Supplementary materials

Supplementary Table 1- Diagnostic codes

Outcome: Non-affective psychotic disorders	**ICD-10:** F20-F29
Dementia diagnoses	**ICD-10**: F00, F01, F02, F03 **ICD-9**: 291.2, 292.82, 294.1, 294.2, 294.1x, 294.2x, 331.19, 331.82
Hearing impairment	**ICD-10:** H90, H80, Z46.1, Z82.2, Z96.2 **ICD-9:** 369, 387, 95.48, V19.2, V53.2, Z97.4
Visual impairment	**ICD-10:** H54, H25, H31.1, H33, H34, H35.3, H35.4, H36, H40, H42, H44.5, Z44.2, Z82.1, Z90.01, Z97.0 **ICD-9:** 389, 360.41, 361, 362.0, 362.3, 362.5, 362.6, 363.4, 365, 366, 368, V19.0, V41.0, V42F, V43.0, V45.78, V52.2

Supplementary Table 2- Missing data (disposable income at age 60)

	Missing, N (%)	χ^2 p-value
Sex:		P≤.001
Men	26,782 (1.79)	
Women	24,800 (1.64)	
Age:		P≤.001
60-64	11,113 (2.13)	
65-69	12,906 (1.74)	
70-74	10,934 (1.89)	
75-79	9,823 (2.01)	
80-84	4,666 (1.18)	
85-90+	2,140 (0.76)	
Region of origin:		P≤.001
Africa	1,580 (23.75)	
Asia	5,369 (23.37)	
North America	719 (11.41)	
Europe	16,737 (9.39)	
Sweden	22,214 (0.84)	
South America	733 (8.28)	
Oceania	26 (10.32)	
Other	152 (65.77)	
Middle East	1,302 (11.42)	
Russia-Baltic	767 (5.38)	
Finland	1,983 (1.69)	
Birth period:		P≤.001
1920-4	3,082 (0.60)	
1925-9	7,653 (1.73)	
1930-4	8,791 (2.11)	
1934-Aug39	8,033 (1.94)	
WW2-May 1946	13,136 (1.71)	
Post WW2-1949	10,887 (2.40)	
Child with a psychotic disorder:		P≤.001
Yes	51,235 (1.74)	
No	347 (0.49)	
Death of a child in infancy:		P≤.001
Had no children	40,319 (8.42)	
No children died	11,159 (0.45)	
1 child died	99 (0.31)	
2+ children died	5 (0.26)	
Death of a partner two years before date of exit:		P≤.001
Had no partner	38,411 (2.84)	
Had partner, no partner died	12,656 (0.8)	
1 or more partners died	515 (0.7)	
Visual impairment		P≤.001
No	51,390 (2.27)	
Yes	192 (0.03)	
Hearing impairment		P≤.001
No	50,425 (1.78)	
Yes	1,157 (0.64)	

Supplementary Table 3- Migration sensitivity analysis

	Fully adjusted hazard ratio[a]	Sensitivity analysis[ab]
Offspring with a non-affective psychotic disorder (ref: no offspring with a non-affective psychotic disorder)	2.40 (2.23 – 2.58)	2.40 (2.23 – 2.59)
Region of origin (ref: Sweden)		
Africa	1.98 (1.44 – 2.72)	1.54 (1.07 – 2.22)
Asia	1.01 (0.81 – 1.25)	0.85 (0.67 – 1.08)
North America	1.38 (1.02 – 1.87)	1.32 (0.97 – 1.80)
Europe	1.32 (1.24 – 1.40)	1.19 (1.12 – 1.27)
South America	1.11 (0.82 – 1.50)	0.96 (0.69 – 1.33)
Oceania	1.10 (0.16 – 7.83)	1.12 (0.16 – 7.96)
Middle East	0.69 (0.49 – 0.96)	0.57 (0.40 – 0.83)
Russia-Baltic	1.62 (1.37 – 1.91)	1.54 (1.30 – 1.83)
Finland	1.57 (1.46 – 1.68)	1.43 (1.33 – 1.54)
Birth period (ref: 1920-1924)		
1925- 1929	1.03 (0.98 – 1.08)	1.03 (0.98 – 1.08)
1930 - 1934	1.34 (1.27 – 1.41)	1.34 (1.27 – 1.41)
1934 - August 1939	1.63 (1.53 – 1.73)	1.63 (1.54 – 1.74)
WW2 - May 1946	2.35 (2.20 – 2.50)	2.31 (2.16 – 2.46)
Post-WW2 - 1949	3.09 (2.79 – 3.42)	2.96 (2.66 – 3.29)
Disposable income at age 60 (ref: highest income quartile (4))		
Income quartile 1 (lowest)	3.07 (2.89 – 3.25)	3.03 (2.86 – 3.22)
Income quartile 2	2.72 (2.56 – 2.88)	2.69 (2.53 – 2.85)
Income quartile 3	1.46 (1.37 – 1.55)	1.45 (1.36 – 1.54)
Death of a child (under 12 months of age) (ref: no children died):		
Had no children	2.41 (2.32 – 2.50)	2.41 (2.33 – 2.50)
1 or more children died (under 12 months)	1.20 (1.00 – 1.44)	1.21 (1.00 – 1.45)
1 or more children died (12 months to 18 years)	0.99 (0.81 – 1.20)	1.00 (0.82 – 1.22)
Death of a partner 2 years before date of exit (ref: no partner died)		
Had no partner	1.86 (1.78 – 1.93)	1.86 (1.79 – 1.94)
1 or more partners died	1.14 (1.02 – 1.27)	1.15 (1.03 – 1.28)
Visual impairment (ref: no visual impairment)	0.24 (0.23 – 0.25)	0.24 (0.23 – 0.25)
Hearing impairment (ref: no hearing impairment)	0.55 (0.50 – 0.60)	0.54 (0.50 – 0.59)

[a]Adjusted for age, sex, their interaction, and all exposures included in this table
[a]Excluding migrants diagnosed with VLOSLP within two years of arrival to Sweden

Supplementary Table 4– Dementia sensitivity analysis

	Fully adjusted hazard ratio[a]	Sensitivity analysis[a,b]
Offspring with a non-affective psychotic disorder (ref: no offspring with a non-affective psychotic disorder)	2.40 (2.23 – 2.58)	2.43 (2.26 – 2.62)
Region of origin (ref: Sweden)		
Africa	1.98 (1.44 – 2.72)	1.96 (1.42 – 2.71)
Asia	1.01 (0.81 – 1.25)	1.00 (0.80 – 1.25)
North America	1.38 (1.02 – 1.87)	1.42 (1.05 – 1.92)
Europe	1.32 (1.24 – 1.40)	1.31 (1.23 – 1.39)
South America	1.11 (0.82 – 1.50)	1.08 (0.79 – 1.47)
Oceania	1.10 (0.16 – 7.83)	1.13 (0.16 – 8.03)
Middle East	0.69 (0.49 – 0.96)	0.64 (0.45 – 0.91)
Russia-Baltic	1.62 (1.37 – 1.91)	1.65 (1.39 – 1.95)
Finland	1.57 (1.46 – 1.68)	1.56 (1.45 – 1.67)
Birth period (ref: 1920-1924)		
1925- 1929	1.03 (0.98 – 1.08)	1.00 (0.96 – 1.05)
1930 - 1934	1.34 (1.27 – 1.41)	1.29 (1.22 – 1.36)
1934 - August 1939	1.63 (1.53 – 1.73)	1.56 (1.47 – 1.66)
WW2 - May 1946	2.35 (2.20 – 2.50)	2.26 (2.11 – 2.41)
Post-WW2 - 1949	3.09 (2.79 – 3.42)	2.96 (2.68 – 3.29)
Disposable income at age 60 (ref: highest income quartile (4))		
Income quartile 1 (lowest)	3.07 (2.89 – 3.25)	3.13 (2.95 – 3.23)
Income quartile 2	2.72 (2.56 – 2.88)	2.75 (2.60 – 2.92)
Income quartile 3	1.46 (1.37 – 1.55)	1.46 (1.37 – 1.56)
Death of a child (under 12 months of age) (ref: no children died):		
Had no children	2.41 (2.32 – 2.50)	2.42 (2.33 – 2.51)
1 or more children died (under 12 months)	1.20 (1.00 – 1.44)	1.17 (0.97 – 1.41)
1 or more children died (12 months to 18 years)	0.99 (0.81 – 1.20)	1.01 (0.83 – 1.23)
Death of a partner 2 years before date of exit (ref: no partner died)		
Had no partner	1.86 (1.78 – 1.93)	1.87 (1.80 – 1.95)
1 or more partners died	1.14 (1.02 – 1.27)	1.11 (0.99 – 1.24)
Visual impairment (ref: no visual impairment)	0.24 (0.23 – 0.25)	0.24 (0.23 – 0.25)
Hearing impairment (ref: no hearing impairment)	0.55 (0.50 – 0.60)	0.53 (0.49 – 0.58)

[a]Adjusted for all variables in this table, age, sex, region of origin and offspring psychotic disorder
[b]Sensivity analysis excluding those diagnosed with dementia in the two years after diagnosis with VLOSLP (N=421)

Supplementary Table 5– Assessment of proportional hazards assumption

Variable	Schoenfeld residuals test[a]
Offspring with a non-affective psychotic disorder	$\chi^2(1)=0.79$, P=0.37
Region of origin	$\chi^2(10)=12.52$, P=0.25
Disposable income at age 60	**$\chi^2(3)=139.70$, P≤.001**
Birth period	**$\chi^2(5)=18.05$, P=0.003**
Death of a partner	**$\chi^2(2)=16.83$, P≤.001**
Death of a child aged under 12 months	**$\chi^2(2)=24.00$, P≤.001**
Death of a child aged 12 months to 18 years	**$\chi^2(2)=24.91$, P≤.001**
Visual impairment	**$\chi^2(1)=347.36$, P≤.001**
Hearing impairment	**$\chi^2(1)=54.79$, P≤.001**

[a]Schoenfeld residuals test, global p-value. Bold denotes possible violation of proportional hazards assumption (see eTable 5)

Supplementary Table 6– Hazard ratios stratified by time[a]

Variable	Time 1[bc]	Time 2[bd]	Time 3[be]
Disposable income at age 60 (ref: highest income quartile)			
Income quartile 1 (lowest)	4.58 (4.14 – 5.07)	3.01 (2.72 – 3.32)	2.01 (1.82 – 2.22)
Income quartile 2	4.03 (3.65 – 4.46)	2.44 (2.21 – 2.69)	1.92 (1.74 – 2.12)
Income quartile 3	1.68 (1.51 – 1.87)	1.34 (1.22 – 1.51)	1.30 (1.17 – 1.44)
Death of a partner			
Had no partner	1.93 (1.81 – 2.05)	1.84 (1.72 – 1.96)	1.80 (1.67 – 1.94)
1 or more partners died	0.90 (0.71 – 1.15)	1.00 (0.83 – 1.21)	1.36 (1.16 – 1.60)
Death of a child (ref: had children, none died)			
Had no children	2.43 (2.28 – 2.59)	2.31 (2.16 – 2.46)	2.44 (2.29 – 2.59)
1 or more children died aged under 12 months	1.04 (0.79 – 1.38)	1.45 (1.09 – 1.94)	1.18 (0.76 – 1.83)
1 or more children died aged 12 months – 18 years	0.78 (0.53 – 1.13)	1.07 (0.78 – 1.47)	1.11 (0.80 – 1.54)
Birth period (ref: 1920-1924)			
1925 - 1929	0.85 (0.76 – 0.95)	1.20 (1.11 – 1.30)	0.89 (0.83 – 0.95)
1930 - 1934	1.26 (1.12 – 1.41)	1.34 (1.34 – 1.59)	1.23 (1.11 – 1.36)
1934 - August 1939	1.69 (1.52 – 1.89)	1.65 (1.50 – 1.81)	2.40 (0.59 – 9.74)
Sep 1939 - May 1946 (gestational exposure to WWII)	2.48 (2.25 – 2.73)	1.84 (1.58 – 2.10)	-
Jun 1946 - 1949	3.16 (2.79 – 3.57)	-	-
Visual impairment (ref: no visual impairment)	0.14 (0.12 – 0.15)	0.17 (0.15 – 0.19)	0.34 (0.32 – 0.36)
Hearing impairment (ref: no hearing impairment)	0.34 (0.28 – 0.40)	0.45 (0.39 – 0.56)	0.70 (0.62 – 0.80)

[a]Adjusted for all variables in this table, age, sex, region of origin and offspring psychotic disorder
[b]Time split into centiles based on failure rates
[c]Time 1: January 1980 – May 1988
[d]Time 2: May 1988 – October 1996
[e]Time 3: October 1996 – December 2011

Supplementary Methods

Further information on estimating gestational exposure to WWII

To investigate the possible role of gestational exposure to maternal stressors experienced during World War II (WWII: 1st Sep 1939-2nd Sep 1945), we assumed a typical gestation of 40 weeks (280 days). All participants born from the first day of WWII (1st Sep 1939), up until to 279 days after the end of the war (2nd Sep 1945 + 279 days = 8th June 1946) were classified as having had some gestational exposure to WWII. Date of birth in the Register of the Total Population is only available for research purposes for the month and year of birth, with all participants given a birthday of the 15th of their birth month. For this reason, our gestational exposure definition excluded all people born in June 1946, making our gestational exposure window effectively Sep 1945 – May 1946. Remaining participants were coded to the following birth periods, based on their date of birth: 1920-1924, 1925-1929, 1930-1933, 1934-Aug 1939, June 1946-1949. Although Sweden remained neutral during WWII, it nevertheless remained subject to naval blockades, food and fuel shortages, rationing (until 1951), accidental bombings and threats of invasion throughout this period.

Further information on estimating death of a partner

Two assumptions were made to allow us to define partner deaths in the two years prior to cohort exit. First, prior to the LISA, information on partner statuses were only available from quinquennial censuses (i.e. 1985, 1980, 1975). We therefore assumed that for participants who exited the cohort prior to 1990, their partner status was consistent with their last census entry (i.e. someone who left the cohort between 1986-1989 would be coded to their partner status in the 1985 census). Second, the exact date at which partner status was recorded (via Census or the LISA) was not given, therefore partner status recorded in a given year was assumed to apply for the whole year.