

Supplementary text. Regarding the identification of parents.

The personal id number was introduced on April 2, 1968 in Denmark.¹ All persons living in the country on this date received a personal id number and everyone who subsequently was born or migrated into the country was also given a unique id number. Individuals who left the country and later re-immigrated were given the same id number (as previously) upon re-entry. At the time of the introduction of the id number, the id number of parents was also recorded. This information is considered to be complete from 1969 onwards and links children to the parents they were living with at the time of birth, who may be considered as ‘legal parents’ and this is listed in the Civil Registration System. In most cases, these will also be the biological parents, but we did not have the option of testing this.

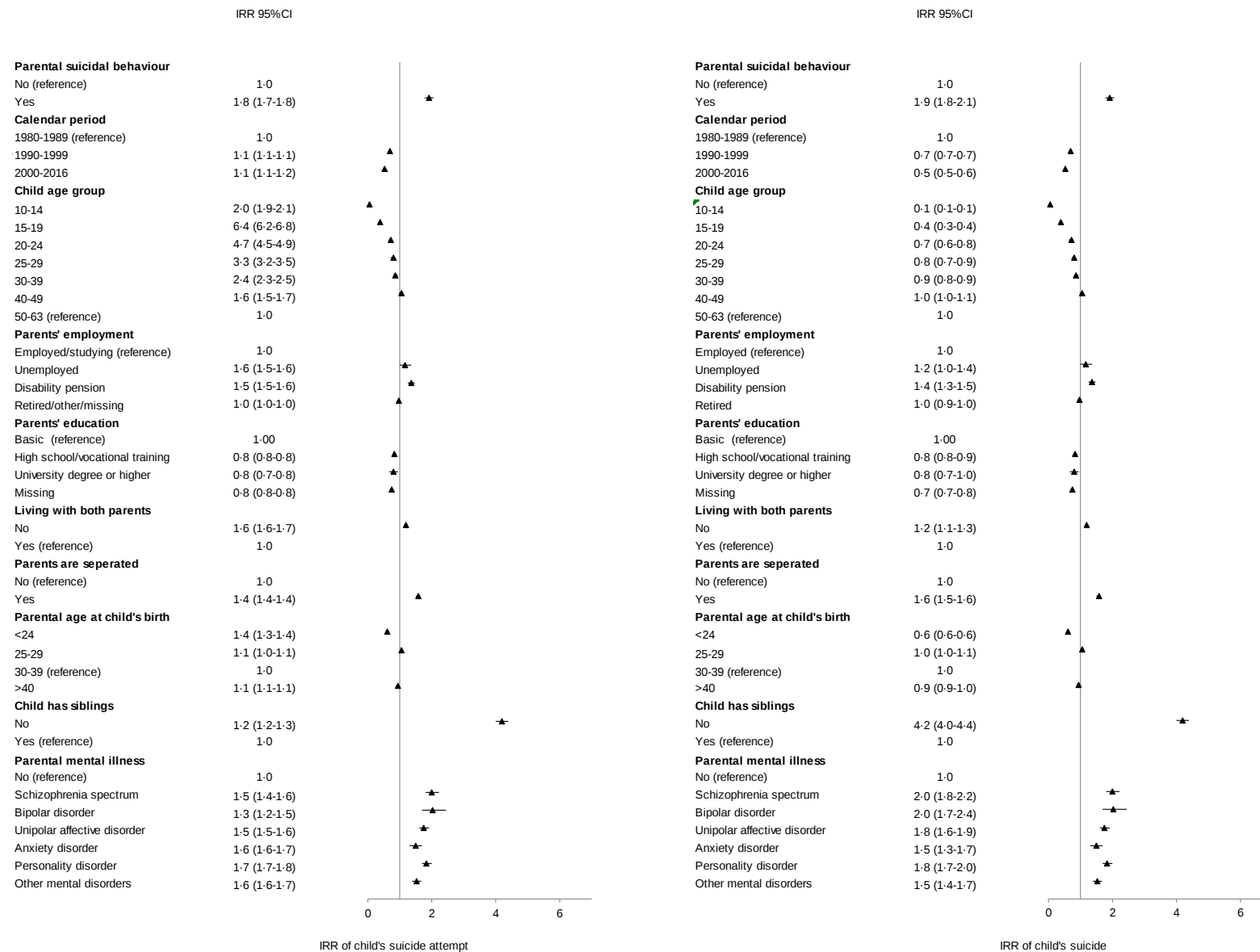
Applying the assumption that the majority of children aged 15 years or younger in 1969 were likely to live with their parents, we were able to identify legal parents for the majority of children born in 1953 or later. Based on previous estimates, approximately 70% children born in 1953 could be linked to their ‘legal’ mother and 40% to their ‘legal’ father.² For children born in 1960, >98% and >95% had links to their legal mother and father, respectively. In comparison, the Danish Medical Birth Register was introduced in 1973 and includes linkage to mothers, while information on biological fathers was first added later.

The legal parent listed with the child at the time of birth (or upon first record in the Civil Registration System) was considered as the primary parent. If a later record in the Civil Registration System indicated a different ID for the legal mother or legal father, this person was considered as the secondary parent, i.e. suggestive of a being a stepparent. For the purpose of this study we did not distinguish between primary or secondary parents, as both types were likely to have a relation to the child. Exposure to a suicidal behavior in either type of parents was, thus, considered as being a potential influence for the child.

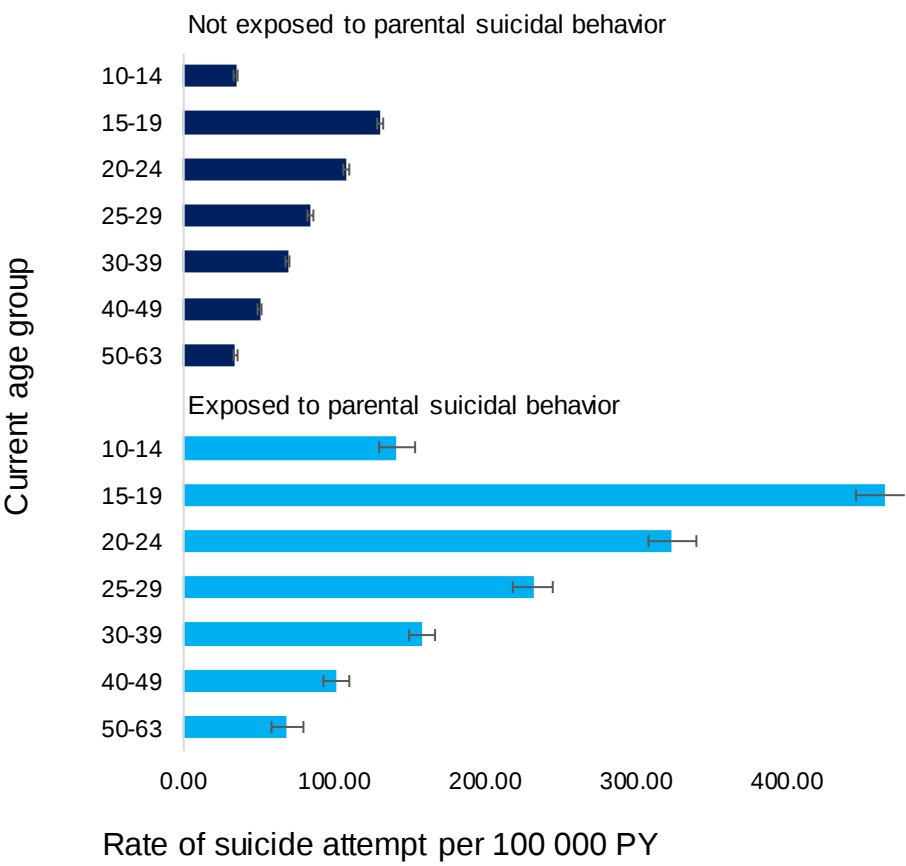
References

- 1 Pedersen CB. The Danish Civil Registration System. *Scand J Public Health* 2011; 39: 22–5.
- 2 Pedersen CB, Gotzsche H, Moller JO MP. The Danish Civil Registration System. A cohort of eight million persons. *Dan Med Bull* 2006; 4: 451–9.

Supplementary figure 1: Adjusted associations between parent and child characteristics with incidence rate ratios of child suicide attempt (left) and suicide (right).^a



Supplementary figure 2. Rates of suicide attempt with 95% confidence intervals.



Supplementary table 1. Incidence rate and incidence rate ratio of suicide attempt in male and female individuals exposed to parental suicide, suicide attempt or no parental suicidal behaviour.

	Males				Females			
	Suicide attempt (n)	IR (95% CI)	Model 1 ^a IRR (95% CI)	Model 2 ^b IRR (95% CI)	Suicide attempt (n)	IR (95% CI)	Model 1 ^a IRR (95% CI)	Model 2 ^b IRR (95% CI)
Type of exposure								
No parental suicidal behaviour	29 995	64.6 (63.9-65.4)	1 (reference)	1 (reference)	38 508	86.3 (85.4-87.1)	1 (reference)	1 (reference)
Parental suicide attempt	2773	199.0 (191.6-206.4)	2.77 (2.42-3.17)	1.92 (1.84-2.00)	3654	283.0 (273.8-292.2)	2.62 (2.11-3.25)	1.66 (1.47-1.87)
Parental suicide	473	126.9 (115.5-138.4)	1.88 (1.60-2.20)	1.39 (1.27-1.52)	477	139.0 (126.5-151.5)	2.75 (2.31-3.27)	1.89 (1.82-1.96)
Parent suicide and suicide attempt	226	177.8 (154.6-201.0)	2.57 (2.13-3.11)	1.66 (1.46-1.90)	269	224.8 (198.0-251.7)	1.72 (1.42-2.09)	1.28 (1.17-1.40)
Relationship and type of exposure								
No parental suicidal behaviour	29 995	64.6 (63.9-65.4)	1 (reference)	1 (reference)	38 508	86.3 (85.4-87.1)	1 (reference)	1 (reference)
Father's suicide	1055	179.0 (168.2-189.8)	1.85 (1.56-2.20)	1.38 (1.24-1.54)	1424	251.4 (238.3-264.4)	1.65 (1.34-2.02)	1.25 (1.12-1.38)
Father's suicide attempt	342	127.2 (113.7-140.7)	2.46 (2.12-2.86)	1.84 (1.47-2.29)	346	138.2 (123.7-152.8)	2.25 (1.86-2.72)	1.58 (1.50-1.67)
Father's suicide and suicide attempt	103	165.0 (133.2-196.9)	2.32 (1.82-2.95)	1.56 (1.29-1.90)	128	212.5 (175.7-249.4)	2.26 (1.75-2.93)	1.51 (1.27-1.80)
Mother's suicide	1528	202.1 (192.0-212.3)	1.84 (1.47-2.29)	1.37 (1.15-1.63)	1943	285.2 (272.5-297.9)	1.85 (1.45-2.37)	1.39 (1.17-1.66)
Mother's suicide attempt	125	123.0 (101.5-144.6)	2.81 (2.44-3.24)	2.04 (1.93-2.15)	128	140.6 (116.3-165.0)	2.85 (2.38-3.41)	2.07 (1.98-2.17)
Mother's suicide and suicide attempt	59	131.4 (97.8-164.9)	1.94 (1.45-2.60)	1.28 (0.99-1.66)	75	184.5 (142.7-226.2)	2.29 (1.71-3.07)	1.54 (1.23-1.93)
Both parents suicidal behaviour	260	370.9 (325.8-416.0)	5.06 (4.18-6.13)	2.77 (2.44-3.13)	356	556.5 (498.7-614.3)	5.29 (4.24-6.58)	2.94 (2.64-3.27)

IR: Incidence Rate per 100 000 person-years. IRR: Incidence Rate Ratio.

^a Adjusted for calendar period and current age group.

^b Adjusted for calendar period, current age group, living with both parents, siblings, parents separated, maternal and paternal age at child's birth, parents' level of education, parents' socio-economic status, and parents' mental disorders.

Supplementary table 2. Incidence rate and incidence rate ratio of suicide in male and female individuals exposed to parental suicide, suicide attempt or no parental suicidal behaviour.

	Suicide (n)	IR (95% CI)	Males		Suicide (n)	IR (95% CI)	Females	
			Model 1 ^a	Model 2 ^b			Model 1 ^a	Model 2 ^b
			IRR (95% CI)	IRR (95% CI)			IRR (95% CI)	IRR (95% CI)
Type of exposure								
No parental suicidal behaviour	7553	16.1 (15.8-16.5)	1 (reference)	1 (reference)	2420	5.4 (5.1-5.6)	1 (reference)	1 (reference)
Parental suicide attempt	492	34.3 (31.2-37.3)	2.35 (2.13-2.60)	1.78 (1.61-1.96)	139	10.3 (8.6-12.0)	2.34 (1.41-3.87)	1.43 (0.87-2.35)
Parental suicide	220	57.7 (50.1-65.4)	3.04 (2.64-3.50)	2.33 (2.03-2.67)	75	21.3 (16.5-26.1)	2.31 (1.90-2.82)	1.61 (1.34-1.94)
Parent suicide and suicide attempt	73	55.4 (42.7-68.1)	3.19 (2.53-4.04)	2.22 (1.76-2.80)	16	12.8 (6.5-19.1)	3.53 (2.75-4.54)	2.40 (1.90-3.04)
Relationship and type of exposure								
No parental suicidal behaviour	7553	16.1 (15.8-16.5)	1 (reference)	1 (reference)	2420	5.4 (5.1-5.6)	1 (reference)	1 (reference)
Father's suicide	171	28.3 (24.1-32.5)	2.90 (2.45-3.43)	2.32 (1.97-2.74)	42	7.2 (5.0-9.3)	3.26 (2.42-4.39)	2.40 (1.80-3.20)
Father's suicide attempt	147	53.5 (44.8-62.1)	2.07 (1.77-2.43)	1.58 (1.35-1.85)	49	19.0 (13.7-24.4)	1.70 (1.24-2.35)	1.23 (0.90-1.68)
Father's suicide and suicide attempt	24	37.2 (22.3-52.1)	2.28 (1.52-3.42)	1.67 (1.12-2.50)	5	8.0 (1.0-15.0)	1.55 (0.64-3.75)	1.04 (0.43-2.51)
Mother's suicide	302	38.7 (34.3-43.1)	3.28 (2.57-4.17)	2.26 (1.78-2.87)	86	12.1 (9.5-14.6)	4.08 (2.72-6.13)	2.40 (1.61-3.57)
Mother's suicide attempt	69	66.4 (50.7-82.0)	2.53 (2.23-2.86)	1.92 (1.71-2.17)	25	26.8 (16.3-37.3)	2.52 (1.99-3.19)	1.77 (1.42-2.22)
Mother's suicide and suicide attempt	26	56.3 (34.7-78.0)	3.01 (2.04-4.43)	1.98 (1.35-2.92)	6	14.2 (2.8-25.5)	2.39 (1.07-5.36)	1.34 (0.60-3.00)
Both parents suicidal behaviour	46	61.5 (43.7-79.3)	4.16 (3.10-5.57)	2.72 (2.03-3.65)	17	24.3 (12.8-35.9)	5.43 (3.33-8.85)	3.12 (1.92-5.06)

IR: Incidence Rate per 100 000 person-years. IRR: Incidence Rate Ratio.

^a Adjusted for calendar period and current age group.

^b Adjusted for calendar period, current age group, living with both parents, siblings, parents separated, maternal and paternal age at child's birth, parents' level of education, parents' socio-economic status, and parents' mental disorders.

Supplementary table 3. Incidence rate and incidence rate ratio of suicide attempt in individuals exposed to any parental suicidal behaviour stratified by parental mental illness and mental illness of the child.

	Suicide attempt (n)	IR (95% CI)	Model 1 ^a IRR (95% CI)	Model 2 ^b IRR (95% CI)
No parental suicidal behaviour				
No parental mental illness and no child mental illness	30 644	39.6 (39.1-40.0)	1 (reference)	1 (reference)
Parental mental illness and no child mental illness	6 243	68.1 (66.4-69.8)	1.9 (1.7-2.2)	1.7 (1.7-1.8)
No parental mental illness and child mental illness	24 314	704.1 (695.2-712.9)	24.9 (22.8-27.2)	23.7 (23.3-24.1)
Parental mental illness and child mental illness	7 302	738.5 (721.6-755.4)	25.2 (22.1-28.8)	21.7 (21.1-22.3)
Parental suicidal behaviour				
No parental mental illness and no child mental illness	1 850	106.5 (101.7-111.4)	2.8 (2.2-3.6)	2.4 (2.3-2.6)
Parental mental illness and no child mental illness	1 968	129.6 (123.9-135.3)	3.5 (2.8-4.4)	2.8 (2.7-3.0)
No parental mental illness and child mental illness	1 732	1 046.7 (997.4-1 096.0)	34.8 (27.2-44.4)	28.2 (26.8-29.6)
Parental mental illness and child mental illness	2 322	1 024.8 (983.2-1 066.5)	34.3 (27.7-42.5)	26.3 (25.2-27.5)

IR, incidence rate, IRR, incidence rate ratio.

^a Adjusted for calendar period and current age group.

^b Adjusted for calendar period, current age group, living with both parents, siblings, parents separated, maternal and paternal age at child's birth, parents' level of education, and parents' socio-economic status.

Supplementary table 4. Incidence rate and incidence rate ratio of suicide in individuals exposed to any parental suicidal behaviour stratified by parental mental illness and mental illness of the child.

	Suicide (n)	IR (95% CI)	Model 1 ^a IRR (95% CI)	Model 2 ^b IRR (95% CI)
No parental suicidal behaviour				
No parental mental illness and no child mental illness	4 638	6.0 (5.8-6.1)	1 (reference)	1 (reference)
Parental mental illness and no child mental illness	891	9.6 (9.0-10.3)	1.8 (1.6-1.9)	1.9 (1.8-2.0)
No parental mental illness and child mental illness	3 443	88.5 (85.5-91.4)	15.3 (14.7-16.1)	14.6 (13.9-15.2)
Parental mental illness and child mental illness	1 001	88.6 (83.1-94.1)	17.3 (16.1-18.5)	18.0 (16.8-19.4)
Parental suicidal behaviour				
No parental mental illness and no child mental illness	236	13.4 (11.7-15.1)	2.6 (2.2-2.9)	2.7 (2.3-3.0)
Parental mental illness and no child mental illness	233	15.1 (13.2-17.1)	2.8 (2.4-3.2)	2.9 (2.5-3.3)
No parental mental illness and child mental illness	219	110.2 (95.6-124.8)	22.4 (19.5-25.6)	22.7 (19.8-26.1)
Parental mental illness and child mental illness	327	118.1 (105.3-130.9)	23.3 (20.8-26.1)	23.8 (21.1-26.7)

IR, incidence rate, IRR, incidence rate ratio.

^a Adjusted for calendar period and current age group.

^b Adjusted for calendar period, current age group, living with both parents, siblings, parents separated, maternal and paternal age at child's birth, parents' level of education, and parents' socio-economic status.

Supplementary table 5: Method of suicide attempt and suicide among parents and children.

a) Suicide attempt

	Method of suicide among children					
	Poisoning n (%)	Hanging n (%)	Shooting n (%)	Cutting n (%)	Others n (%)	Total n (%)
Method of suicide among parents						
Poisoning	62 (39.2)	45 (28.5)	30 (19.0)	17 (10.8)	4 (2.5)	158 (100.0)
Hanging	30 (26.3)	55 (48.3)	22 (19.3)	7 (6.14)	0	114 (100.0)
Others	19 (26.8)	22 (31.0)	23 (32.4)	6 (8.5)	≤4	71 (100.0)
Shooting	≤ 10	14 (38.9)	8 (22.2)	6 (16.7)	≤4	36 (100.0)
Cutting	≤4	≤4	≤4	0	0	5 (100.0)
Total	119	138	26	36	6	384 (100.0)

b) Suicide

	Method of suicide attempt among children					Total n (%)
	Poisoning n (%)	Hanging n (%)	Shooting n (%)	Cutting n (%)	Others n (%)	
Method of suicide attempt among parents						
Poisoning	3076 (60.5)	66 (1.3)	8 (0.2)	682 (13.4)	1250 (24.6)	5082 (100.0)
Hanging	27 (48.2)	≤4	0	13 (23.2)	14 (25.0)	56 (100.0)
Others	7 (33.3)	0	0	6 (28.6)	8 (38.6)	21 (100.0)
Shooting	218 (58.1)	7 (1.9)	≤4	68 (18.1)	82 (21.8)	376 (100.0)
Cutting	792 (57.1)	26 (1.9)	≤4	211 (15.2)	357 (25.7)	1387 (100.0)
Total	4120	101	10	980	1711	6922 (100.0)

Supplementary table 6: Odds ratios for violent suicidal methods among children according to exposure to parental suicide.

	Child's suicide attempt or suicide	
	Violent methods (n)	Odds ratio ^a (95% CI)
Parent suicide attempt	465	1 (reference)
Parent suicide	202	1.96 (1.65-2.34)
Parent suicide attempt and suicide	68	1.48 (1.14-1.94)

^a Crude estimates.