

Chart 1: NOS scoring for the included publications

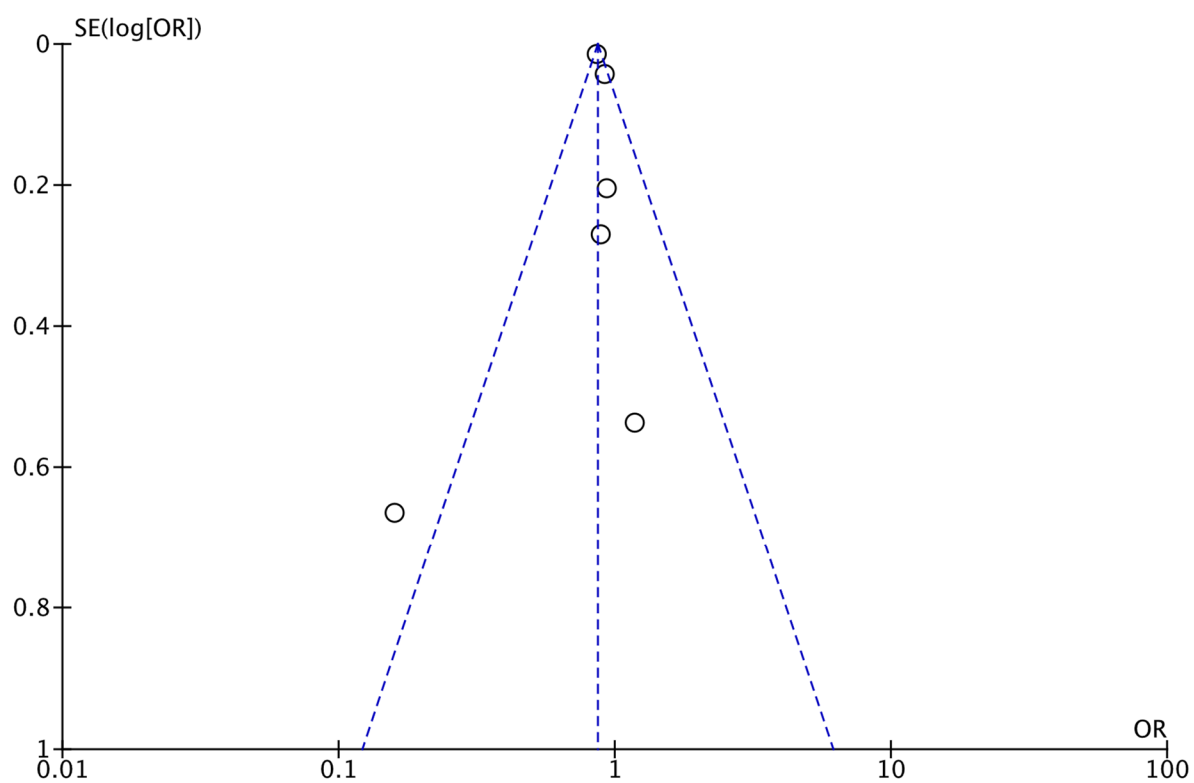


Figure S1: Funnel plot for the age of parent comparison

Table S1: Sensitivity analysis for the age of parent comparison

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
Brabin et al 2006	0.86	9.56	< 0.00001	0.84 - 0.89	55%	0.84 - 0.89
Dahlstrom et al 2009	0.85	9.47	< 0.00001	0.83 - 0.88	43%	
Donders et al 2007	0.86	9.58	< 0.00001	0.84 - 0.89	53%	
Haesebaert et al 2014	0.86	9.48	< 0.00001	0.84 - 0.89	0%	
Hansen et al 2015	0.91	2.26	0.02	0.83 - 0.99	44%	
Pelucchi et al 2010	0.86	9.57	< 0.00001	0.84 - 0.89	54%	

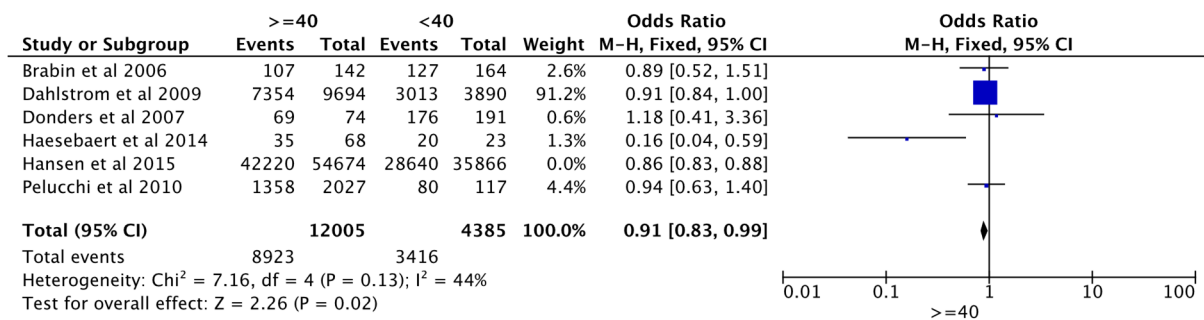
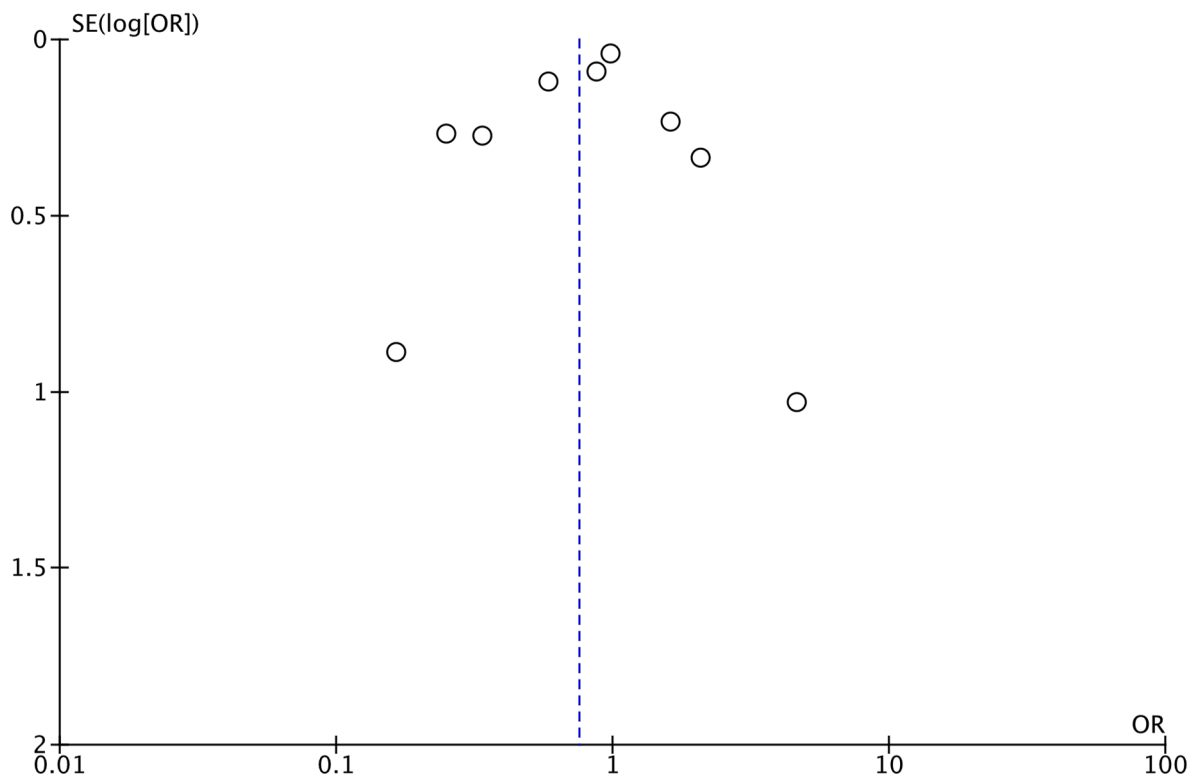
**Figure S2: Forrest plot for the age of parent comparison excluding the Hansen et al. study****Figure S3: Funnel plot for the gender of parent comparison**

Table S2: Sensitivity analysis for the gender of parent comparison

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
Dahlstrom et al 2009	0.72	1.40	0.16	0.45 - 1.14	88%	0.54 - 1.04
Ganczak et al 2018	0.67	2.30	0.02	0.48 - 0.94	89%	
Grandahl et al 2016	0.79	1.44	0.15	0.57 - 1.09	90%	
Lenselink et al 2007	0.72	1.95	0.05	0.52 - 1.00	90%	
Mari et al 2022	0.84	1.08	0.28	0.60 - 1.16	88%	
Pelucchi et al 2010	0.73	1.35	0.18	0.47 - 1.15	90%	
Sobierajski et al 2023	0.67	2.23	0.03	0.48 - 0.95	89%	
Sypien & Zielonka 2022	0.87	0.92	0.36	0.65 - 1.17	85%	
Waller et al 2019	0.79	1.28	0.20	0.55 - 1.13	88%	

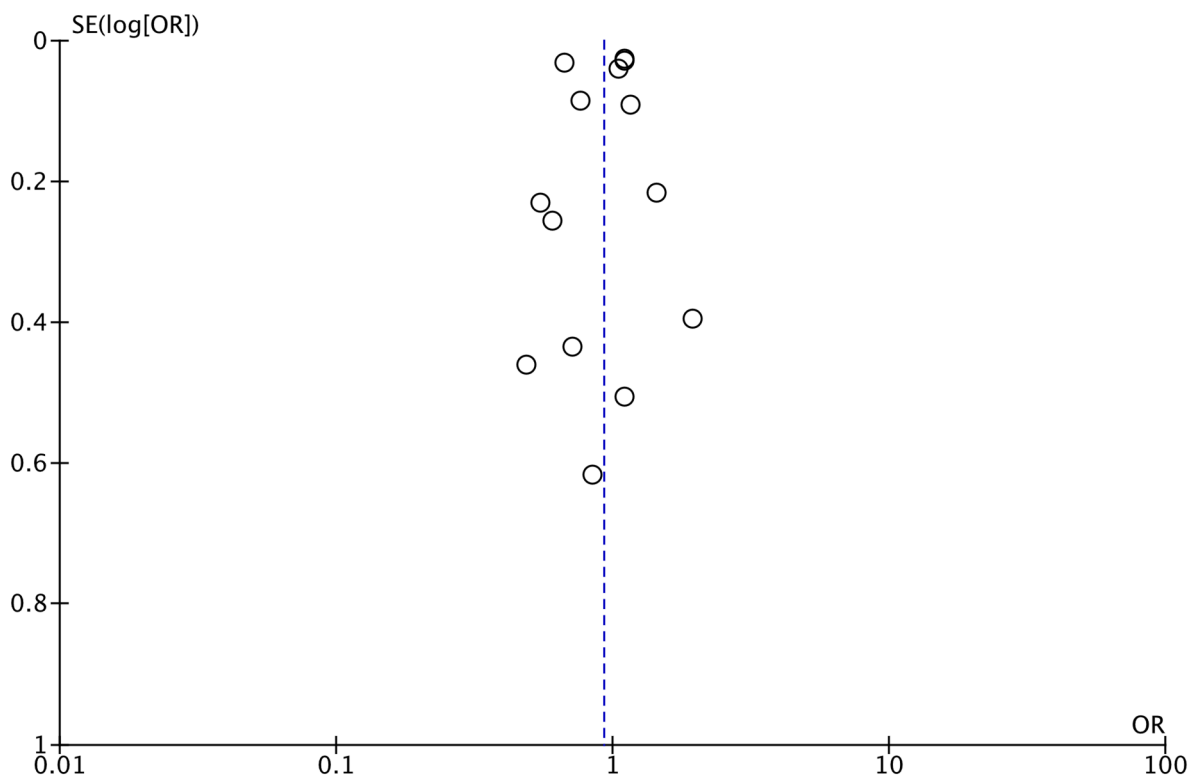


Figure S4: Funnel plot for the parent's educational level comparison

Table S3: Sensitivity analysis for the parent's educational level comparison

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
Baumann et al 2019	0.95	0.63	0.53	0.80 - 1.12	93%	0.79 - 1.09
Dahlstrom et al 2009	0.91	1.02	0.31	0.75 - 1.09	94%	
David et al 2022	0.92	0.98	0.33	0.78 - 1.08	94%	
Donders et al 2007	0.94	0.73	0.46	0.80 - 1.11	94%	
Feiring et al 2015	0.90	1.07	0.28	0.75 - 1.09	93%	
Gefenaite et al 2012	0.90	1.28	0.20	0.76 - 1.06	94%	
Grandahl et al 2016	0.93	0.92	0.36	0.79 - 1.09	94%	
Haesebaert et al 2014	0.90	1.23	0.22	0.77 - 1.06	94%	
Hansen et al 2015	0.90	1.09	0.28	0.75 - 1.09	92%	
Mari et al 2022	0.95	0.62	0.54	0.81 - 1.12	94%	
Pelucchi et al 2010	0.90	1.19	0.23	0.76 - 1.07	94%	
Rousset-Jablonski et al 2021	0.93	0.85	0.40	0.79 - 1.10	94%	
Schreiber et al 2015	1.01	0.14	0.89	0.91 - 1.11	70%	
Sobierajski et al 2023	0.96	0.51	0.61	0.81 - 1.13	94%	

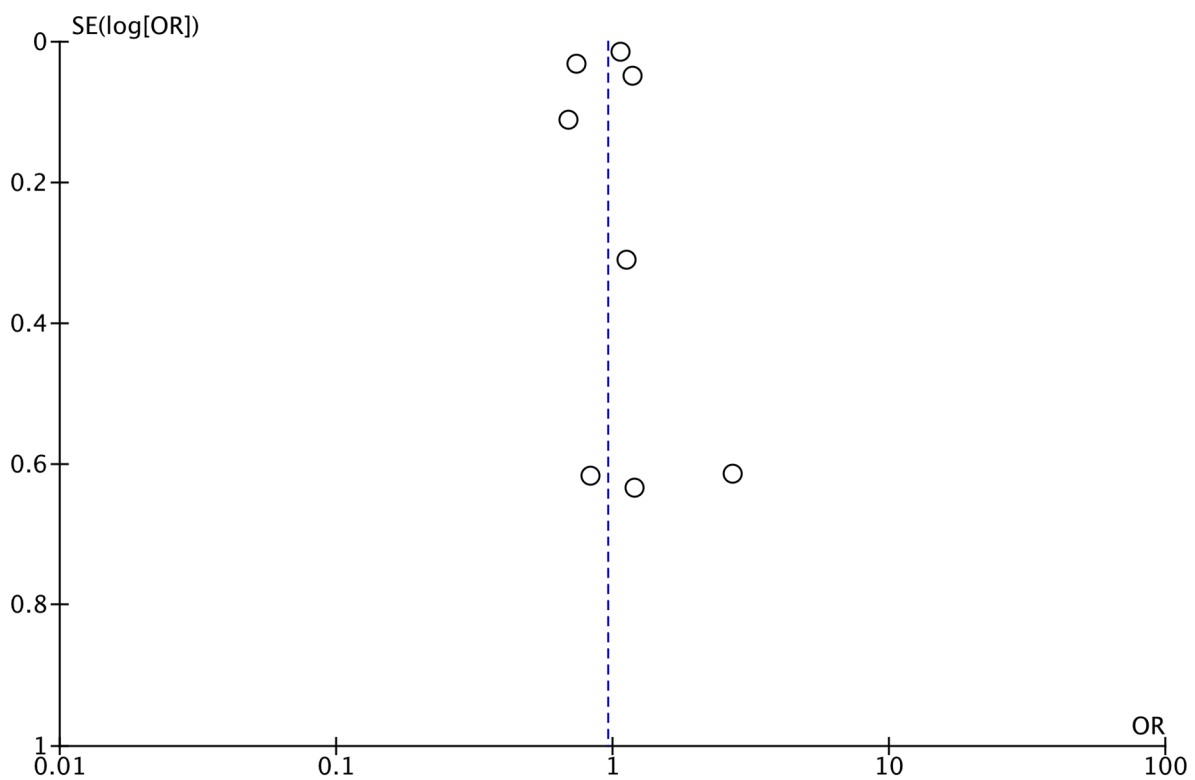
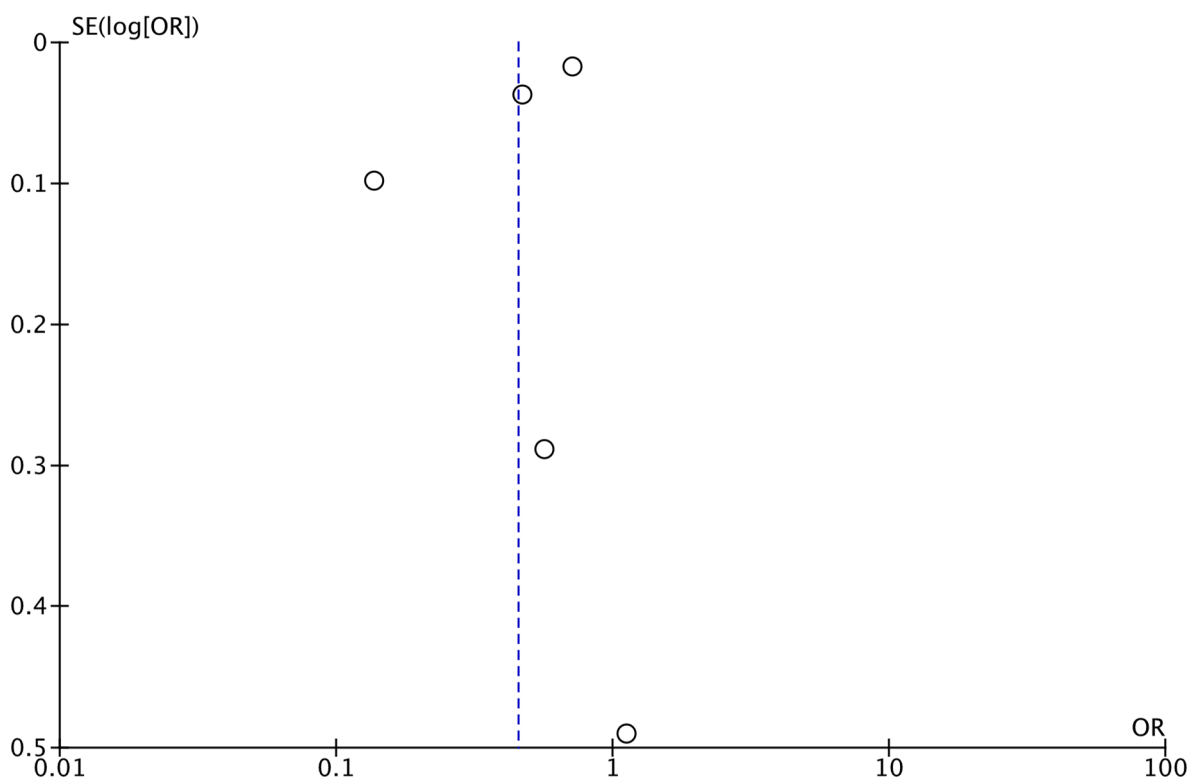


Figure S5: Funnel plot for the parent's civil status comparison

Table S4: Sensitivity analysis for parent's civil status comparison

Study	Overall OR	Z	P	95% CI	I2	Initial CI
Baumann et al 2019	1.03	0.22	0.82	0.81 - 1.30	95%	0.77 - 1.18
Dahlstrom et al 2009	0.91	0.71	0.48	0.70 - 1.18	95%	
Ganczak et al 2018	0.94	0.51	0.61	0.75 - 1.18	95%	
Grandahl et al 2016	0.96	0.36	0.72	0.77 - 1.19	95%	
Haesebaert et al 2014	0.93	0.67	0.50	0.75 - 1.15	95%	
Hansen et al 2015	0.95	0.32	0.75	0.70 - 1.29	92%	
Lenselink et al 2007	0.95	0.45	0.65	0.77 - 1.18	95%	
Schreiber et al 2015	1.02	0.29	0.78	0.87 - 1.20	74%	

**Figure S6: Funnel plot for parent employment status comparison****Table S5: Sensitivity analysis for parent employment status comparison**

Study	Overall OR	Z	P	95% CI	I2	Initial CI
Baumann et al 2019	0.62	2.72	0.006	0.44 - 0.87	97%	0.28 - 0.74
Ganczak et al 2018	0.43	3.03	0.002	0.25 - 0.74	99%	
Haesebaert et al 2014	0.40	3.45	0.0006	0.24 - 0.67	99%	
Hansen et al 2015	0.42	2.01	0.04	0.18 - 0.98	98%	
Schreiber et al 2015	0.48	1.30	0.19	0.16 - 1.45	99%	

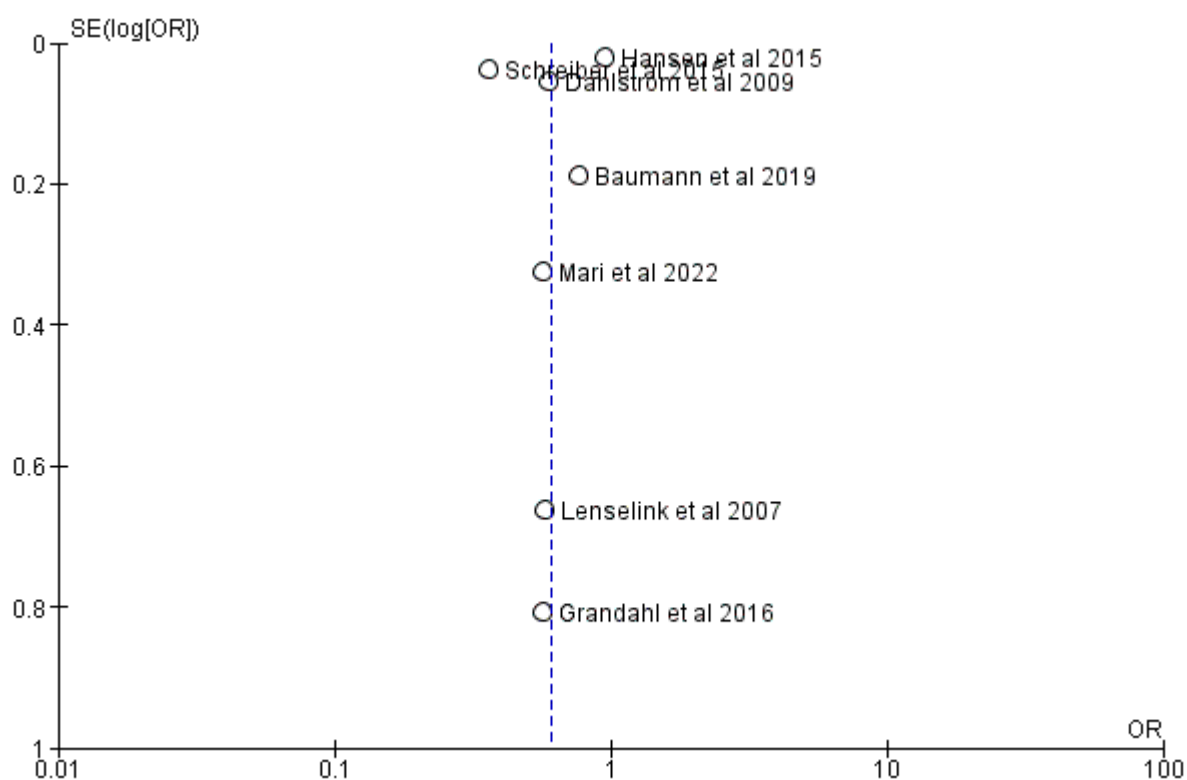


Figure S7: Funnel plot for the immigrant status comparison

Table S6: Sensitivity analysis for the immigrant status comparison

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
Baumann et al 2019	0.58	2.02	0.04	0.35 - 0.98	99%	0.38 - 0.98
Dahlstrom et al 2009	0.61	1.60	0.11	0.34 - 1.12	99%	
Grandahl et al 2016	0.61	1.96	0.05	0.38 - 1.00	99%	
Hansen et al 2015	0.54	3.40	0.0007	0.38 - 0.77	92%	
Lenselink et al 2007	0.61	1.95	0.05	0.38 - 1.00	99%	
Mari et al 2022	0.62	1.85	0.06	0.37 - 1.03	99%	
Schreiber et al 2015	0.71	2.07	0.04	0.51 - 0.98	92%	

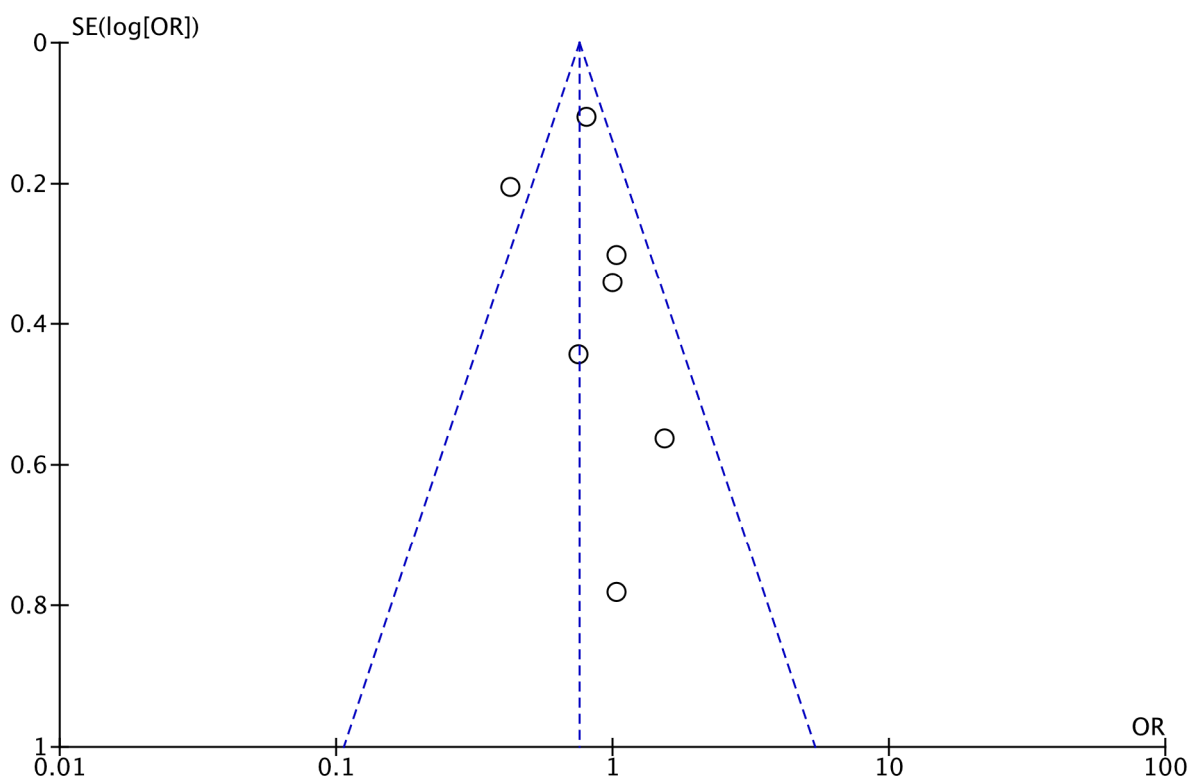


Figure S8: Funnel plot for the religious status of the responder's comparison

Table S7: Sensitivity analysis for the religious status of the responder's comparison

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
Bedford et al 2021	0.68	2.80	0.005	0.52 - 0.89	53%	0.64 - 0.89
Brabin et al 2006	0.74	3.50	0.0005	0.63 - 0.88	53%	
Ganczak et al 2018	0.75	3.42	0.0006	0.64 - 0.89	56%	
Gefenaite et al 2012	0.85	1.82	0.07	0.71 - 1.01	0%	
Grandahl et al 2016	0.74	3.54	0.0004	0.63 - 0.88	49%	
Lenselink et al 2007	0.75	3.33	0.0009	0.64 - 0.89	56%	
Sypien & Zielonka 2022	0.74	3.55	0.0004	0.62 - 0.87	52%	

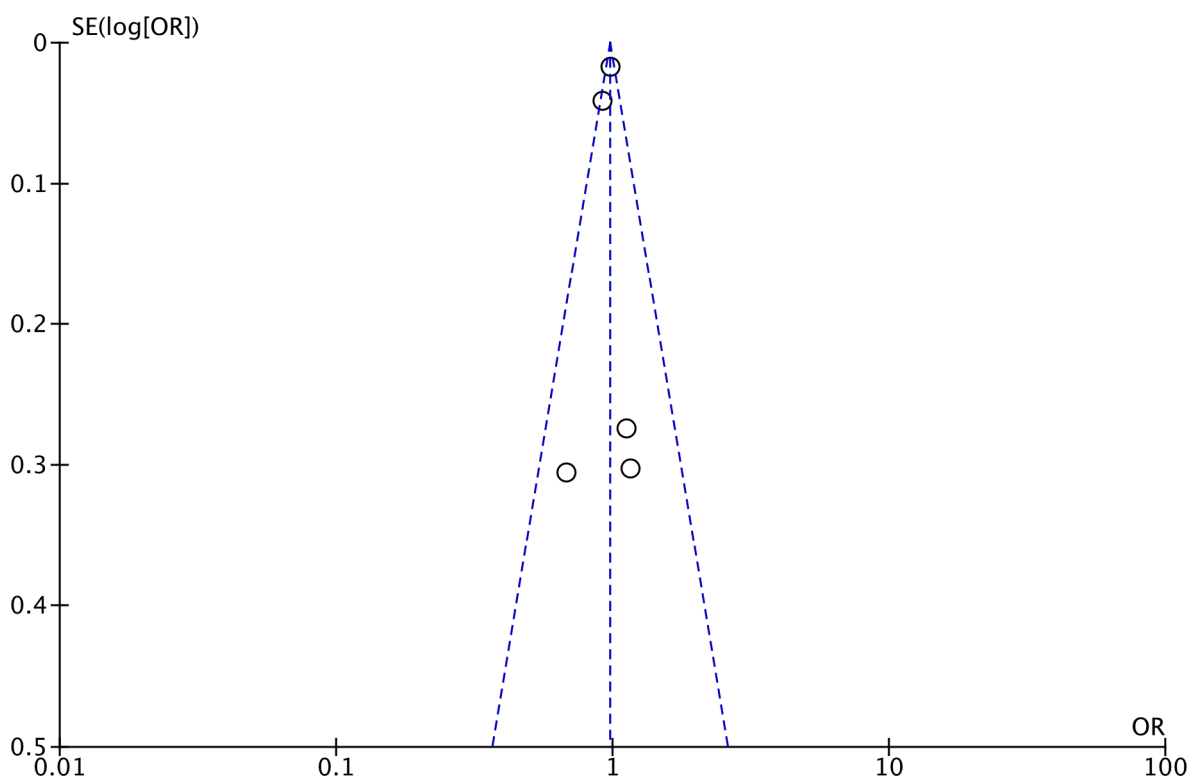


Figure S9: Funnel plot for the number of children comparison

Table S8: Sensitivity analysis for the number of children comparison

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
Brabin et al 2006	0.97	1.80	0.07	0.94 - 1.00	9%	0.94 - 1.00
Dahlstrom et al 2009	0.98	1.18	0.24	0.95 - 1.01	0%	
Ganczak et al 2018	0.97	1.80	0.07	0.94 - 1.00	8%	
Hansen et al 2015	0.93	1.80	0.07	0.86 - 1.01	0%	
Sypien & Zielonka 2022	0.97	1.70	0.09	0.94 - 1.00	0%	

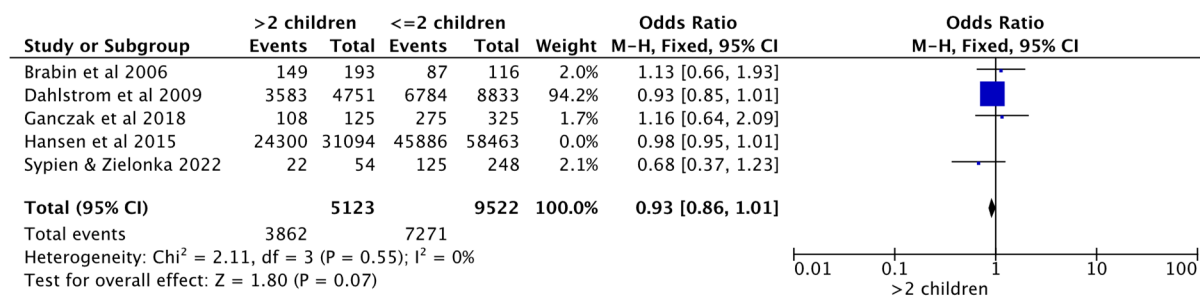


Figure S10: Forrest plot for the number of children comparison excluding the Hansen et al. study

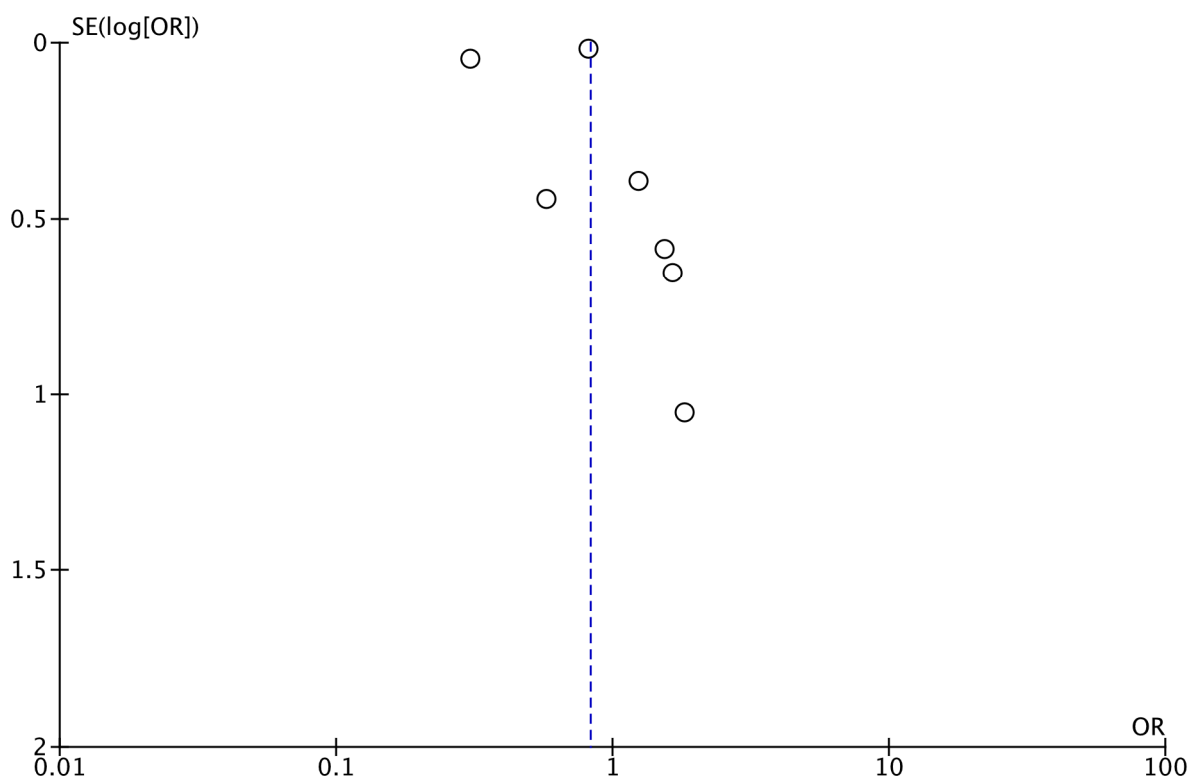


Figure S11: Funnel plot for the mother's history of CCS

Table S9: Sensitivity analysis for the mother's history of CCS

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
David et al 2022	0.76	0.83	0.41	0.40 - 1.45	99%	0.45 - 1.52
Gefenaite et al 2012	0.77	0.77	0.44	0.39 - 1.50	99%	
Haesebaert et al 2014	0.76	0.82	0.41	0.40 - 1.46	99%	
Hansen et al 2015	0.87	0.33	0.74	0.39 - 1.97	84%	
Lenselink et al 2007	0.79	0.75	0.45	0.42 - 1.48	99%	
Rousset-Jablonski et al 2021	0.88	0.37	0.71	0.45 - 1.71	99%	
Spencer et al 2007	0.82	10.20	< 0.00001	0.79 - 0.85	0%	

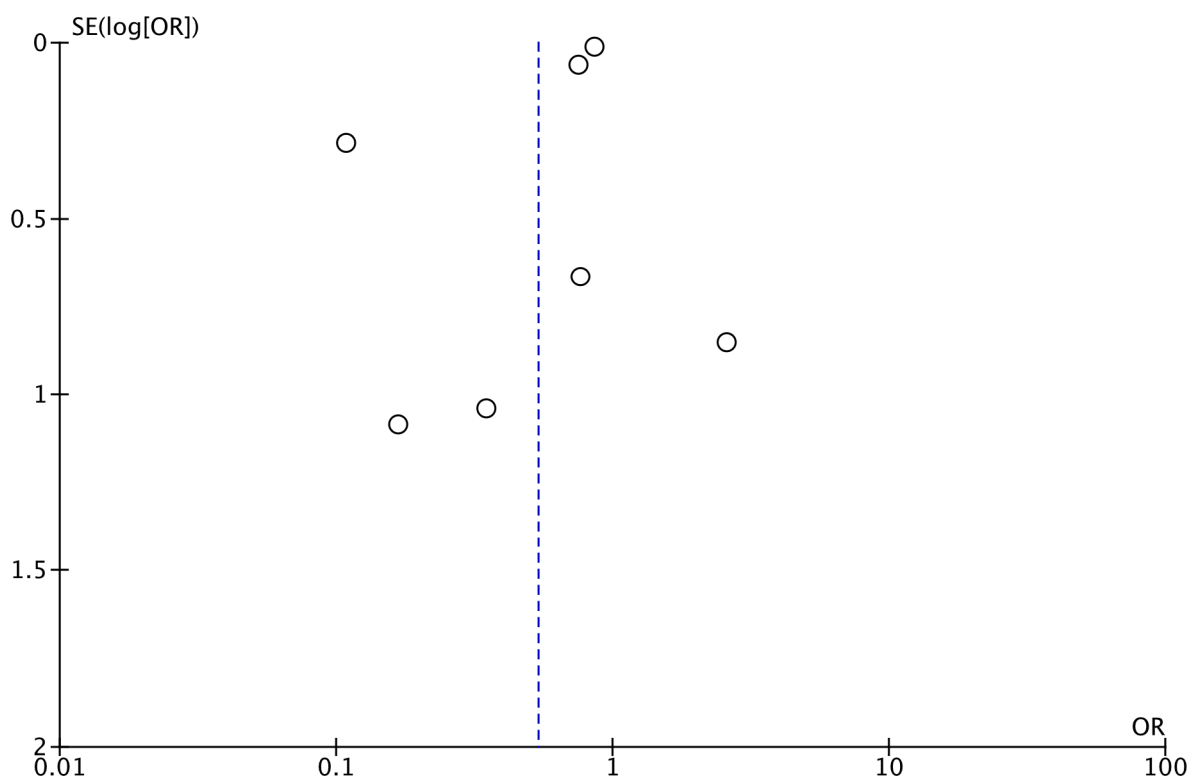


Figure S12: Funnel plot for the mother's Pap history comparison

Table S10: Sensitivity analysis for the mother's Pap history comparison

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
David et al 2022	0.50	3.47	0.0005	0.34 - 0.74	91%	0.36 - 0.79
Dib et al 2022	0.81	2.87	0.004	0.70 - 0.94	43%	
Haesebaert et al 2014	0.56	2.95	0.003	0.38 - 0.82	91%	
Hansen et al 2015	0.47	1.33	0.18	0.15 - 1.44	91%	
Lenselink et al 2007	0.54	3.03	0.002	0.37 - 0.81	92%	
Rousset-Jablonski et al 2021	0.52	3.16	0.002	0.35 - 0.78	92%	
Spencer et al 2007	0.45	1.46	0.14	0.16 - 1.31	89%	

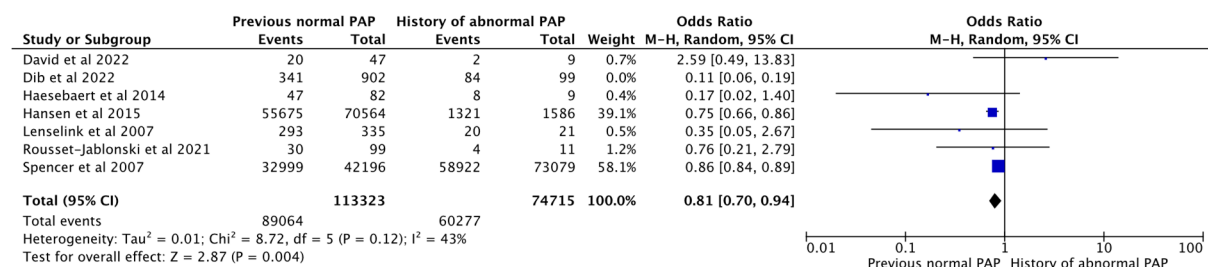


Figure S13: Forrest plot for the mother's Pap history comparison excluding the Dib et al. study

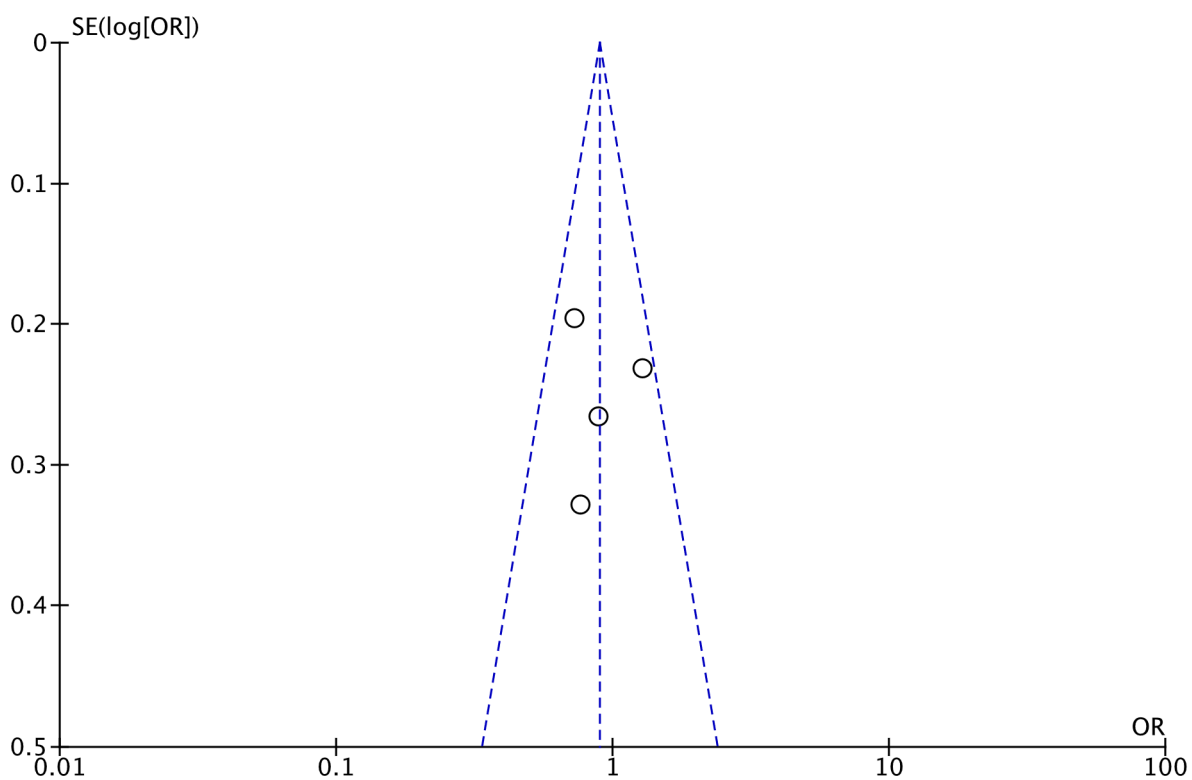


Figure S14: Funnel plot for the family history of cancer comparison

Table S11: Sensitivity analysis for the family history of cancer comparison

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
Ganczak et al 2018	0.89	0.83	0.41	0.68 - 1.17	48%	0.70 - 1.13
Gefenaite et al 2012	1.01	0.09	0.93	0.75 - 1.37	2%	
Lenselink et al 2007	0.91	0.69	0.49	0.71 - 1.18	44%	
Sypien & Zielonka 2022	0.78	1.78	0.08	0.59 - 1.03	0%	

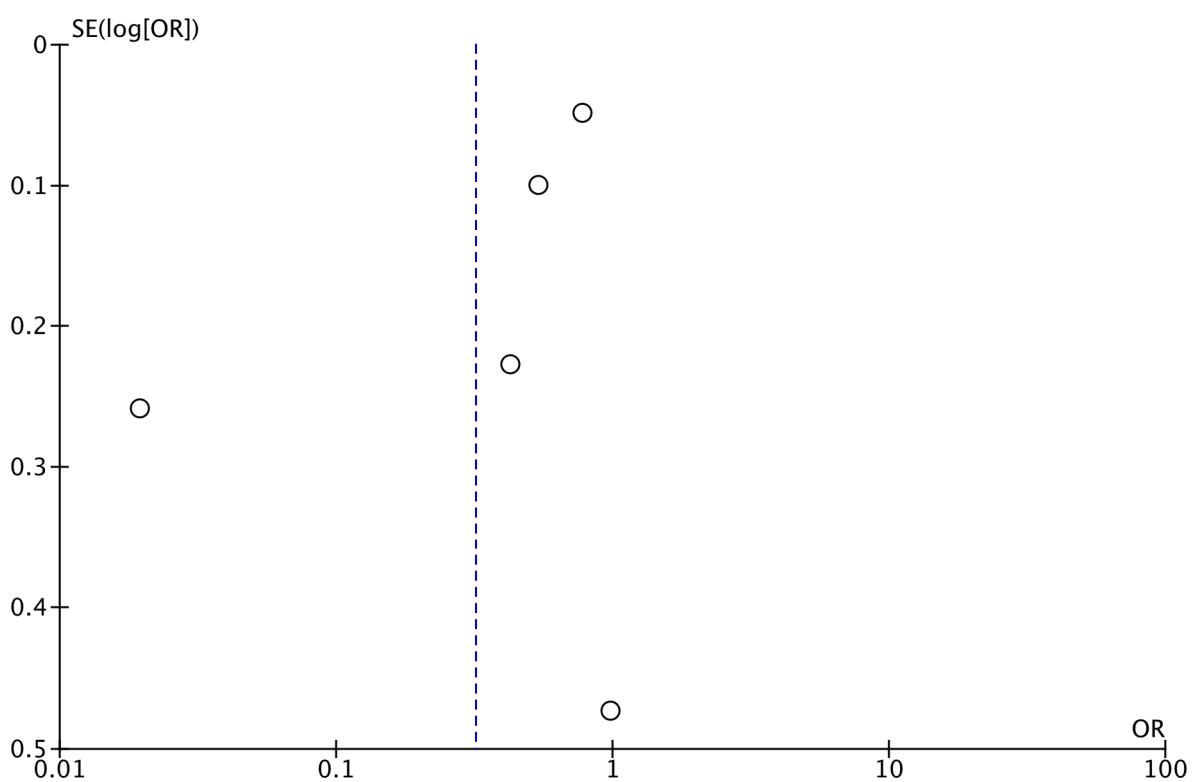


Figure S15: Funnel plot for the child's gender comparison

Table S12: Sensitivity analysis for the child's gender comparison

Study	Overall OR	Z	P	95% CI	I2	Initial CI
Dahlstrom et al 2009	0.25	1.75	0.08	0.05 - 1.18	98%	0.13 - 0.76
Donders et al 2007	0.62	3.01	0.003	0.45 - 0.85	82%	
Lenselink et al 2007	0.25	2.80	0.005	0.10 - 0.66	99%	
Pelucchi et al 2010	0.28	1.51	0.13	0.05 - 1.46	99%	
Sobierajski et al 2023	0.30	2.32	0.02	0.11 - 0.83	99%	

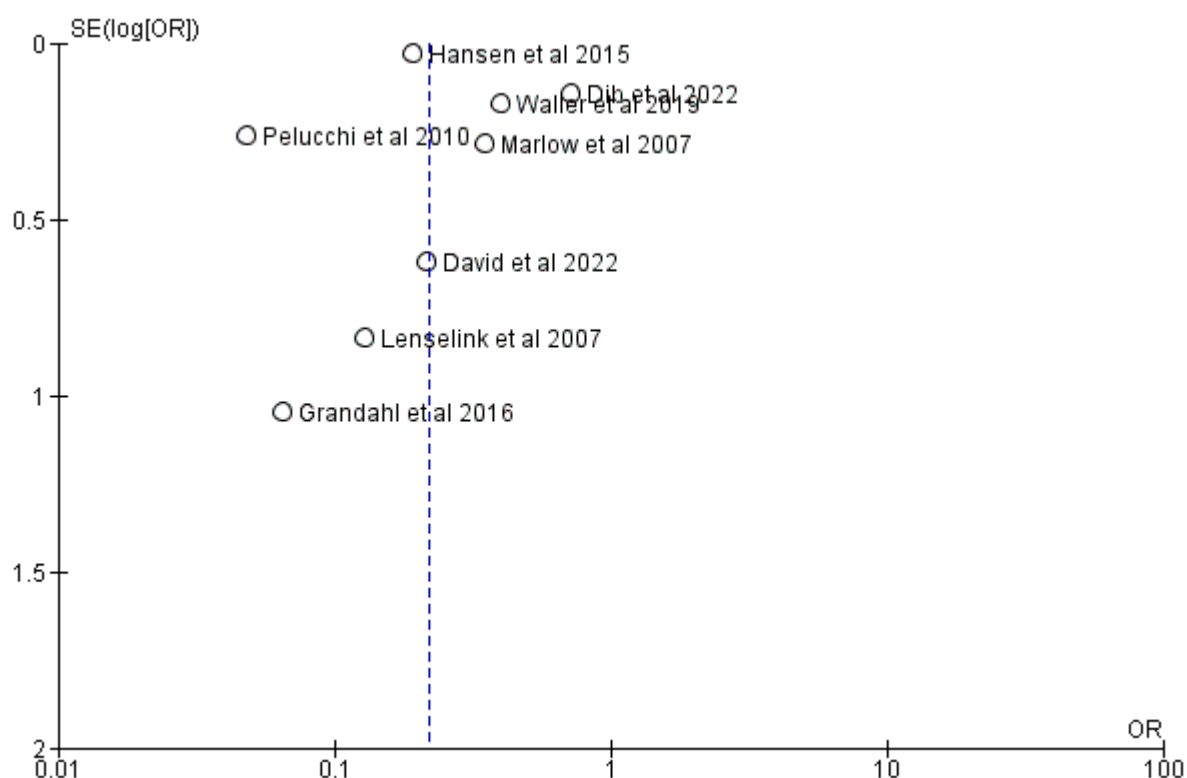


Figure S16: Funnel plot for the history of childhood vaccination comparison

Table S13: Sensitivity analysis for History of childhood vaccination for children

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
David et al 2022	0.22	4.64	< 0.00001	0.11 - 0.42	95%	0.12 - 0.40
Dib et al 2022	0.18	6.16	< 0.00001	0.10 - 0.31	89%	
Grandahl et al 2016	0.23	4.56	< 0.00001	0.23 - 0.44	95%	
Hansen et al 2015	0.21	3.62	0.0003	0.09 - 0.49	93%	
Lenselink et al 2007	0.23	4.59	< 0.00001	0.12 - 0.43	95%	
Marlow et al 2007	0.20	4.66	< 0.00001	0.10 - 0.39	95%	
Pelucchi et al 2010	0.29	3.97	< 0.0001	0.16 - 0.53	94%	
Waller et al 2019	0.19	4.51	< 0.00001	0.09 - 0.39	95%	

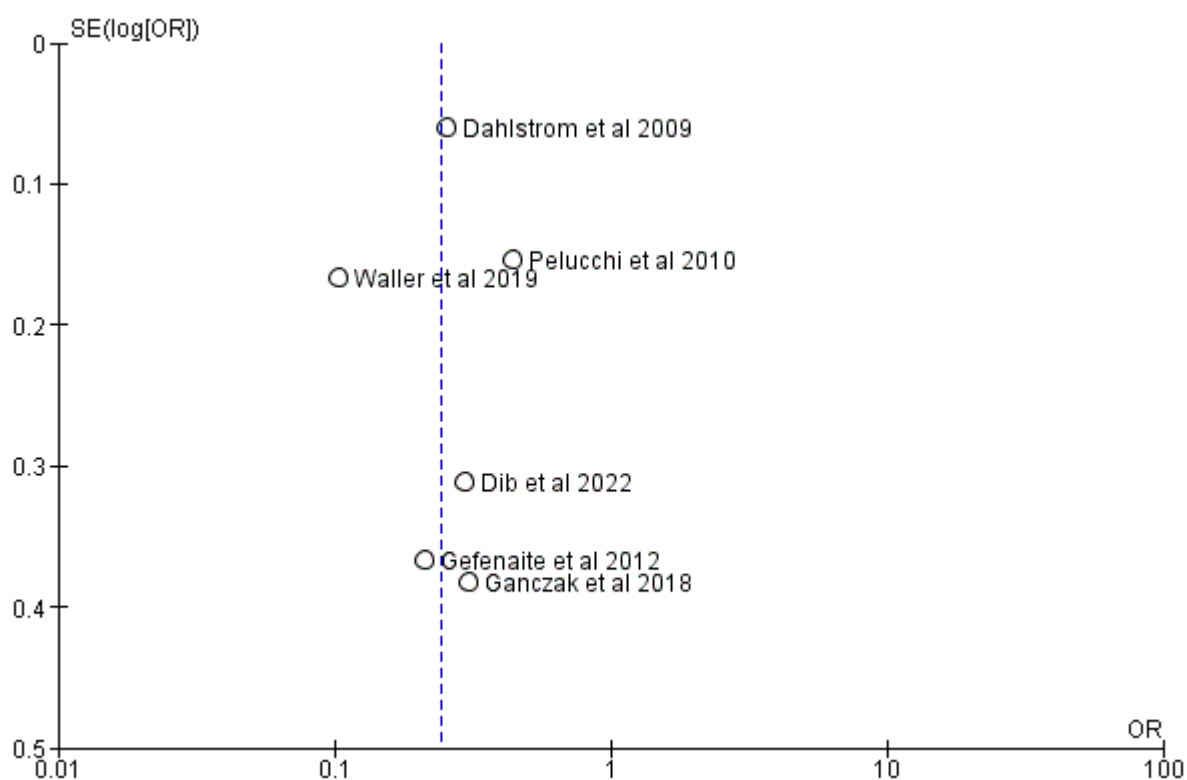


Figure S17: Funnel plot for the perceived efficacy comparison

Table S14: Sensitivity analysis for HPV vaccine efficacy comparison

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
Dahlstrom et al 2009	0.24	3.97	< 0.0001	0.12 - 0.49	91%	0.16 - 0.37
Dib et al 2022	0.24	5.79	< 0.00001	0.14 - 0.38	91%	
Ganczak et al 2018	0.24	5.94	< 0.00001	0.15 - 0.38	91%	
Gefenaite et al 2012	0.25	5.67	< 0.00001	0.15 - 0.40	91%	
Pelucchi et al 2010	0.21	6.39	< 0.00001	0.13 - 0.34	86%	
Waller et al 2019	0.30	7.60	< 0.00001	0.22 - 0.41	66%	

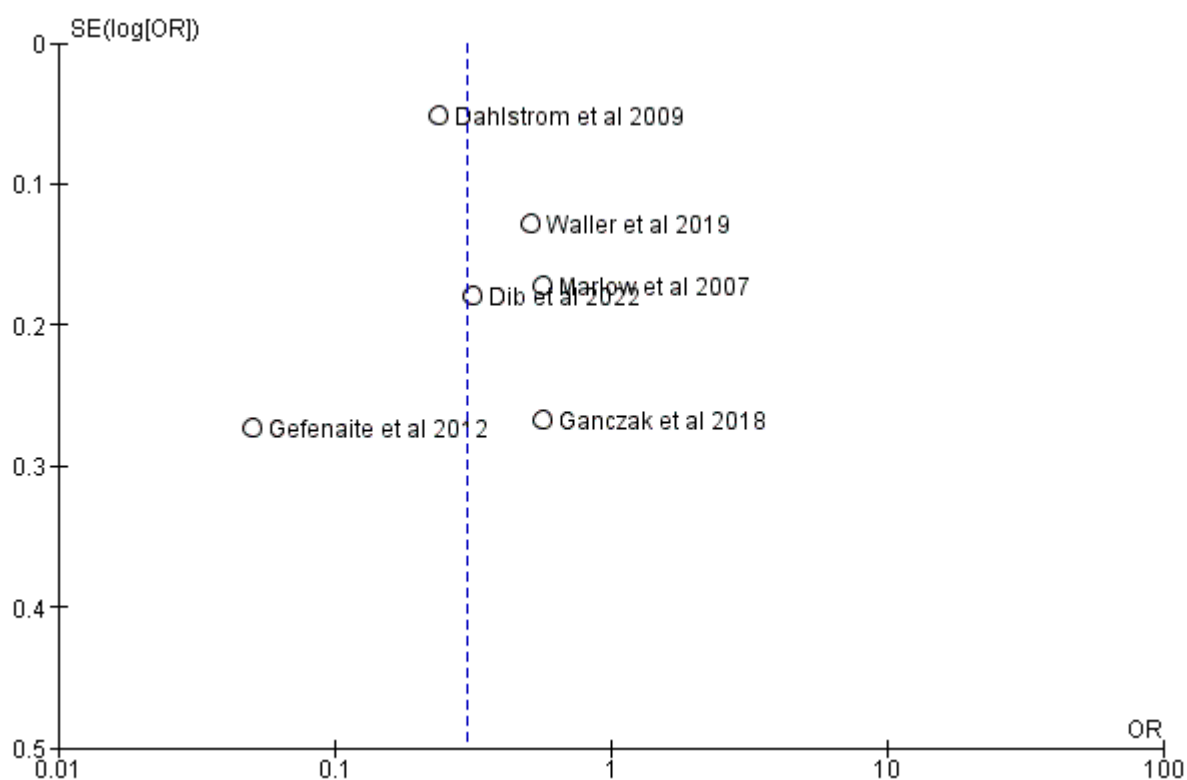


Figure S18: Funnel plot for the perceived safety comparison

Table S15: Sensitivity analysis for perceived safety of the HPV vaccine

Study	Overall OR	Z	P	95% CI	I ²	Initial CI
Dahlstrom et al 2009	0.31	3.31	0.0009	0.16 - 0.62	94%	0.18 - 0.50
Dib et al 2022	0.30	3.94	< 0.0001	0.16 - 0.54	96%	
Ganczak et al 2018	0.27	4.69	< 0.00001	0.15 - 0.46	95%	
Gefenaite et al 2012	0.41	3.99	< 0.0001	0.26 - 0.63	93%	
Marlow et al 2007	0.26	4.73	< 0.00001	0.15 - 0.46	95%	
Waller et al 2019	0.27	4.45	< 0.00001	0.15 - 0.48	94%	

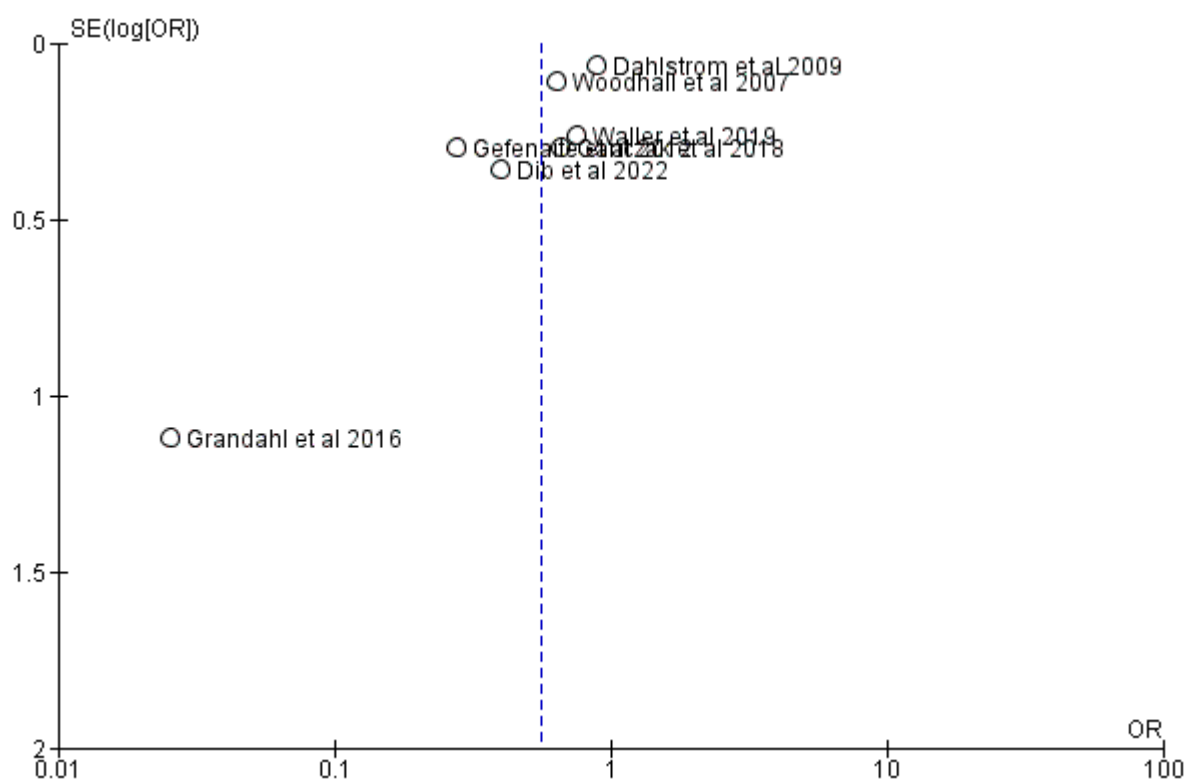


Figure S19: Funnel plot for the perceived increased risk behavior after vaccination comparison

Table S16: Sensitivity analysis for the perceived increased risk behavior after vaccination comparison

Study	Overall OR	Z	P	95% CI	I2	Initial CI
Dahlstrom et al 2009	0.48	3.44	0.0006	0.31 - 0.73	71%	0.39 - 0.79
Dibi et al 2022	0.58	2.90	0.004	0.40 - 0.84	83%	
Ganczak et al 2018	0.53	3.14	0.002	0.36 - 0.79	85%	
Gefenaitte et al 2012	0.64	2.71	0.007	0.47 - 0.89	76%	
Grandahl et al 2016	0.61	3.17	0.002	0.45 - 0.83	79%	
Waller et al 2019	0.52	3.22	0.001	0.35 - 0.77	85%	
Woodhall et al 2007	0.49	2.67	0.008	0.29 - 0.83	83%	

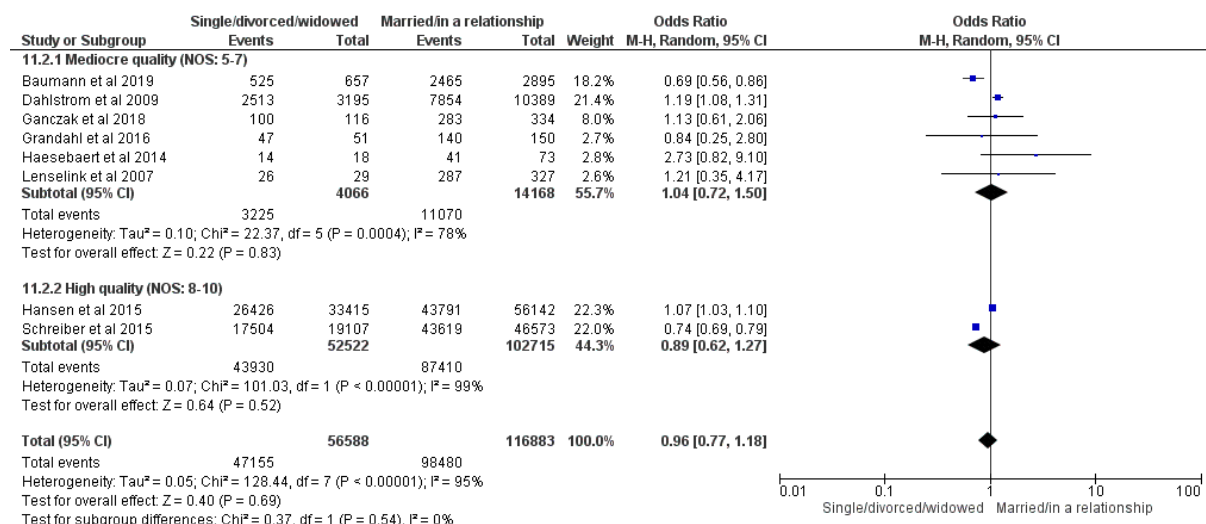


Figure S20: Forrest plot for the parents' civil status with subgroups based on the NOS scoring



Figure S21: Forrest plot for the parents' employment status with subgroups based on the NOS scoring

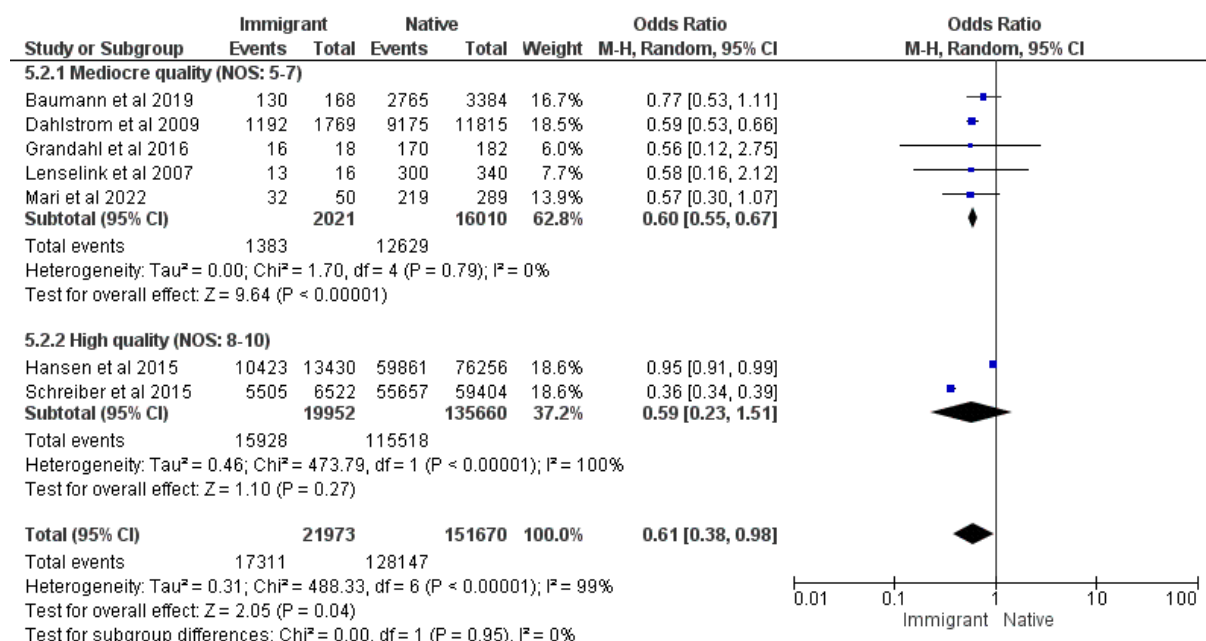


Figure S22: Forrest plot for the parents' immigrant status with subgroups based on the NOS scoring

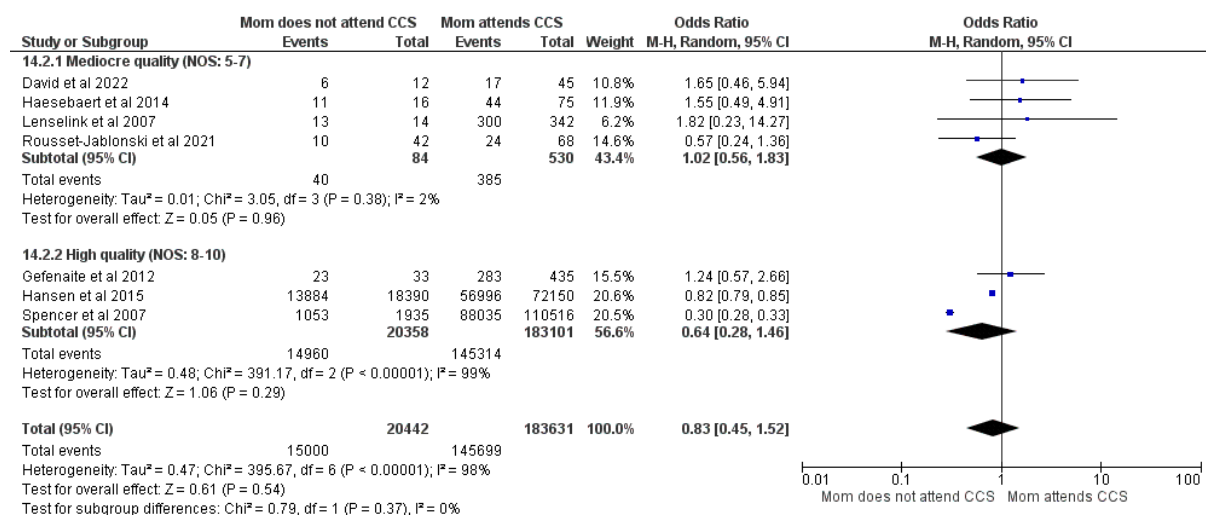


Figure S23: Forrest plot for the mother's previous CCS attendance with subgroups based on the NOS scoring

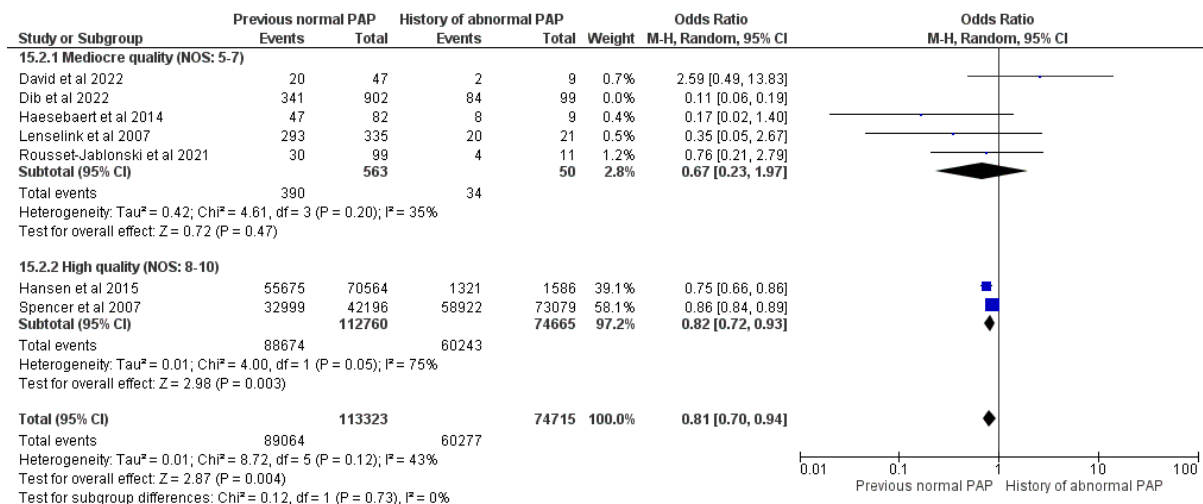


Figure S24: Forrest plot for the mother's previous PAP results with subgroups based on the NOS scoring

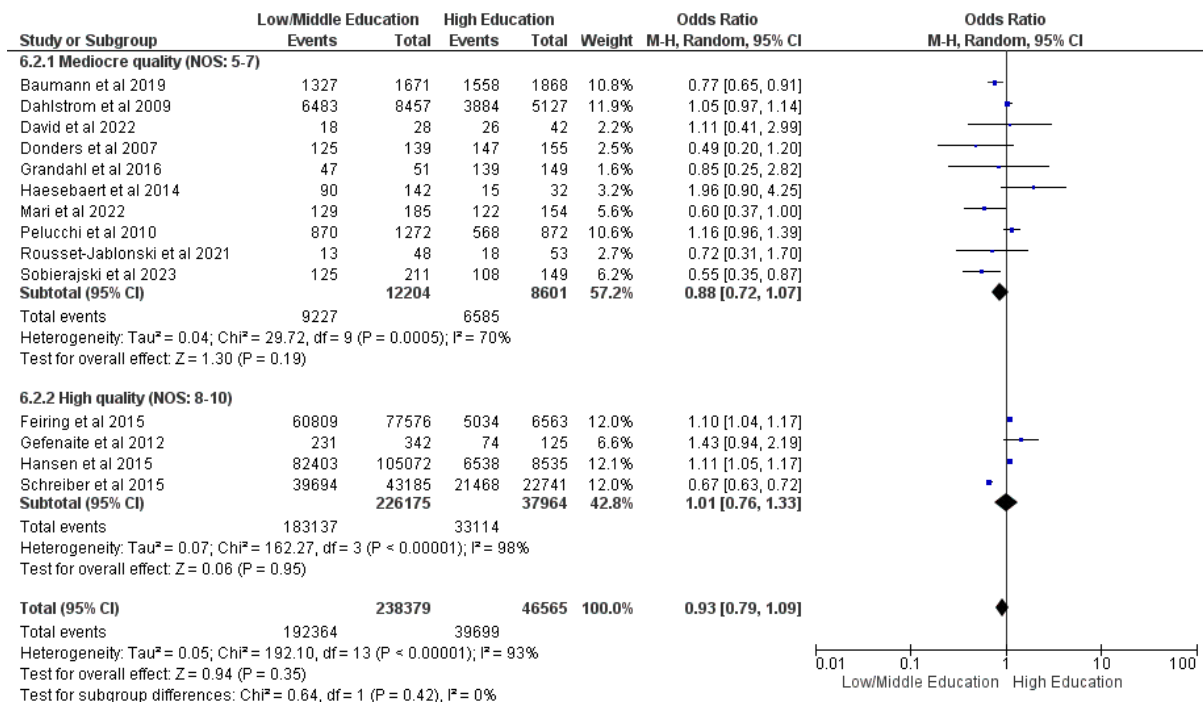


Figure S25: Forrest plot for the parents' education levels with subgroups based on the NOS scoring