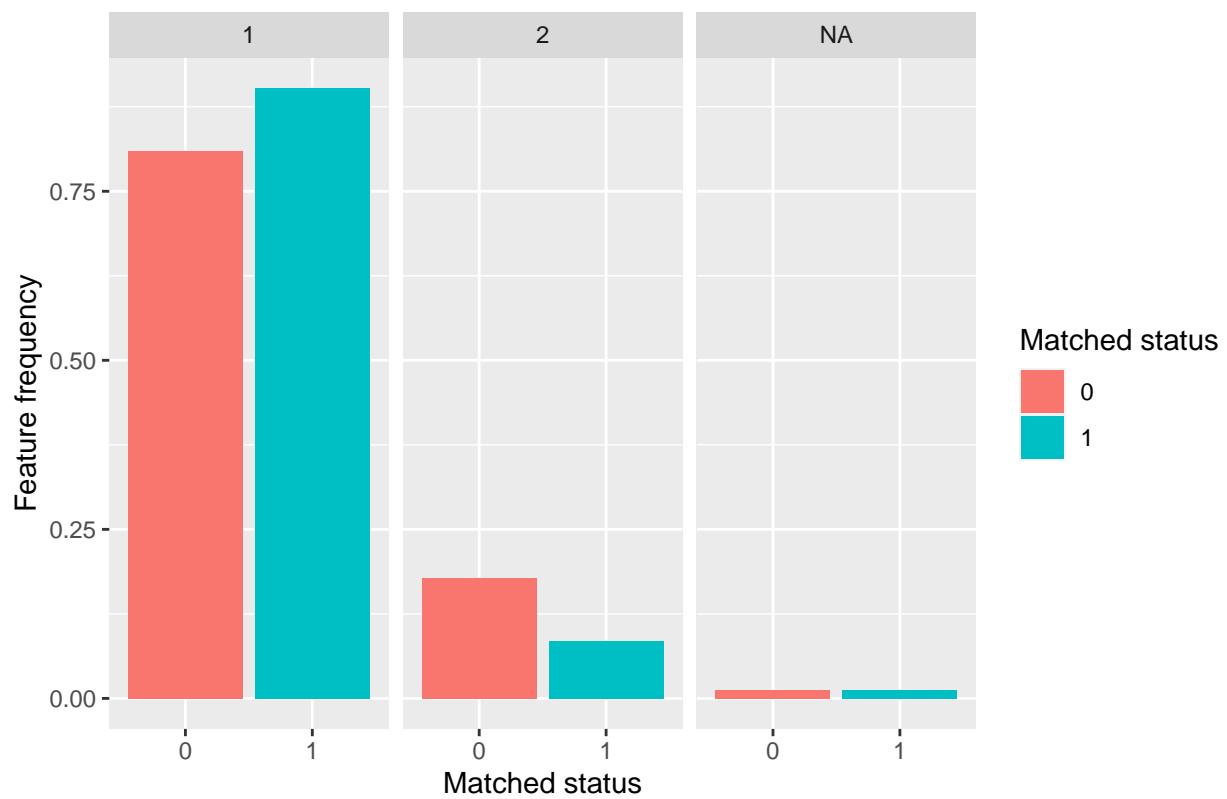


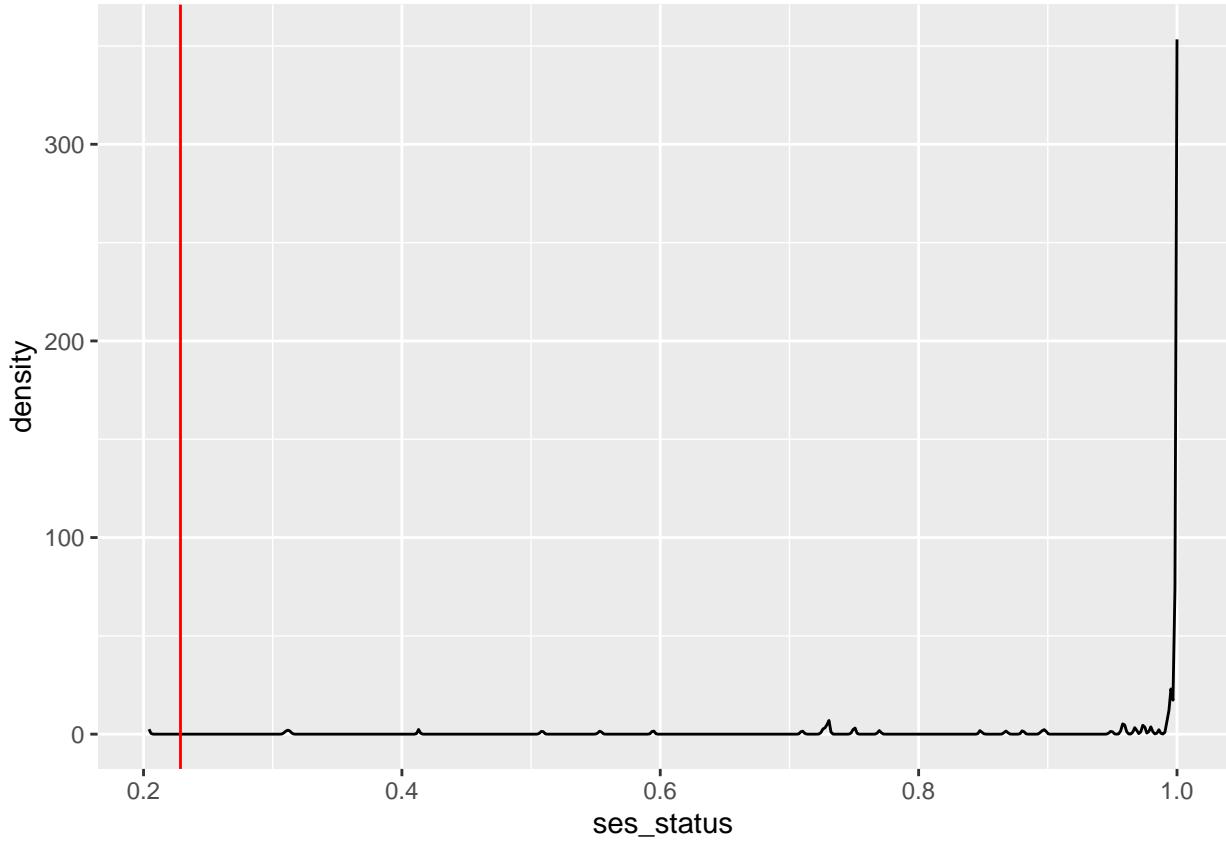
Matching of school record to clinical record by commune





Matching of school record to clinical record by SES status





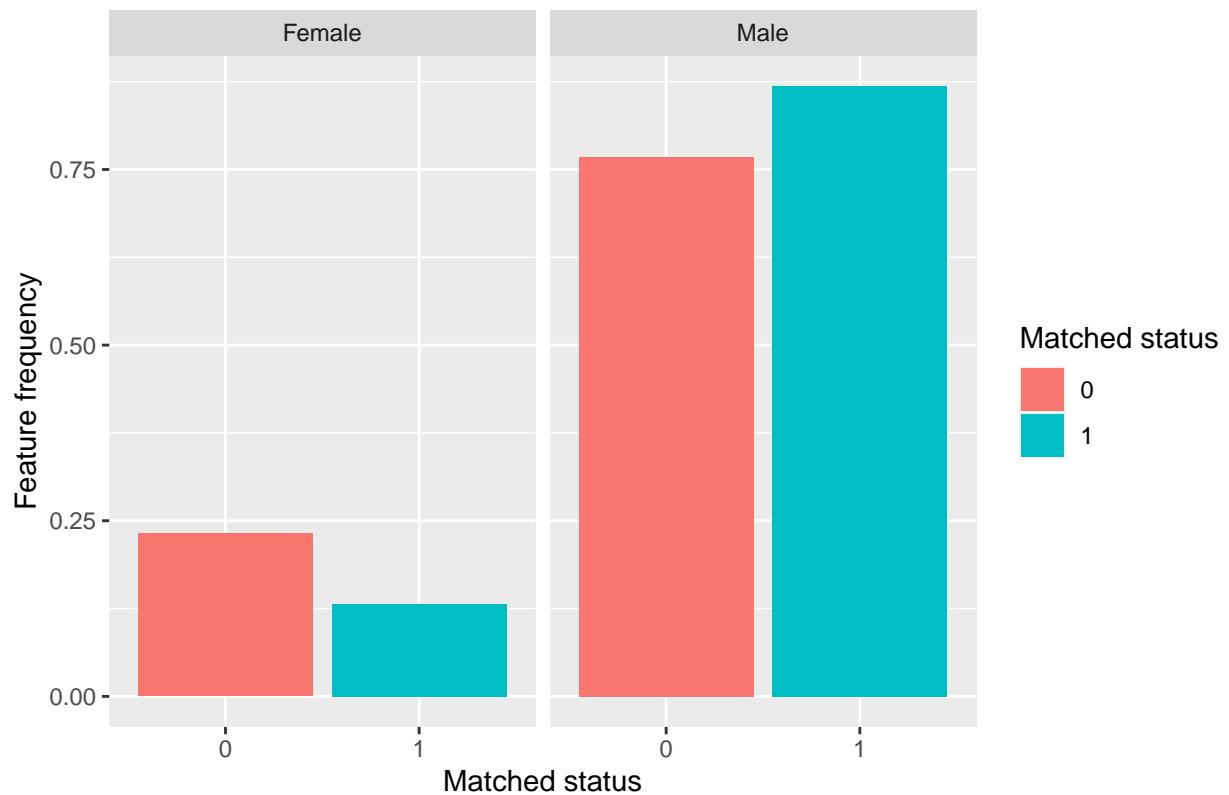
Bit easier to match SES status of 1 (probably more common)

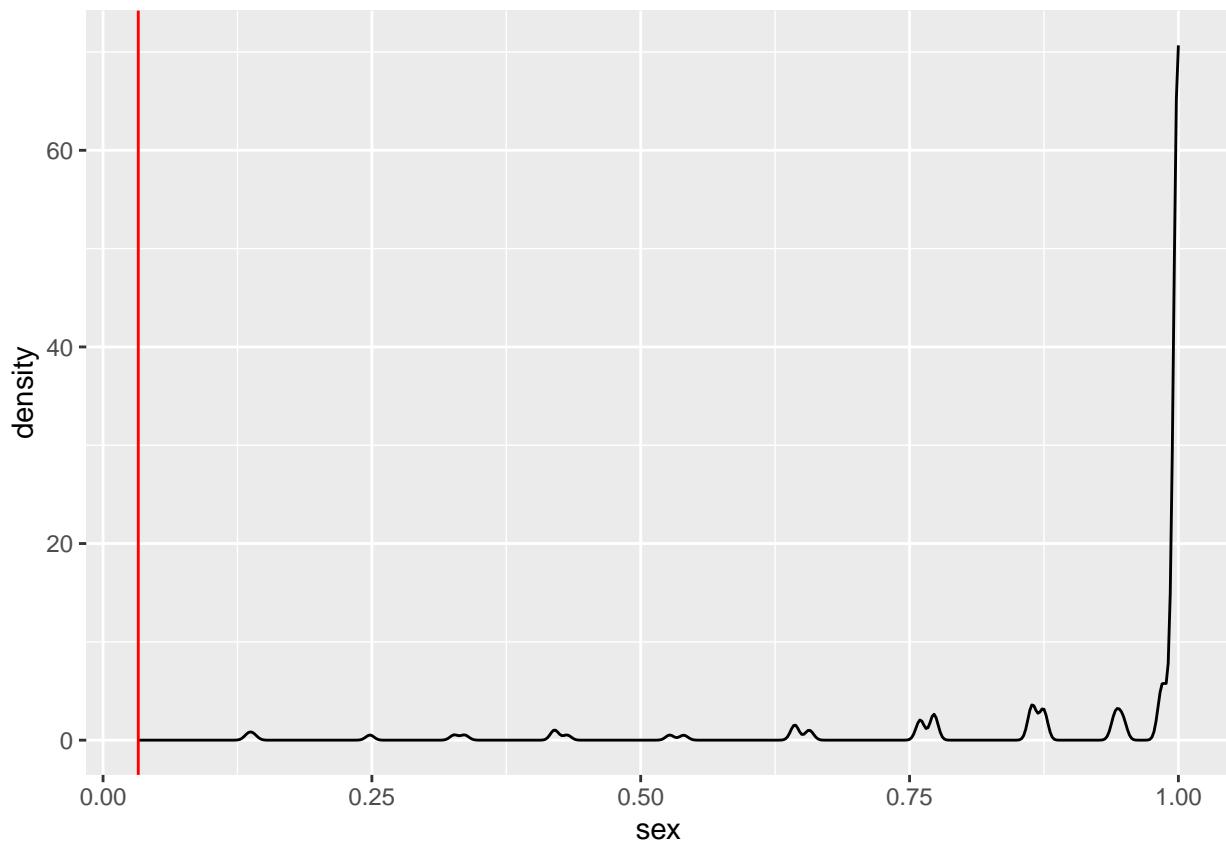
Our matched/non-matched are not different by sex (p-value in Kolmog is same as most of distribution of permuted pvals) but are different by commune and ses status. Cohen's D test isn't suitable to compare the matched and un-matched because the data don't have standard deviations.

??Add commune maps here with size of sample for school and clinical?? Also size of other features.

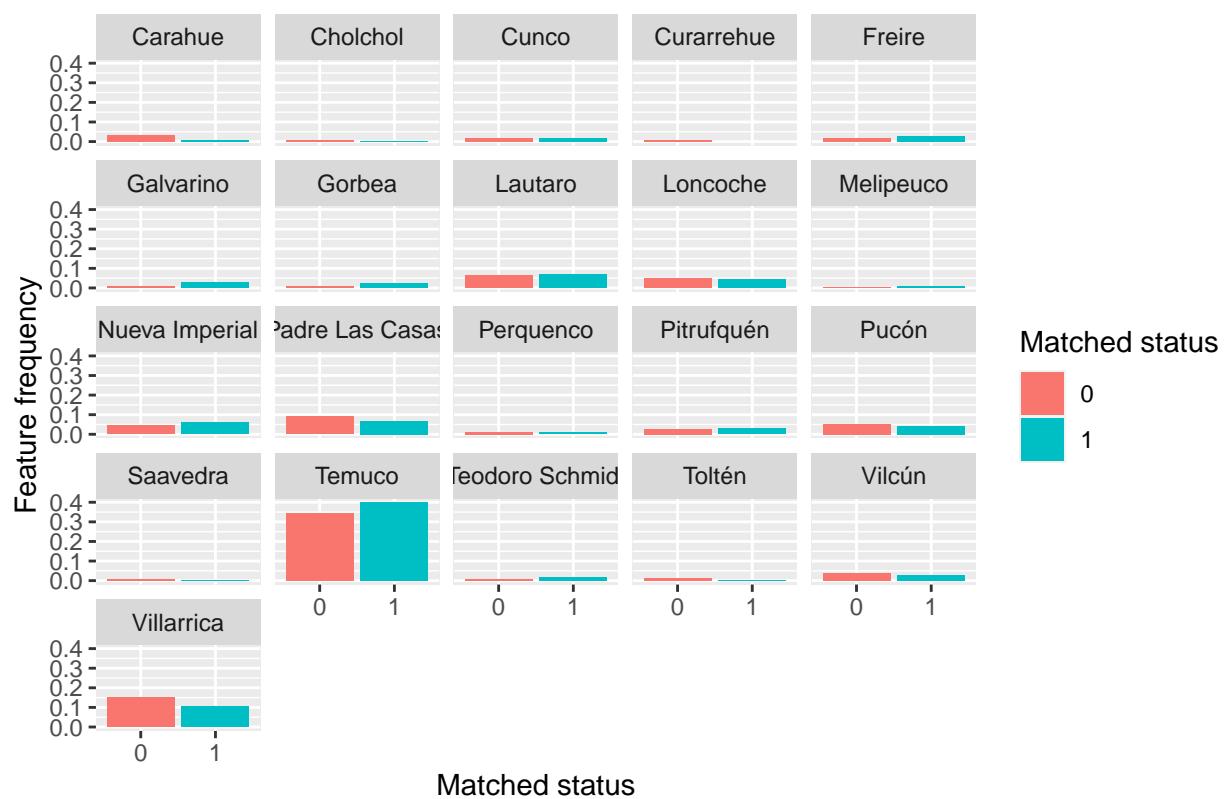
```
##  
## Two-sample Kolmogorov-Smirnov test  
##  
## data: na.omit(patients_yes$sex.patient) and na.omit(patients_no$sex.patient)  
## D = 0.10057, p-value = 0.03276  
## alternative hypothesis: two-sided  
  
##  
## Two-sample Kolmogorov-Smirnov test  
##  
## data: as.numeric(na.omit(patients_yes$ses_status.patient)) and as.numeric(na.omit(patients_no$ses_s  
## D = 0.067733, p-value = 0.3086  
## alternative hypothesis: two-sided  
  
##  
## Two-sample Kolmogorov-Smirnov test  
##  
## data: as.numeric(na.omit(patients_yes$commune_code)) and as.numeric(na.omit(patients_no$commune_code))  
## D = 0.084804, p-value = 0.1074  
## alternative hypothesis: two-sided
```

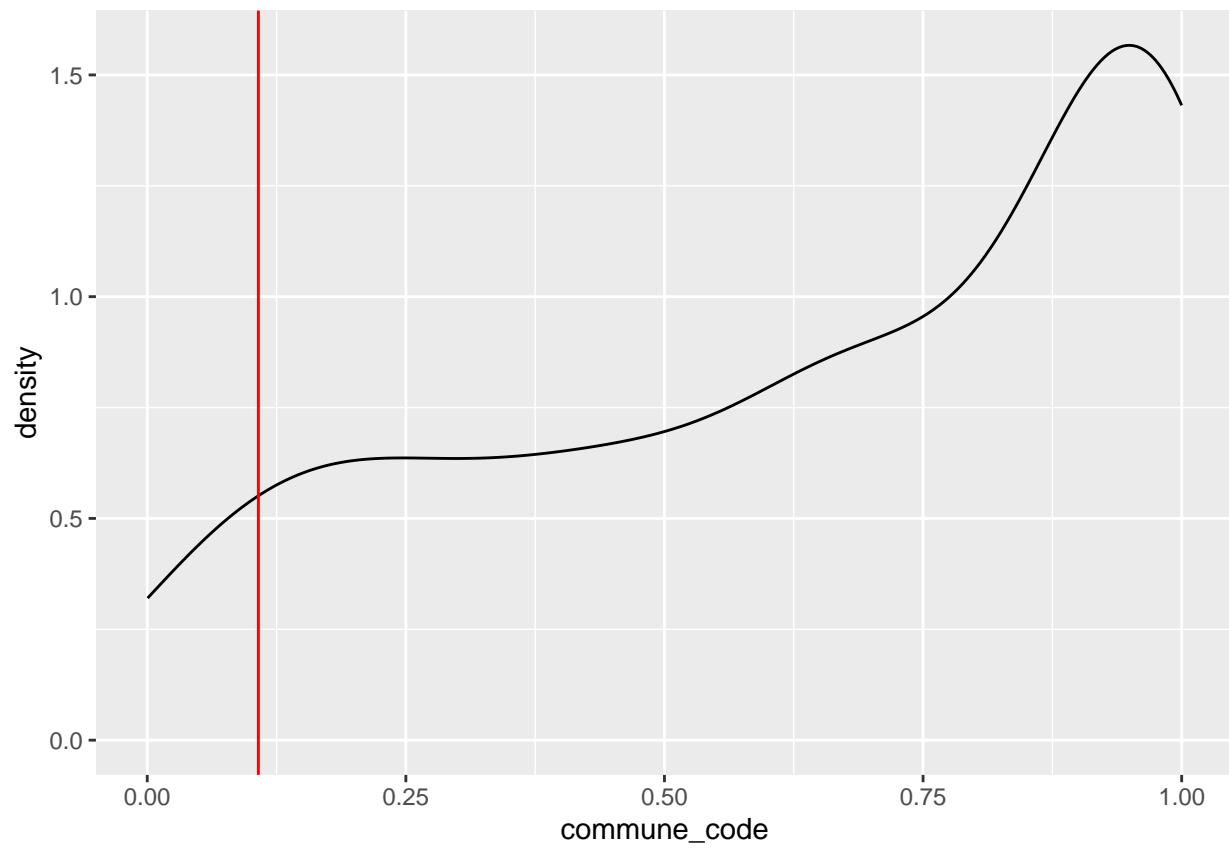
Matching of clinical record to school record by sex



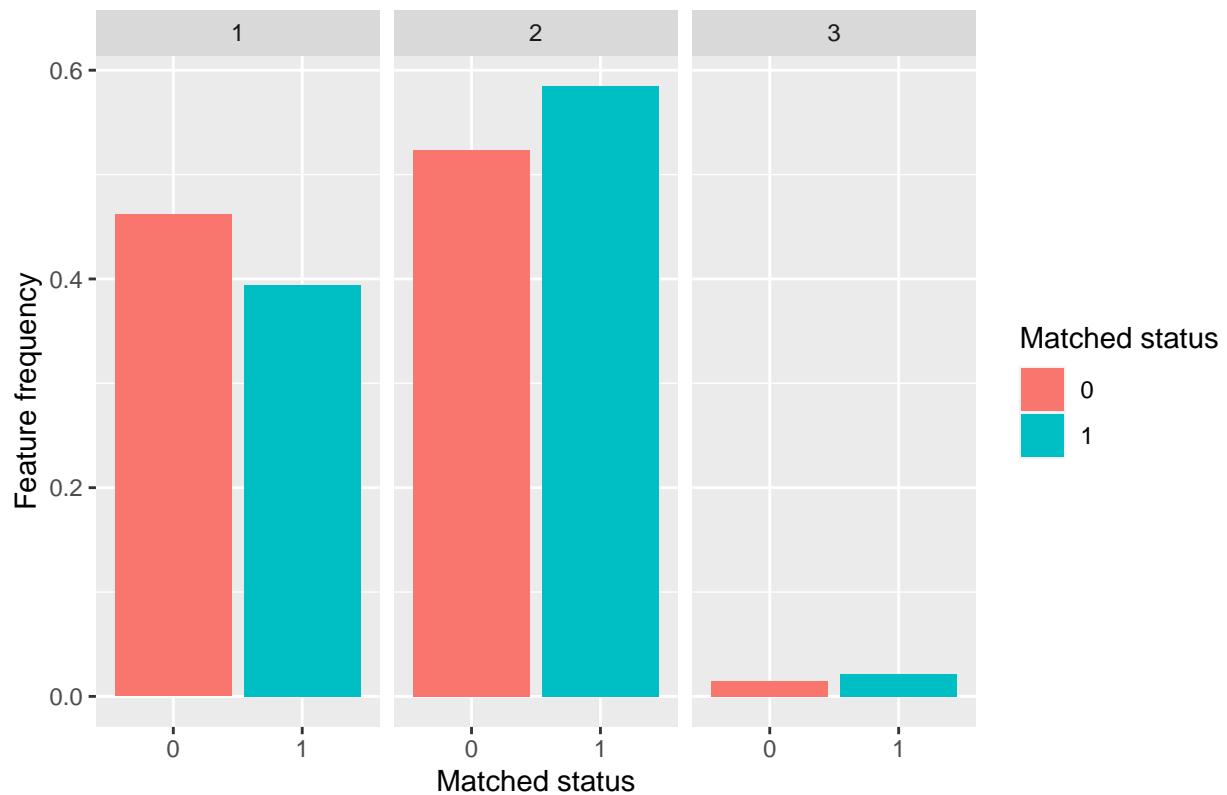


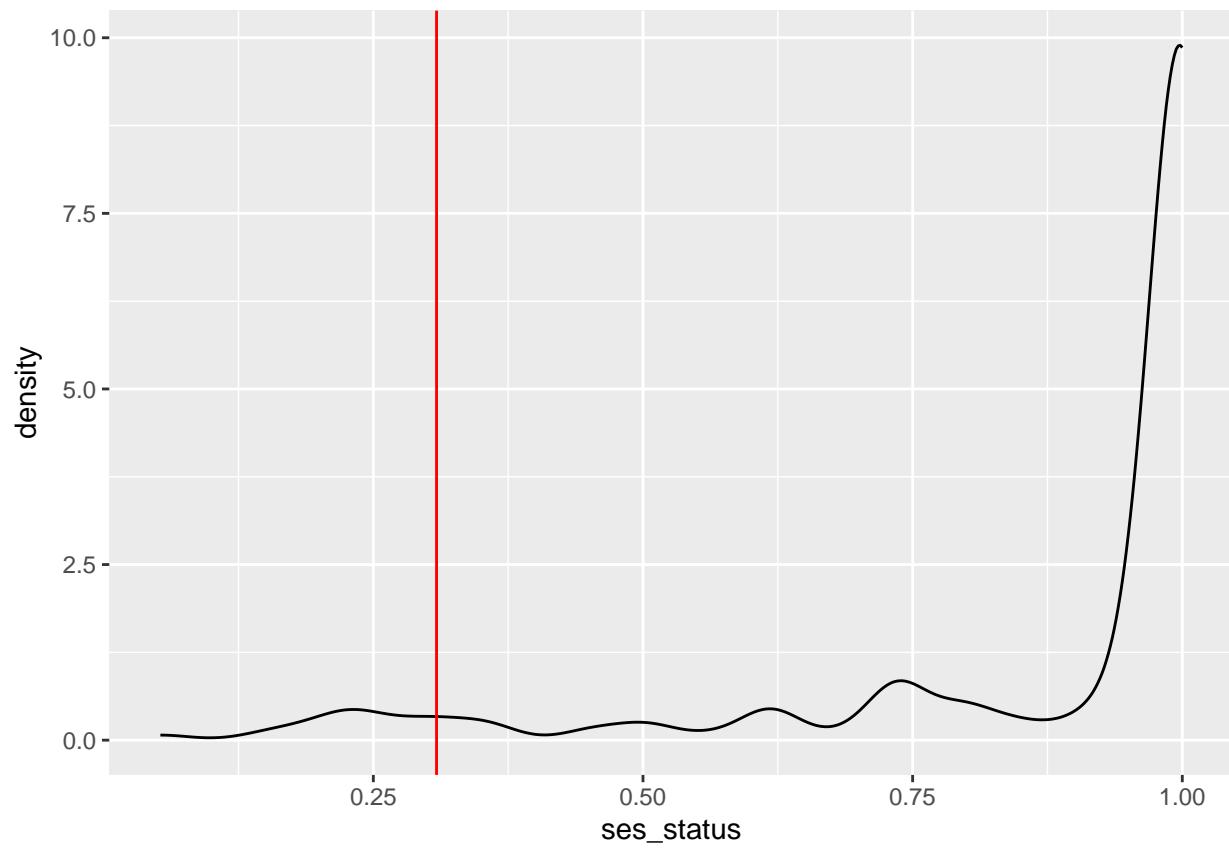
Matching of clinical record to school record by commune





Matching of clinical record to school record by SES status



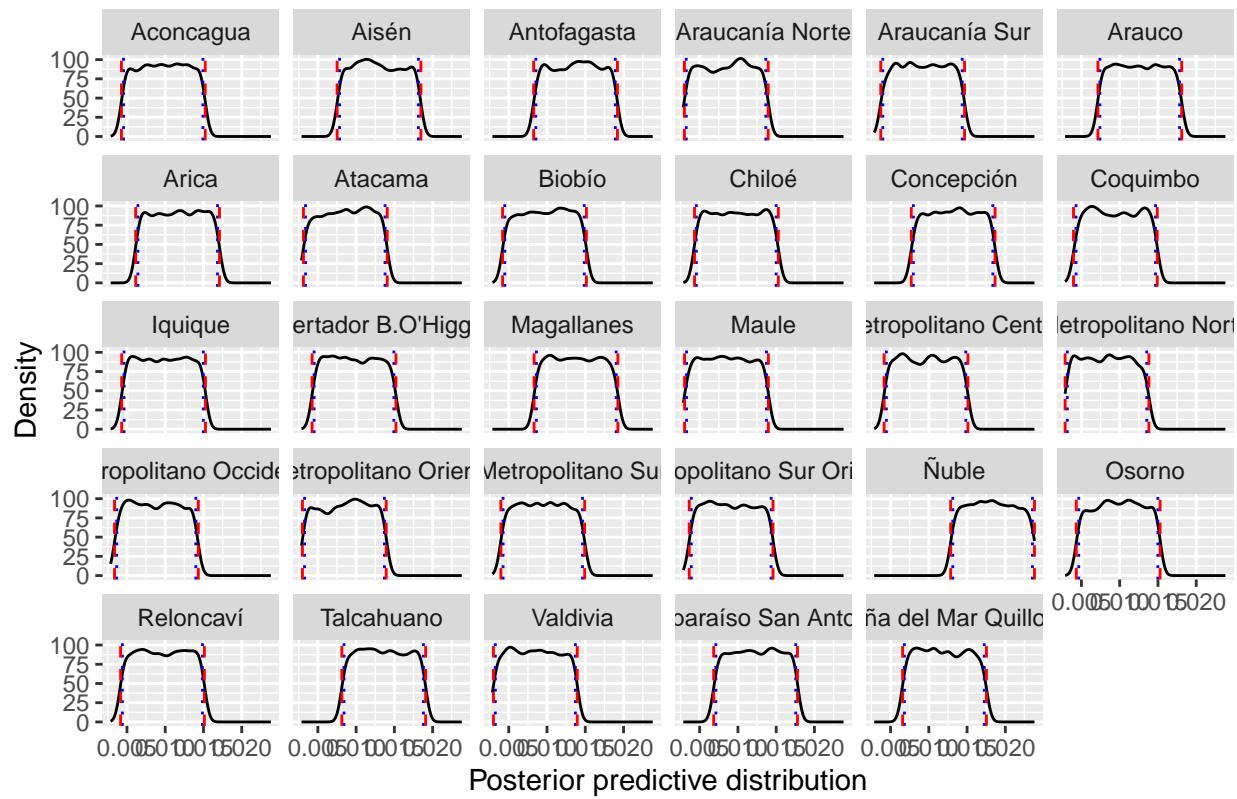


TODO - comment on whether any of the matched patients had only intellectual disability and not autism.

5.5.3 Prev delta

5.6 Bayesian prevalence projection

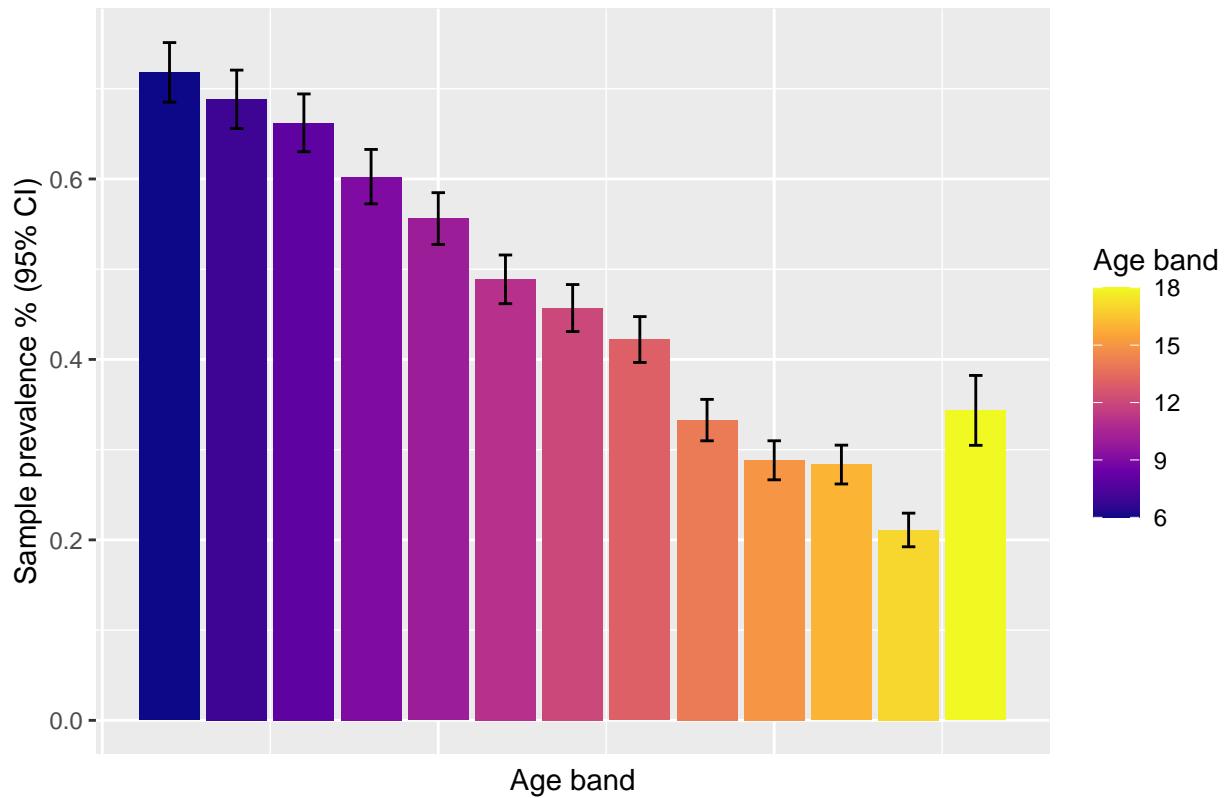
Region specific priors informed by clinical data from Araucanía Sur



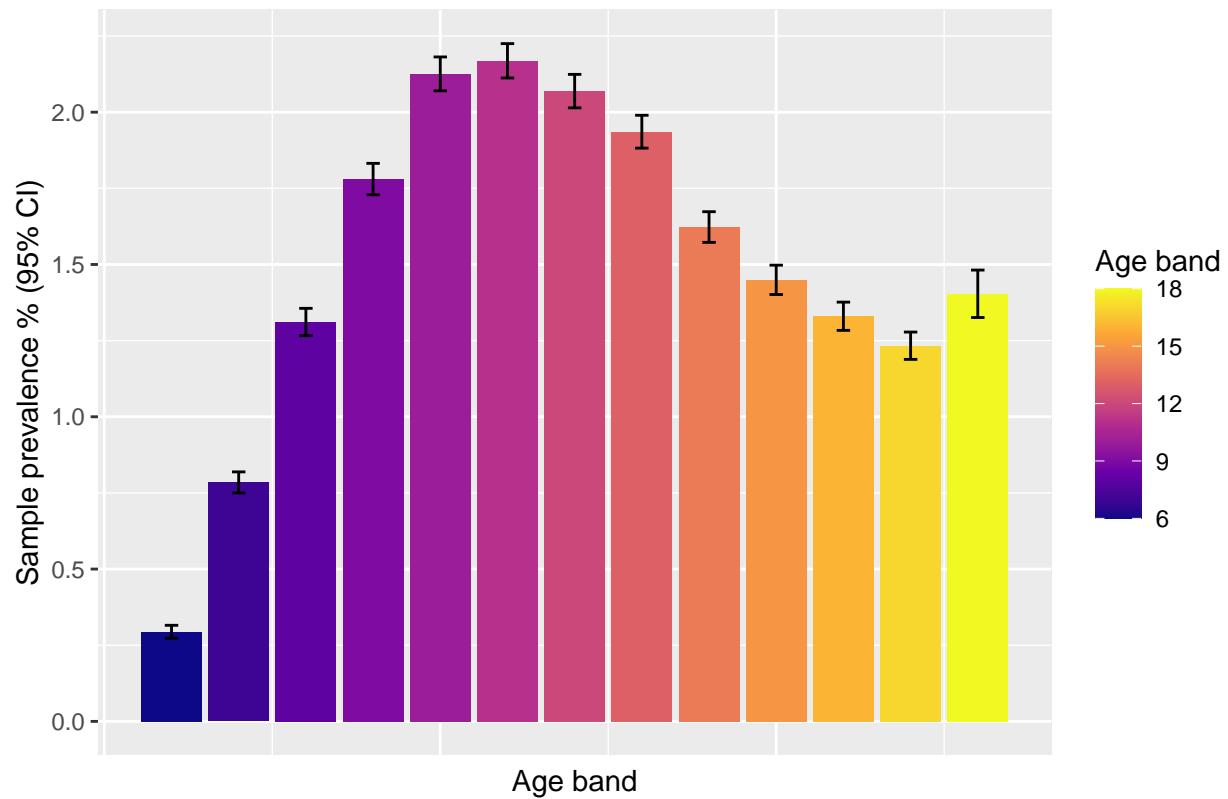
Red is the prior 95% CI (adjusted sample rate and it + prev_delta), blue is posterior 95% CrI

6 Supplementary materials

Autism prevalence



ADHD prevalence



6.1 Bayesian prevalence estimation

6.1.1 Random effect on sex

6.1.2 Random effect on health service

6.1.3 Random effect on commune in Araucanía Sur health service

6.1.4 Random effect on socio-economic status

6.1.5 Random effect on ethnicity

6.1.6 Random effect on school's rurality

6.2 AraucS prevalence

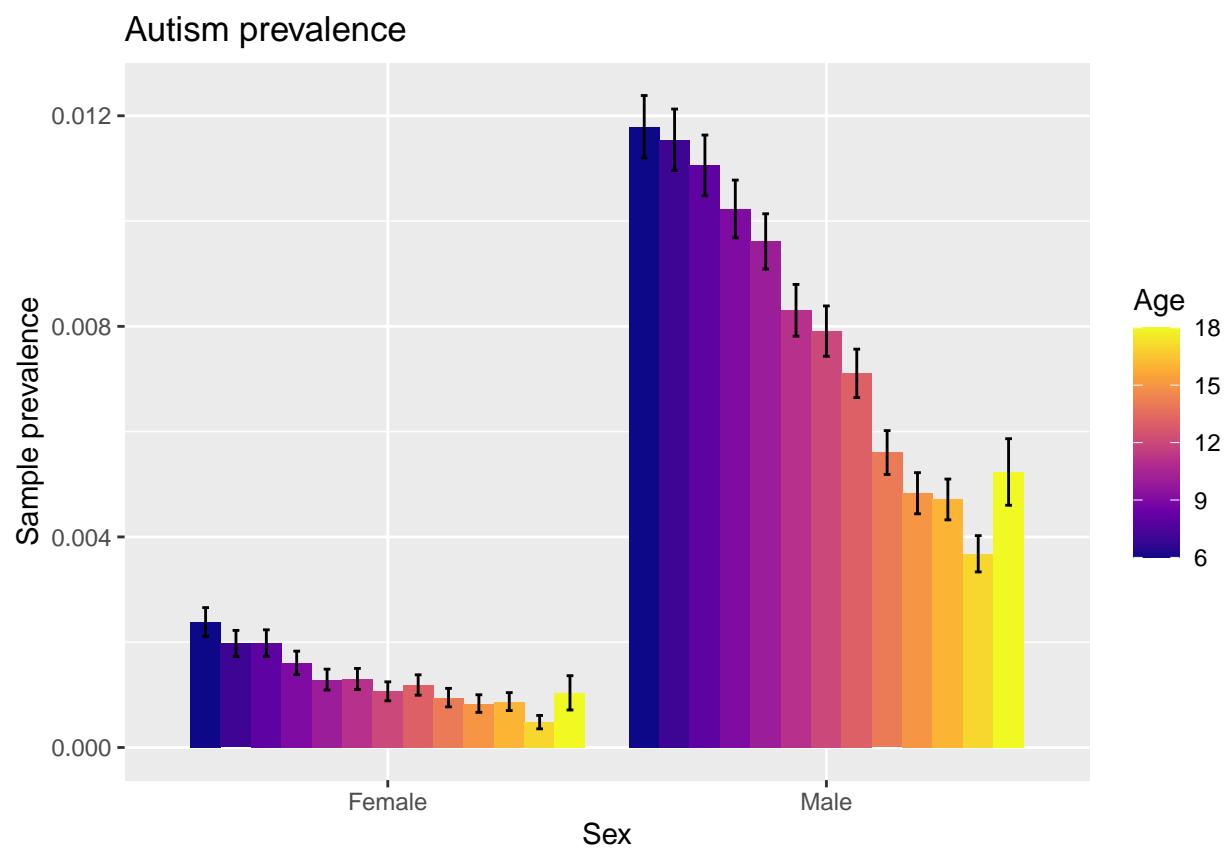


Figure 22: Sample prevalence of autism by age and sex. Bars show 95% normal confidence intervals.

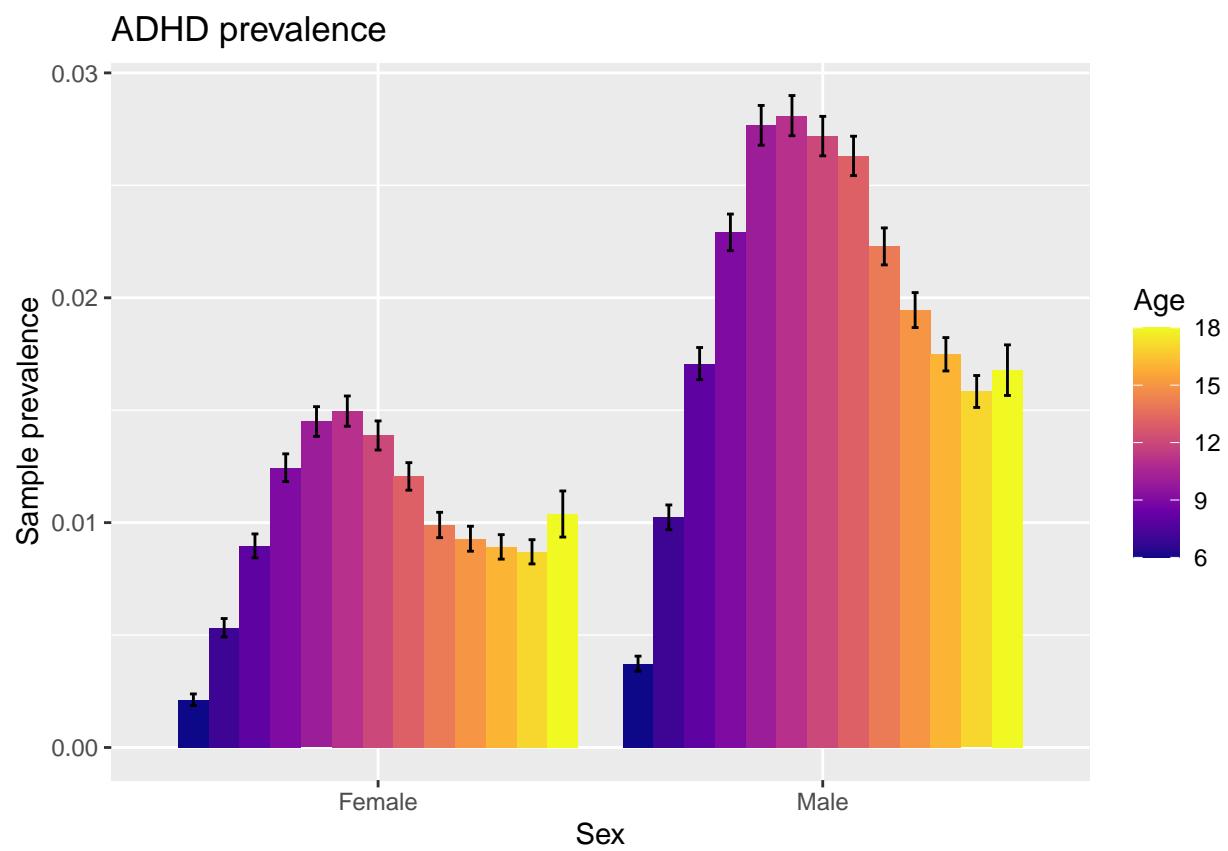


Figure 23: Sample prevalence of ADHD by age and sex. Bars show 95% normal confidence intervals.

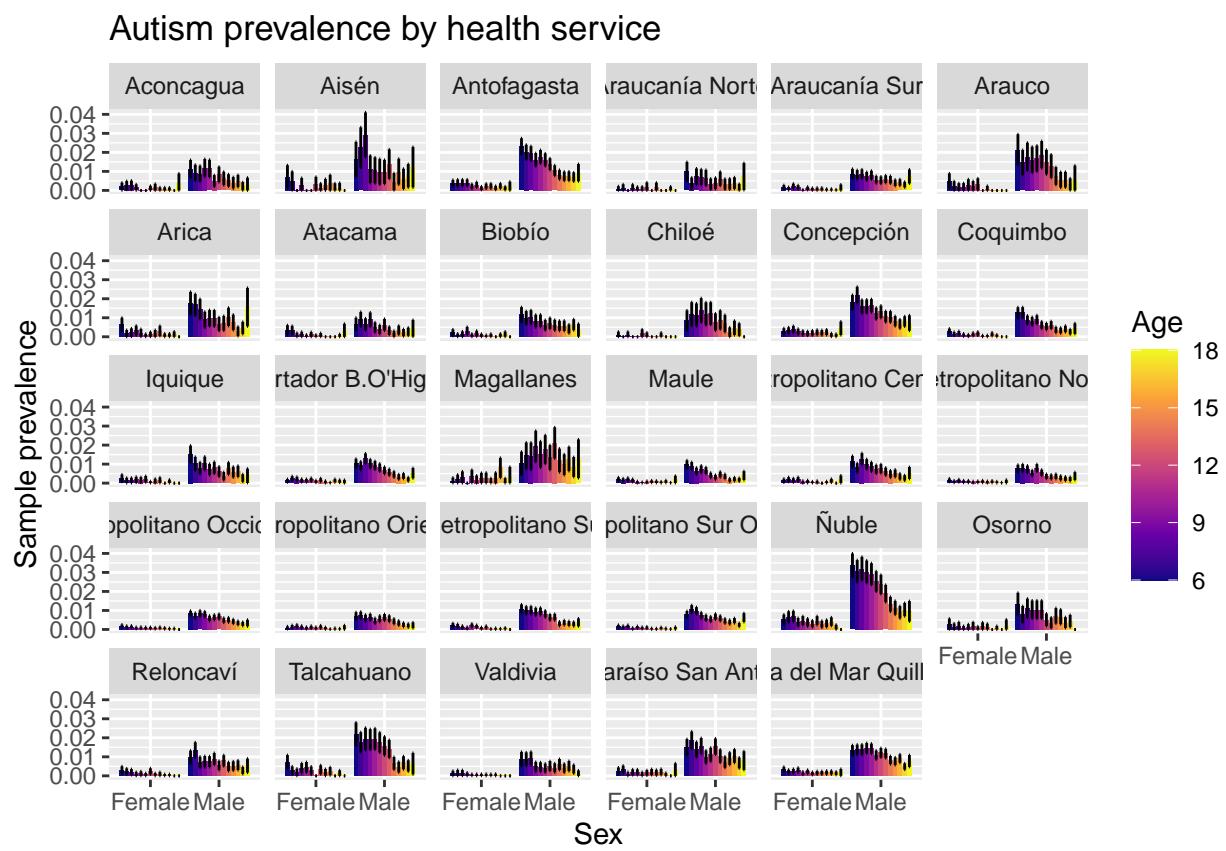


Figure 24: Sample prevalence of autism by health service, age and sex. Bars show 95% normal confidence intervals.

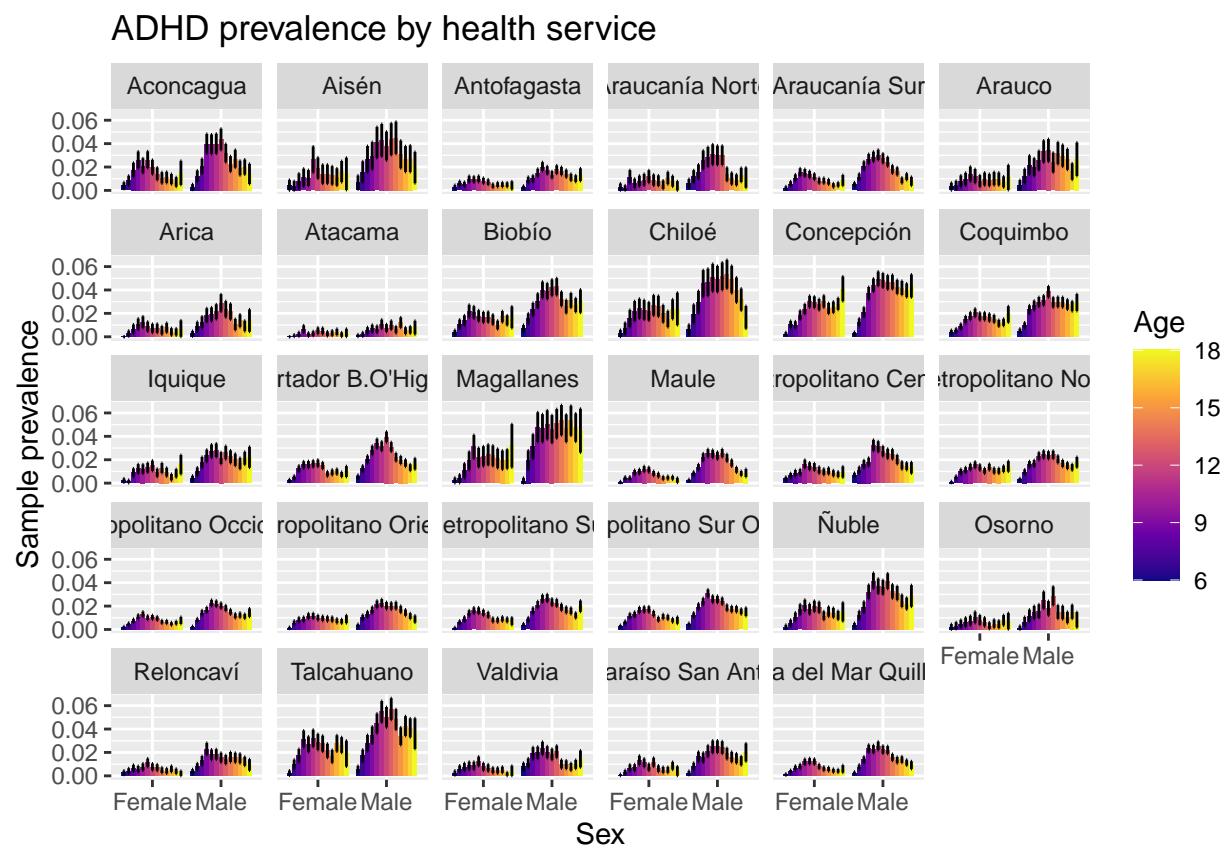


Figure 25: Sample prevalence of ADHD by health service, age and sex. Bars show 95% normal confidence intervals.

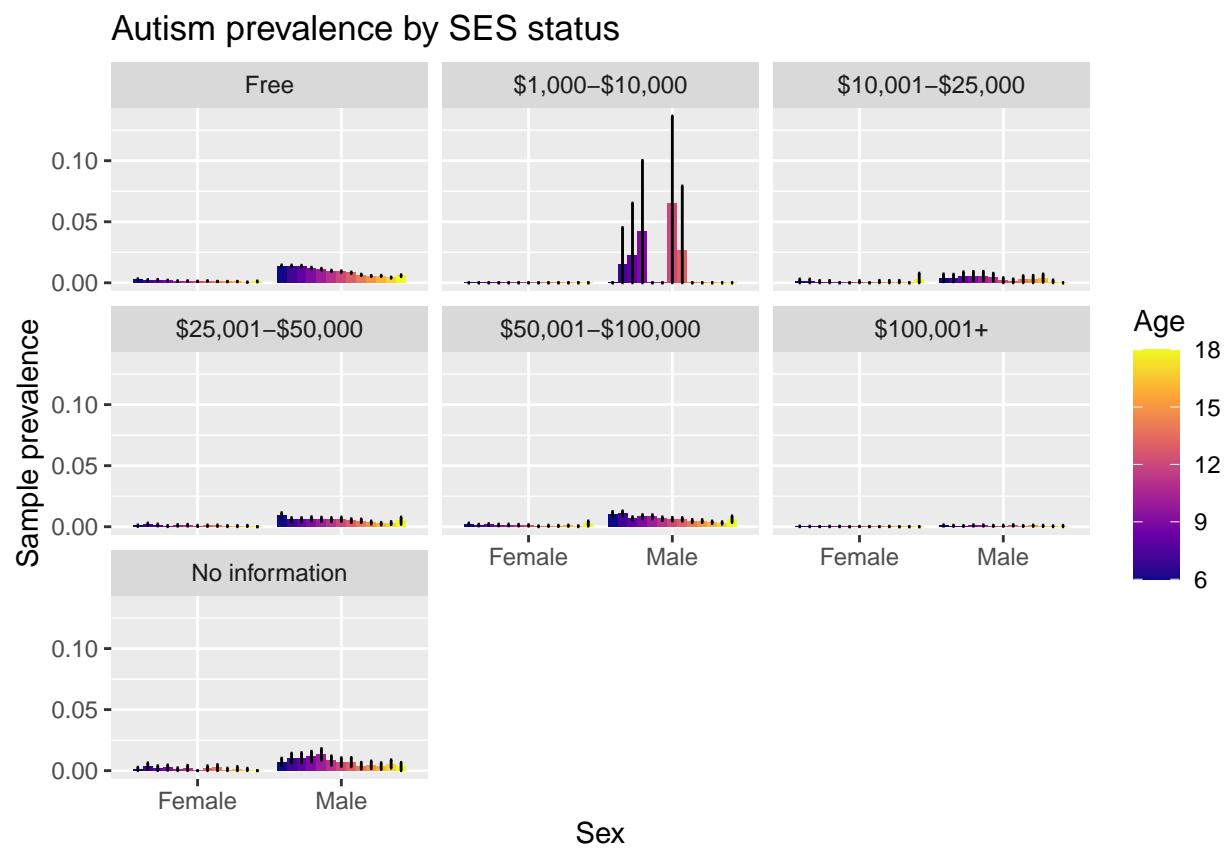


Figure 26: Sample prevalence of autism by socio-economic (SES) status of student's family, age and sex. Bars show 95% normal confidence intervals.

ADHD prevalence by SES status

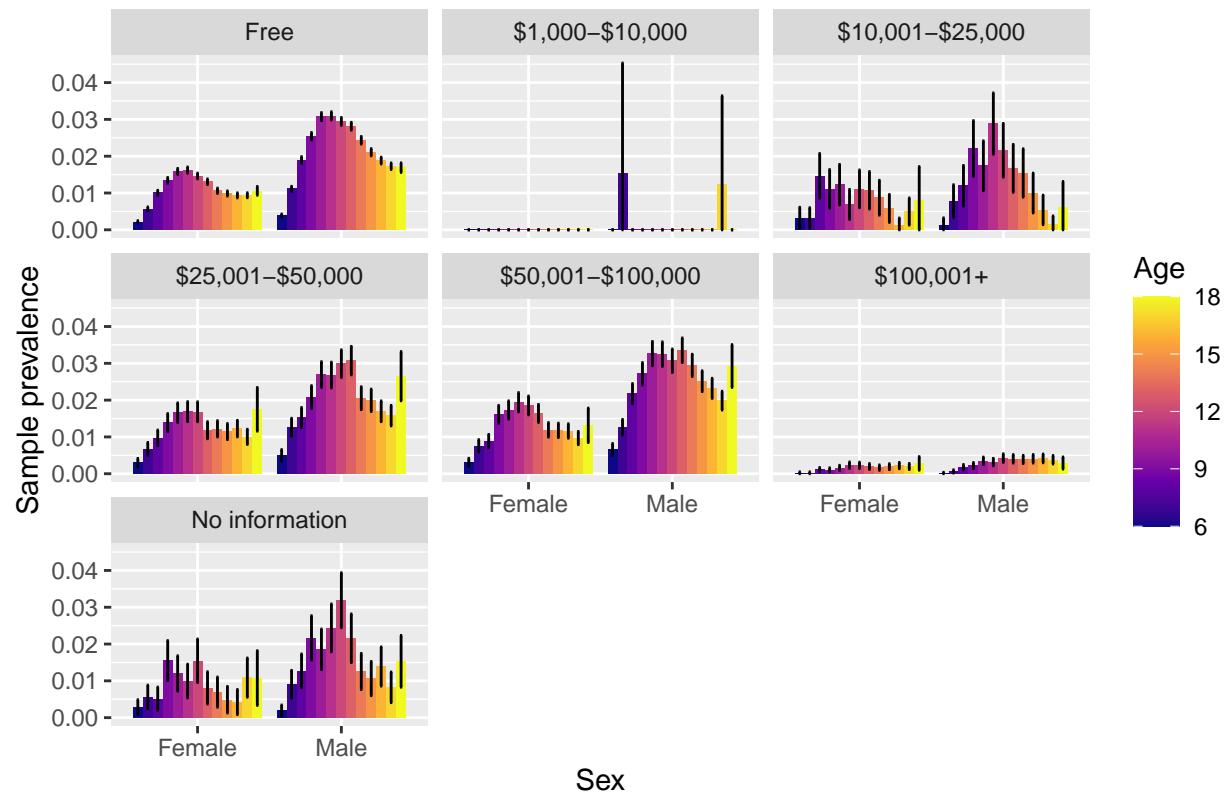


Figure 27: Sample prevalence of ADHD by socio-economic (SES) status of student's family, age and sex. Bars show 95% normal confidence intervals.

Autism prevalence by ethnicity

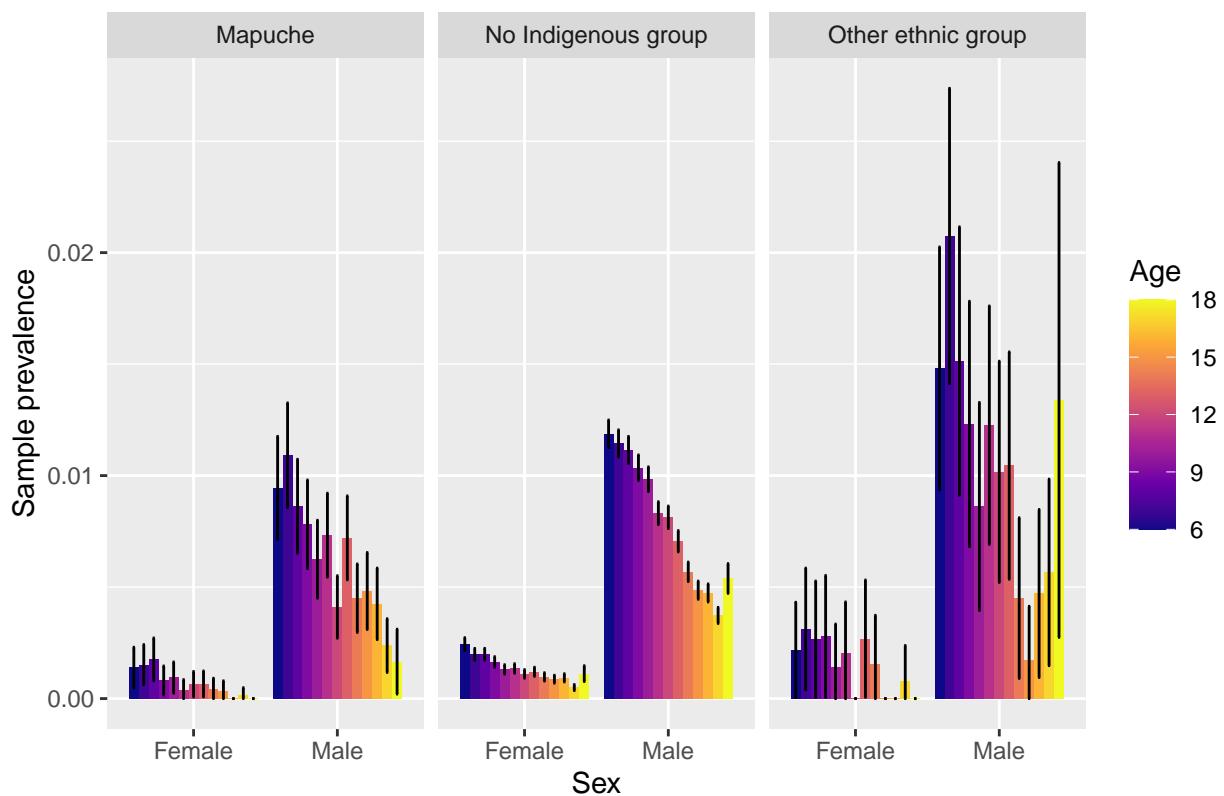


Figure 28: Sample prevalence of autism by ethnicity, age and sex. Bars show 95% normal confidence intervals.

ADHD prevalence by ethnicity

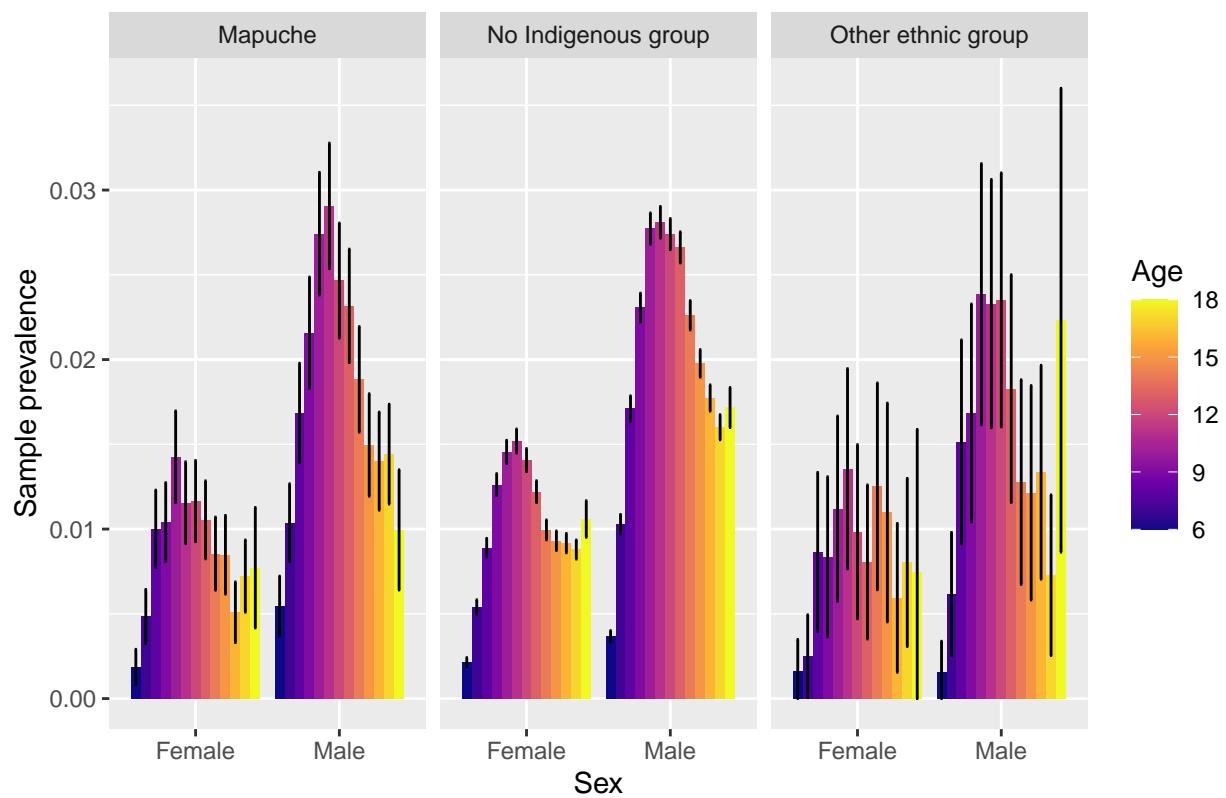


Figure 29: Sample prevalence of ADHD by ethnicity, age and sex. Bars show 95% normal confidence intervals.

Autism prevalence by school's rurality

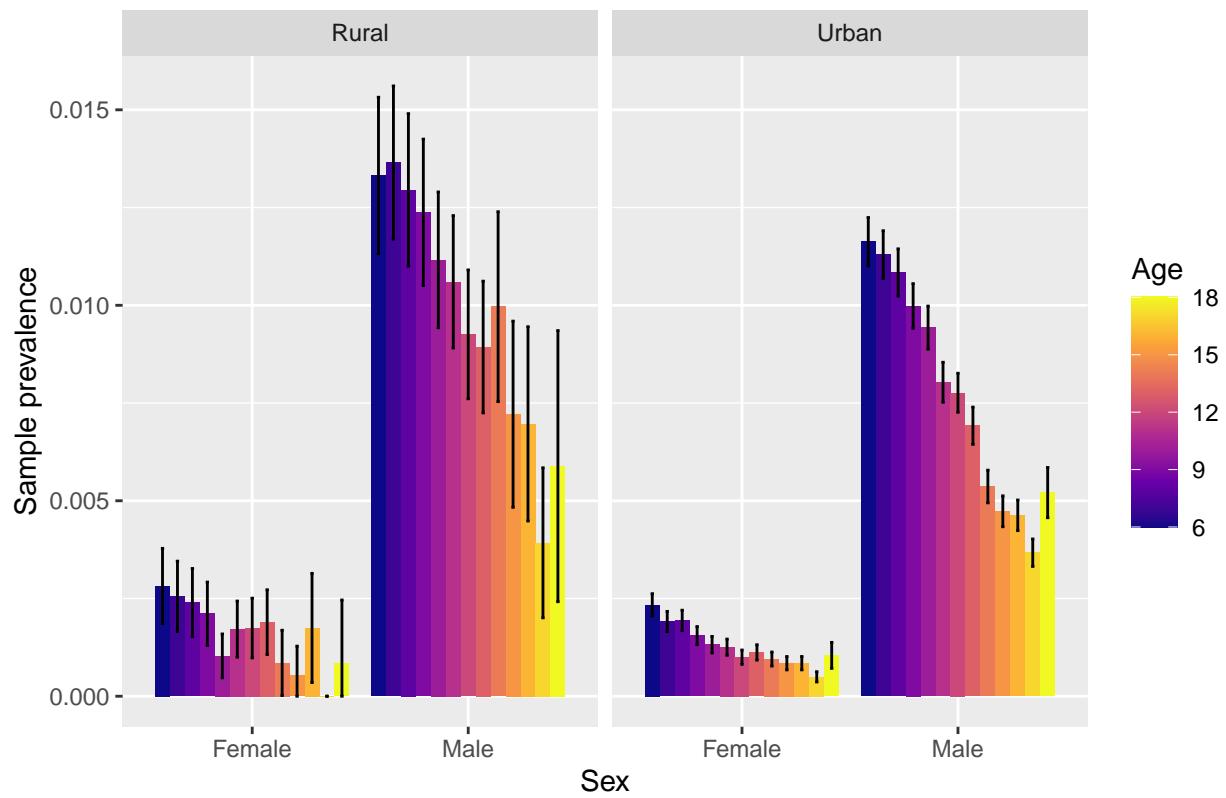


Figure 30: Sample prevalence of autism by school's rurality, age and sex. Bars show 95% normal confidence intervals.

ADHD prevalence by school's rurality

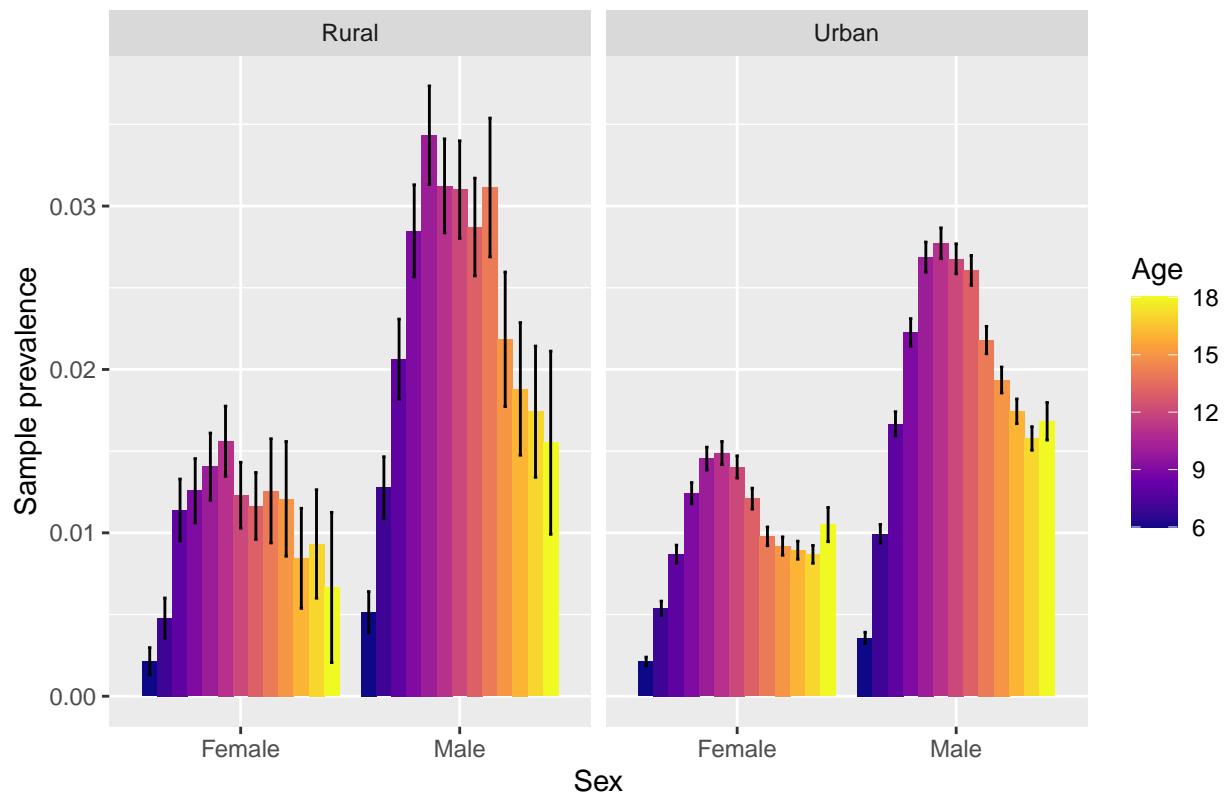


Figure 31: Sample prevalence of ADHD by school's rurality, age and sex. Bars show 95% normal confidence intervals.

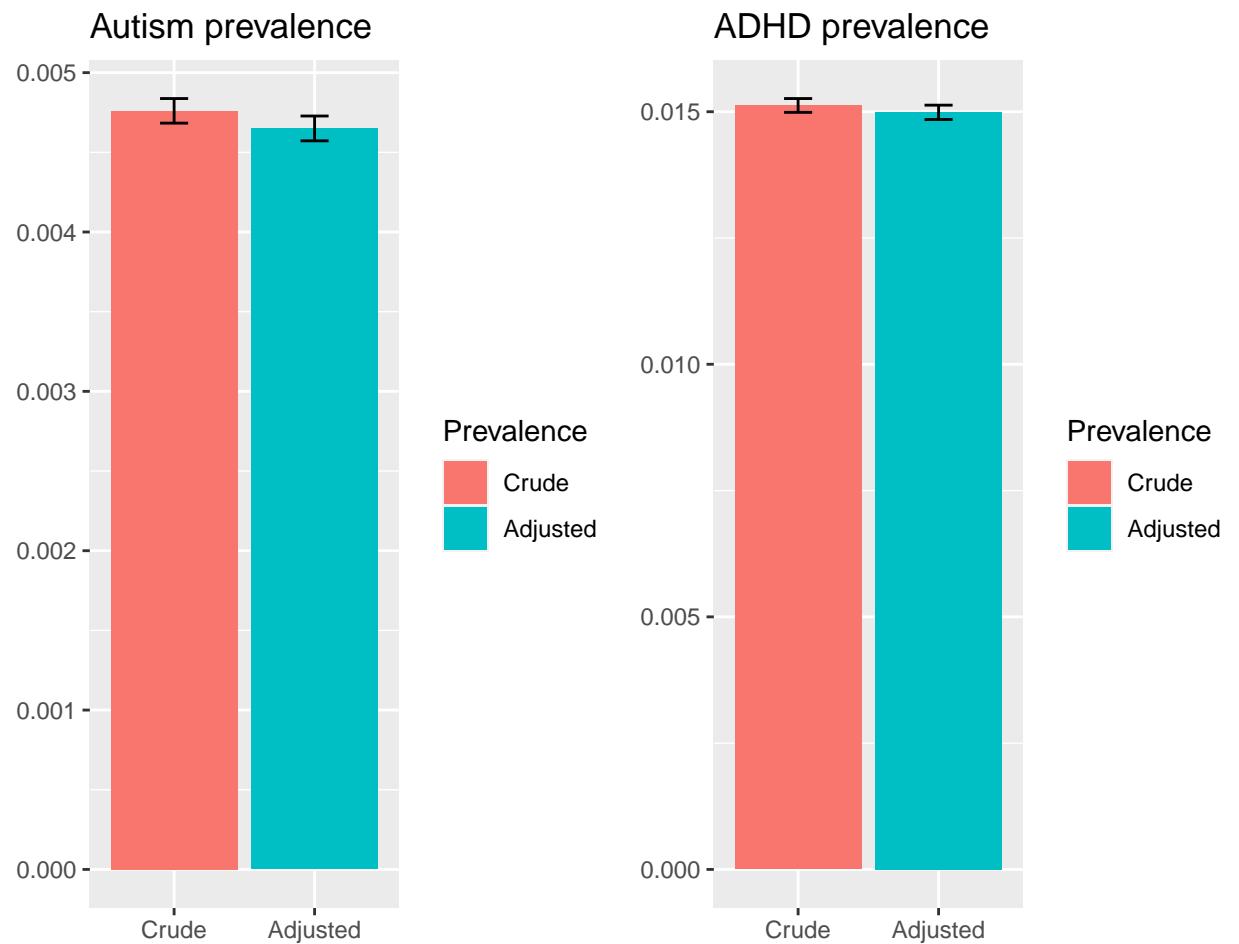


Figure 32: Crude and age- and sex-adjusted sample prevalences of autism and ADHD. Bars for crude prevalence show 95% normal confidence intervals and bars for adjusted prevalence show 95% gamma confidence intervals.

Autism prevalence, prior mean = 0.00465, prior sd = 3.98e-05

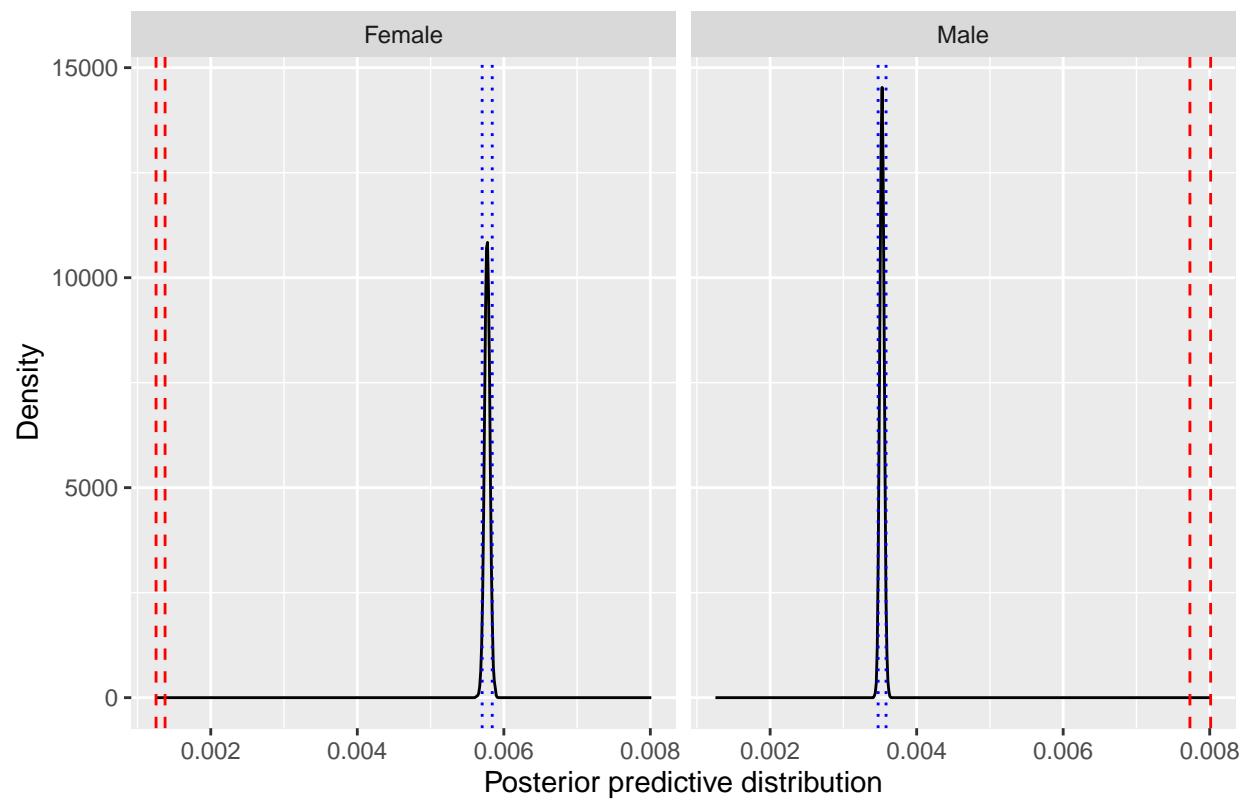


Figure 33: Posterior predictive distribution for autism with a random effect on sex, and with age- and sex-adjusted global prevalence prior.

ADHD prevalence, prior mean = 0.015, prior sd = 7.25e-05

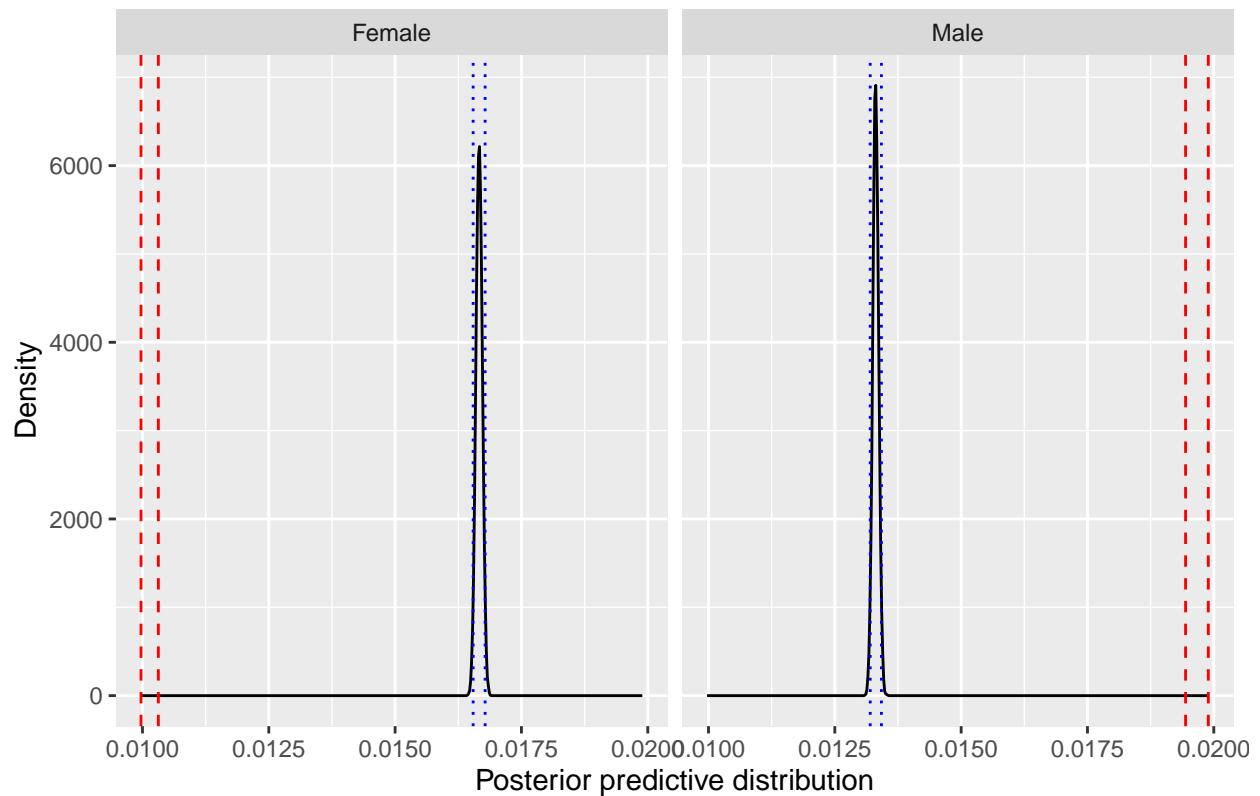


Figure 34: Posterior predictive distribution for ADHD with a random effect on sex, and with age- and sex-adjusted global prevalence prior.

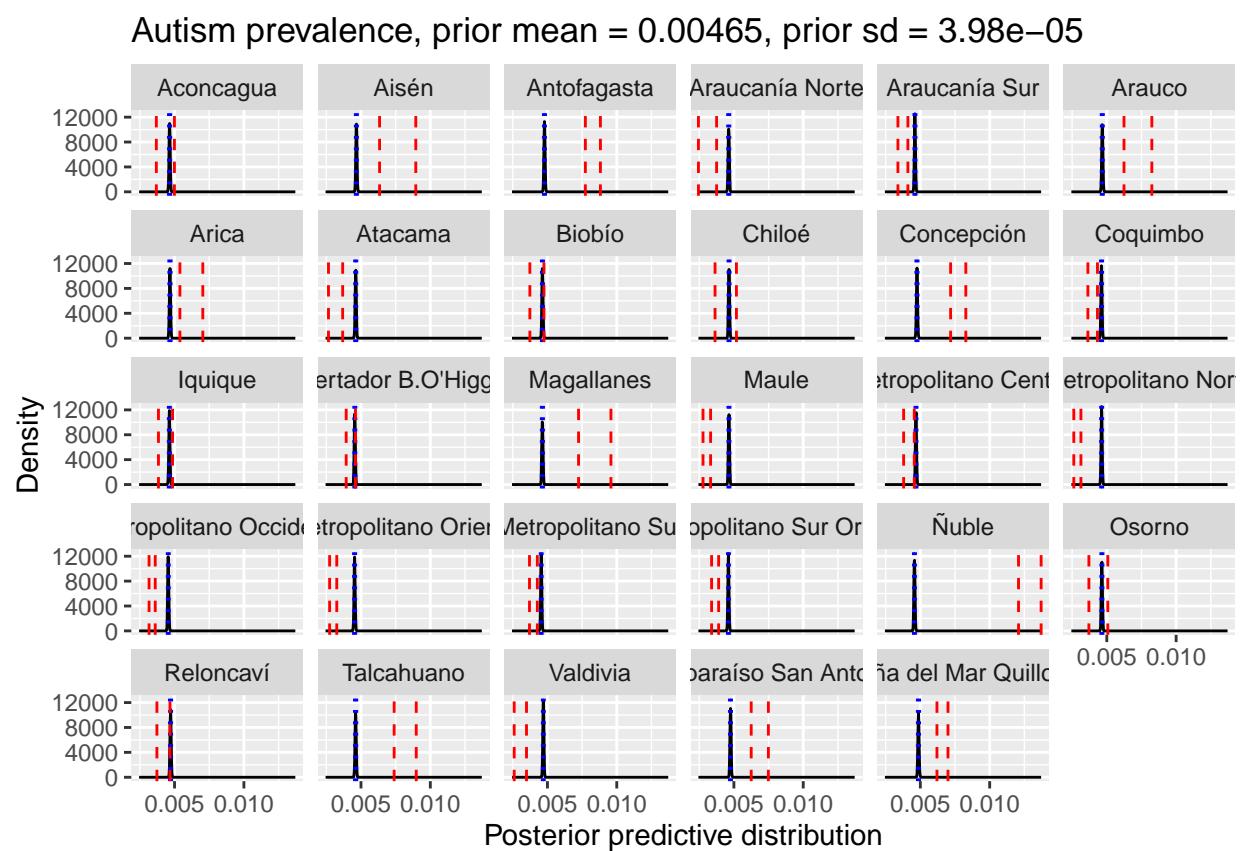


Figure 35: Posterior predictive distribution for autism with a random effect on student's health service, and with age- and sex-adjusted global prevalence prior.

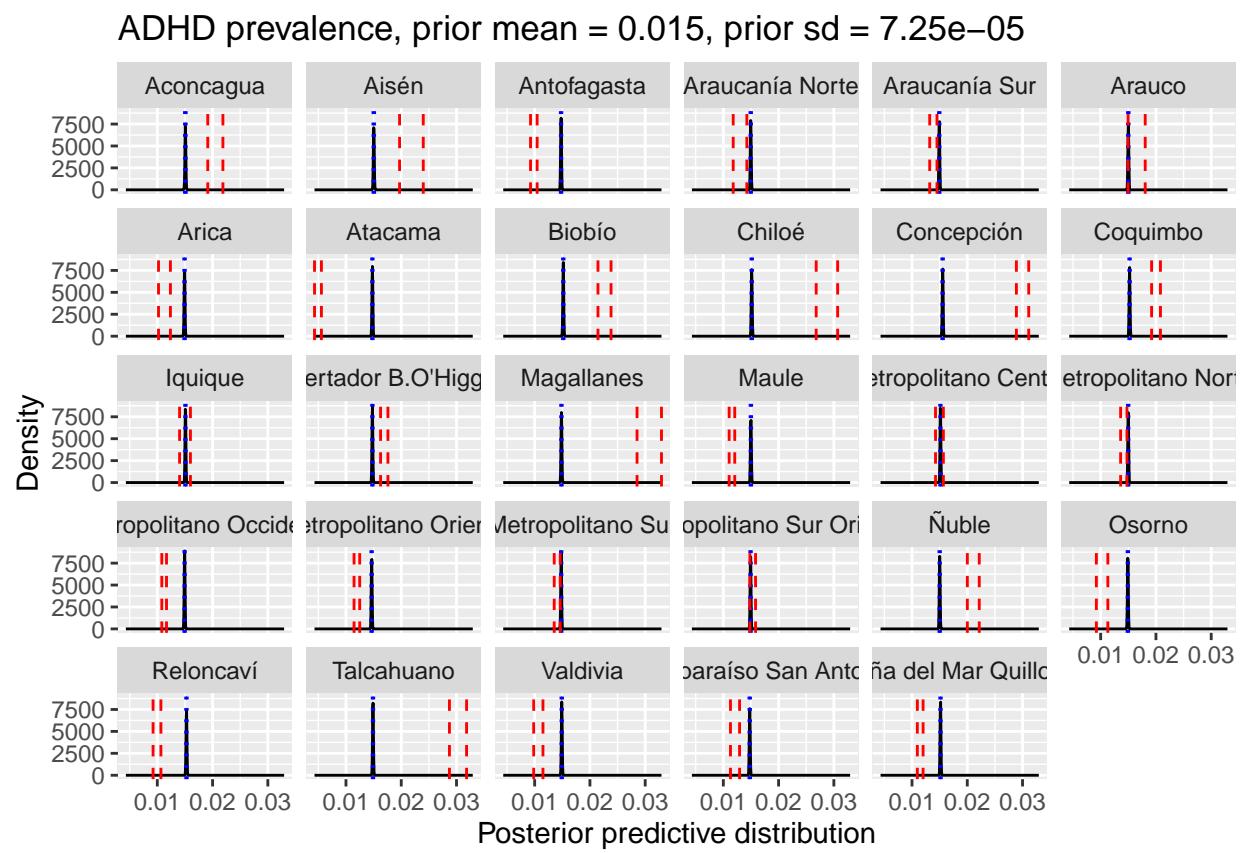


Figure 36: Posterior predictive distribution for ADHD with a random effect on health service, and with age- and sex-adjusted global prevalence prior.

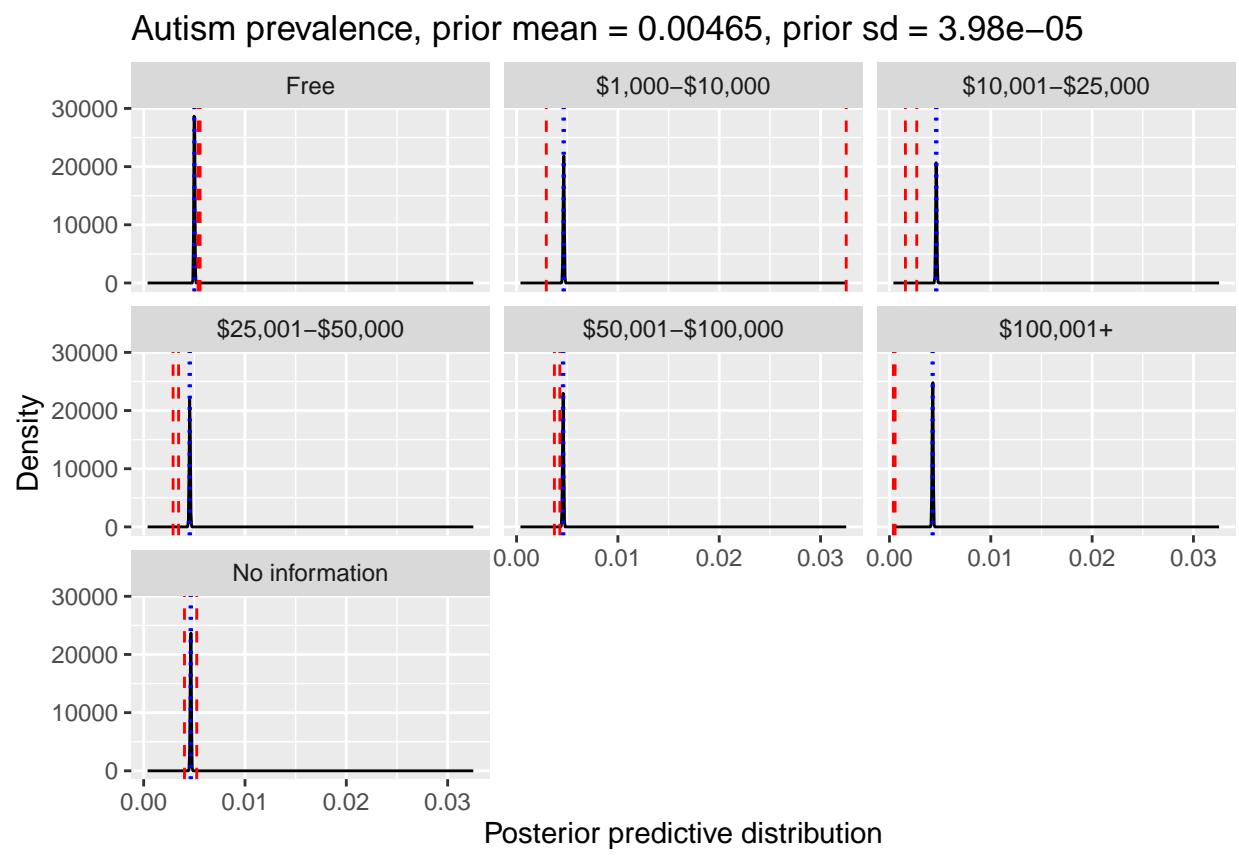


Figure 37: Posterior predictive distribution for autism with a random effect on socio-economic status of student's family, and with age- and sex-adjusted global prevalence prior.

ADHD prevalence, prior mean = 0.015, prior sd = 7.25e-05

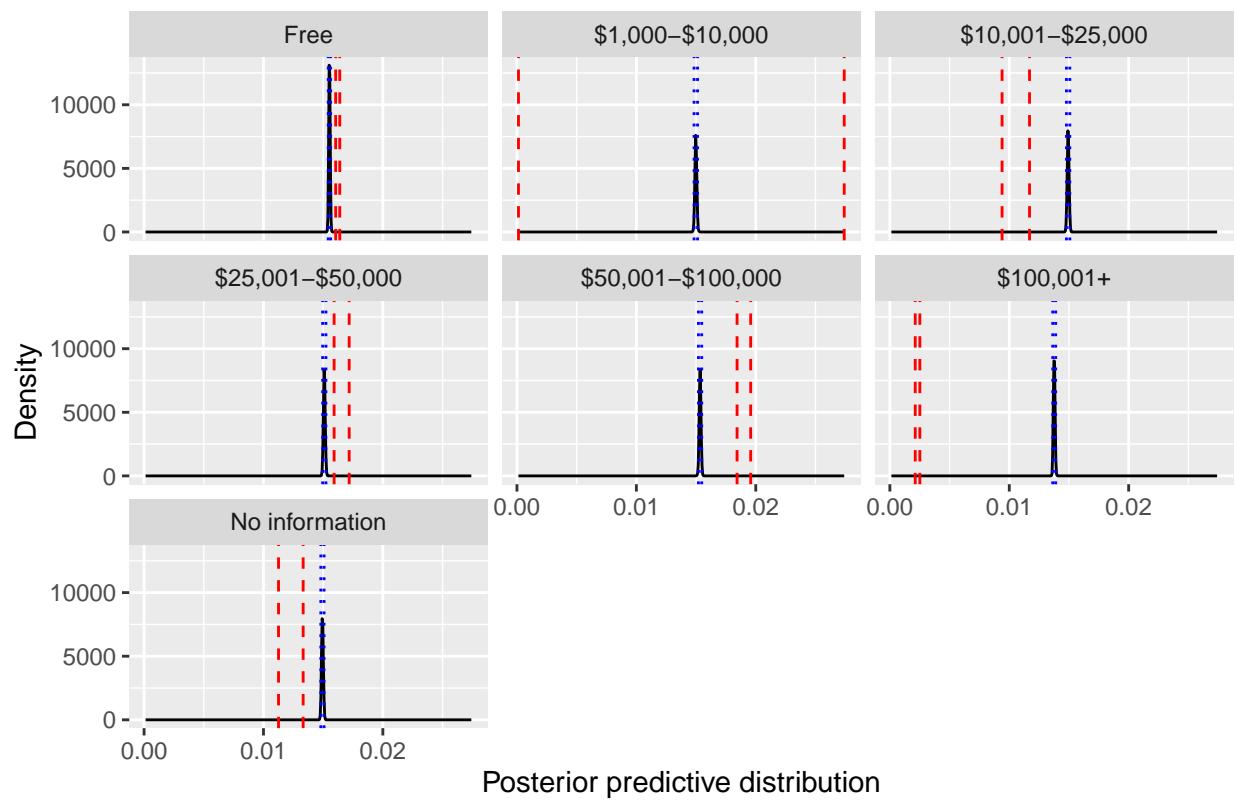


Figure 38: Posterior predictive distribution for ADHD with a random effect on socio-economic status of student's family, and with age- and sex-adjusted global prevalence prior.

Autism prevalence, prior mean = 0.00465, prior sd = 3.98e-05

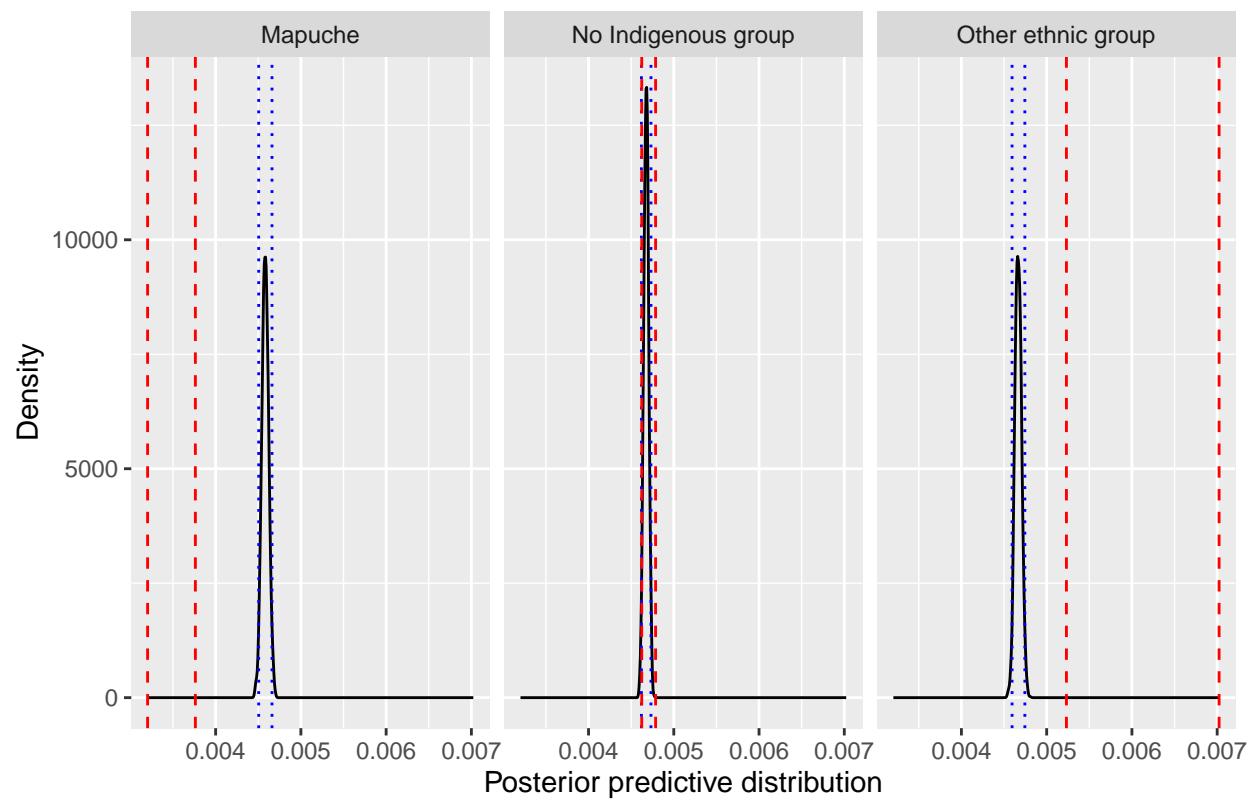


Figure 39: Posterior predictive distribution for autism with a random effect on ethnicity, and with age- and sex-adjusted global prevalence prior.

ADHD prevalence, prior mean = 0.015, prior sd = 7.25e-05

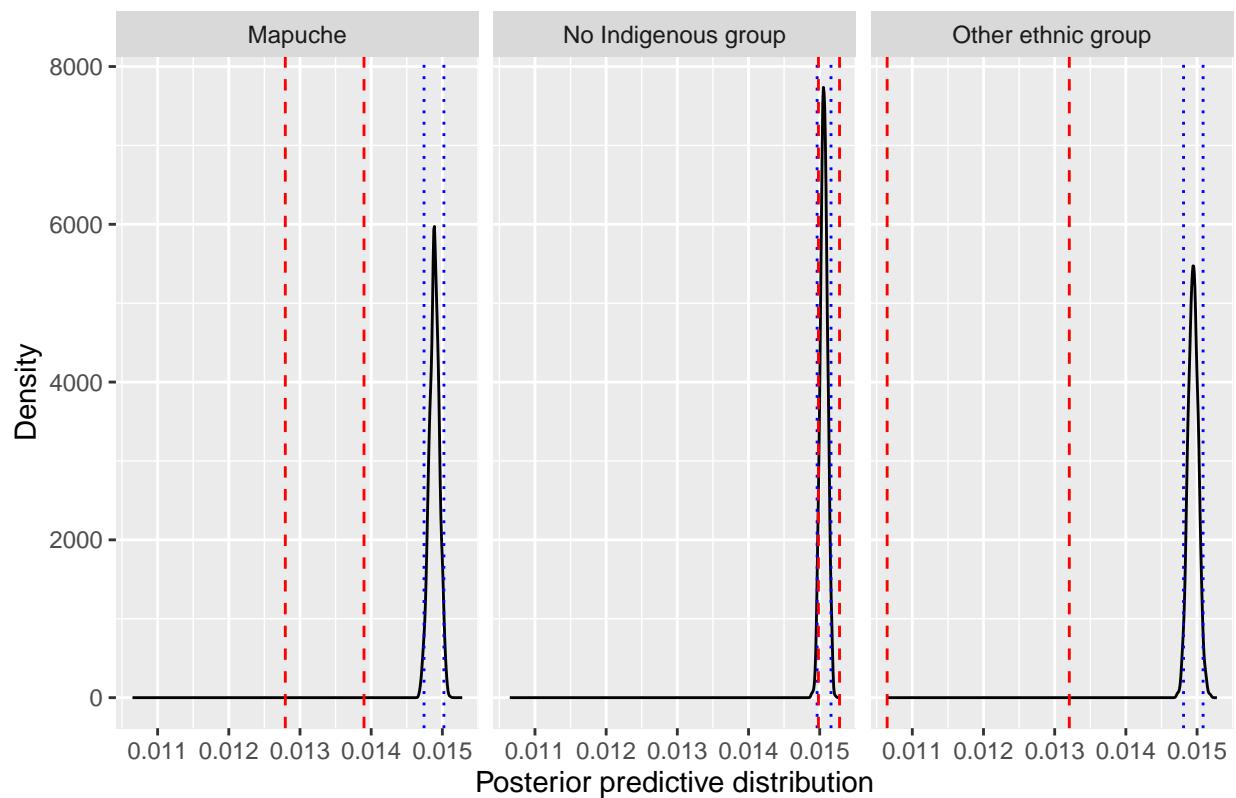


Figure 40: Posterior predictive distribution for ADHD with a random effect on ethnicity, and with age- and sex-adjusted global prevalence prior.

Autism prevalence, prior mean = 0.00465, prior sd = 3.98e-05

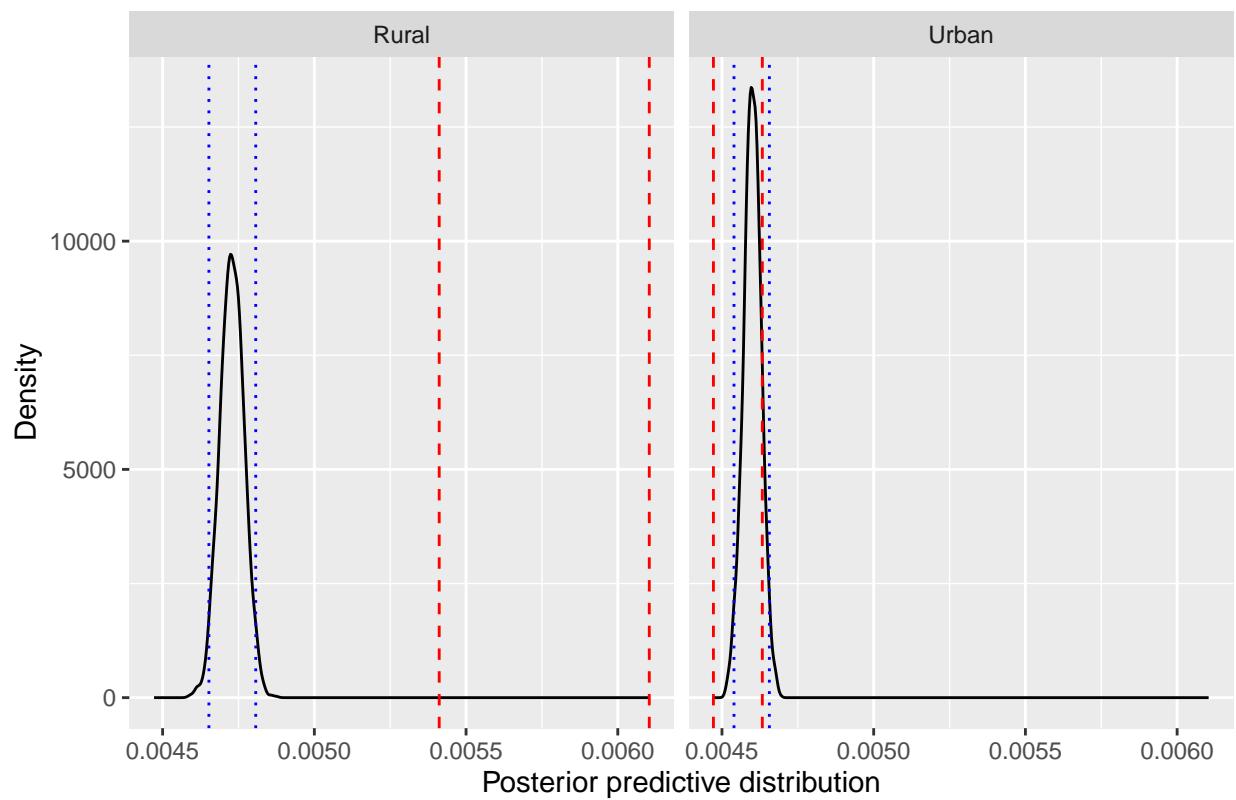


Figure 41: Posterior predictive distribution for autism with a random effect on school's rurality, and with age- and sex-adjusted global prevalence prior.

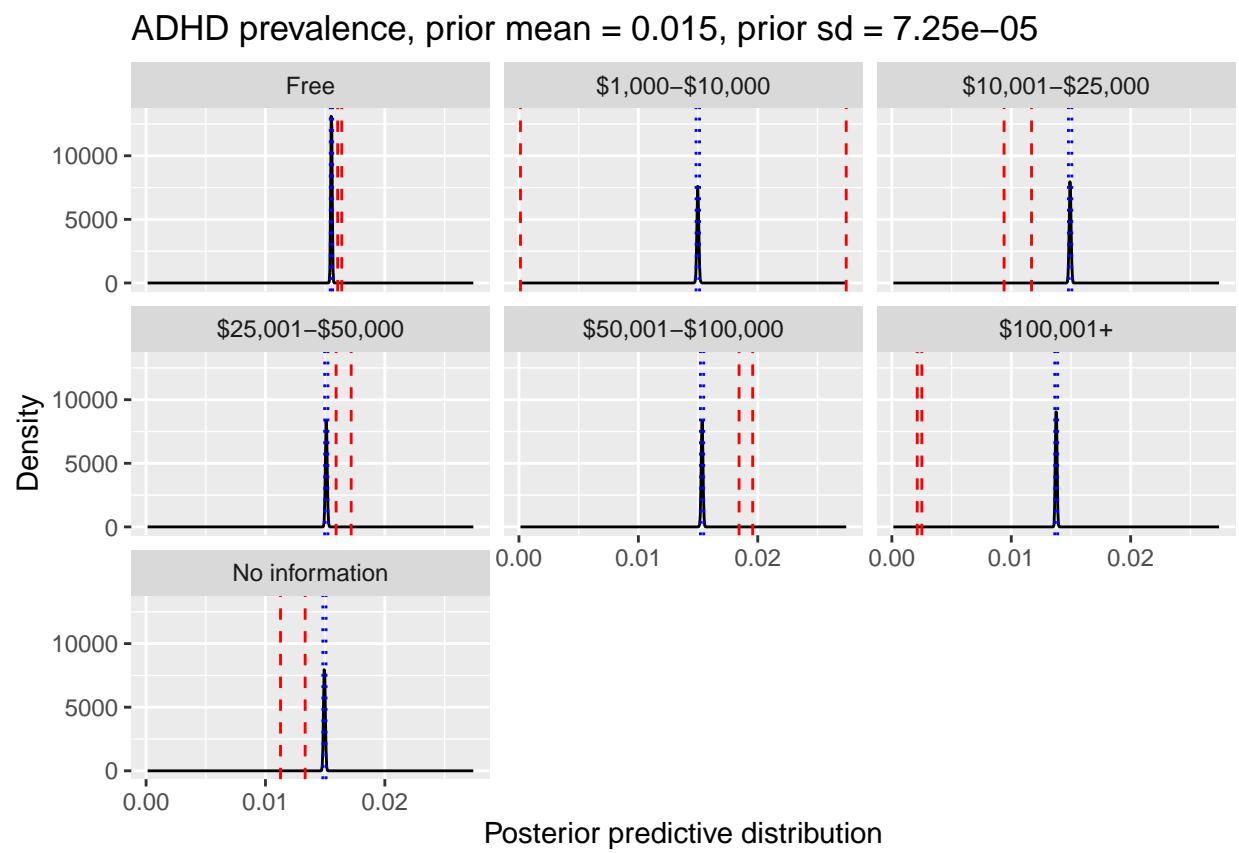


Figure 42: Posterior predictive distribution for ADHD with a random effect on school's rurality, and with age- and sex-adjusted global prevalence prior.