

Supplementary materials

Supplementary Table 1. Age-specific dementia incidence rates per 1000 person-years at risk and their 95% confidence intervals, men and women in 2001–2018.

Supplementary Table 2. International Classification of Diseases (ICD) codes for medical conditions in 1970–2000.

Supplementary Table 3. Hazard ratios for dementia by a history of clinical depression, and covariates for cohorts born in 1920–1934

Supplementary Table 4. Hazard ratios for dementia by a history of clinical depression, and covariates for cohorts born in 1935–1950

Supplementary Table 5. Hazard ratios for dementia by a history of clinical depression, and covariates for cohorts born in 1900–1919

Supplementary Figure 1. Association between a history of clinical depression and dementia by sex and birth cohort

Supplementary Figure 2. Association between a history of clinical depression and dementia by educational level and birth cohort

Supplementary Figure 3. Association between a history of clinical depression and dementia by marital status and birth cohort

Supplementary Table 1. Age-specific dementia incidence rates per 1000 person-years at risk and their 95% confidence intervals, men and women in 2001–2018.

Age group	Men	Women
65–69	3.2 (3.1–3.3)	3.0 (2.9–3.1)
70–74	8.3 (8.2–8.4)	7.7 (7.6–7.8)
75–79	19.6 (19.3–19.8)	18.9 (18.7–19.1)
80–84	36.8 (36.4–37.2)	37.0 (36.6–37.3)
85–89	55.1 (54.3–55.9)	57.5 (57.0–58.0)
≥90	62.6 (61.2–64.1)	66.0 (65.2–66.8)

Supplementary Table 2. International Classification of Diseases (ICD) codes for medical conditions in 1970–2000.

	ICD-8 (1970–1986)	ICD-9 (1987–1995)	ICD-10 (1996–2000)
Alcohol-related diseases and accidental poisoning by alcohol	291, 303, 5710, 577, E860	291, 303, 3050, 3575, 4255, 5353, 5710–5713, 5770D–5770F, 5771C–5771D, E851	F10, G312, G4051, G612, G721, I426, K292, K70, K860, O354, X45
COPD/asthma	491–493	491–493 (excl. 4939C)	J43–J46
Diabetes	250	250	E10–E14
CHD	410–414	410–414	I20–I25
Other CVDs	390–458 (excl. 410–414, 430–438)	390–458 (excl. 410–414, 430–438)	I00–I79 (excl. I20–I25, I60–I66)

COPD, chronic obstructive pulmonary disease; CHD, coronary heart disease; CVD, cardiovascular disease

Supplementary Table 3. Hazard ratios for dementia by a history of clinical depression, and covariates for cohorts born in 1920–1934^a

Exposure variable	HR (95% CI)		
	Model 1 ^b	Model 2 ^c	Model 3 ^c
History of clinical depression			
No	1 [Reference]	1 [Reference]	1 [Reference]
Yes	1.28 (1.23–1.33)	1.27 (1.22–1.31)	1.24 (1.20–1.29)
Education			
Tertiary	1 [Reference]	1 [Reference]	1 [Reference]
Secondary	1.09 (1.07–1.11)	1.09 (1.07–1.11)	1.09 (1.07–1.11)
Basic	1.14 (1.13–1.16)	1.14 (1.13–1.16)	1.14 (1.12–1.16)
Marital status			
Married	1 [Reference]	1 [Reference]	1 [Reference]
Divorced	1.09 (1.07–1.11)	1.08 (1.06–1.10)	1.08 (1.06–1.10)
Widowed	1.04 (1.03–1.06)	1.04 (1.02–1.05)	1.04 (1.02–1.05)
Never married	1.03 (1.01–1.04)	1.03 (1.01–1.05)	1.03 (1.02–1.05)
Medical conditions ^d			
Alcohol-related ^e	1.23 (1.18–1.30)		1.18 (1.12–1.24)
COPD/asthma	1.05 (1.02–1.09)		1.04 (1.01–1.07)
Diabetes	1.38 (1.29–1.48)		1.36 (1.27–1.46)
CHD	1.11 (1.08–1.14)		1.09 (1.06–1.12)
Other CVDs	1.05 (1.03–1.06)		1.04 (1.03–1.05)

COPD, chronic obstructive pulmonary disease; CHD, coronary heart disease; CVD, cardiovascular disease

^a N=549 647; incident dementia cases, N=174 833

^b Each exposure variable modeled separately; adjusted for sex and calendar year

^c Exposure variables mutually adjusted; adjusted for sex and calendar year

^d Reference: not having this particular condition

^e Alcohol-related diseases and accidental poisoning by alcohol

Supplementary Table 4. Hazard ratios for dementia by a history of clinical depression, and covariates for cohorts born in 1935–1950^a

Exposure variable	HR (95% CI)		
	Model 1 ^b	Model 2 ^c	Model 3 ^c
History of clinical depression			
No	1 [Reference]	1 [Reference]	1 [Reference]
Yes	1.53 (1.44–1.61)	1.47 (1.39–1.55)	1.40 (1.32–1.48)
Education			
Tertiary	1 [Reference]	1 [Reference]	1 [Reference]
Secondary	1.18 (1.15–1.21)	1.17 (1.14–1.20)	1.17 (1.14–1.19)
Basic	1.27 (1.24–1.29)	1.26 (1.23–1.28)	1.25 (1.22–1.27)
Marital status			
Married	1 [Reference]	1 [Reference]	1 [Reference]
Divorced	1.18 (1.15–1.21)	1.16 (1.13–1.19)	1.15 (1.12–1.18)
Widowed	1.18 (1.13–1.23)	1.16 (1.11–1.21)	1.16 (1.11–1.20)
Never married	1.16 (1.13–1.19)	1.15 (1.12–1.18)	1.15 (1.12–1.17)
Medical conditions ^d			
Alcohol-related ^e	1.51 (1.43–1.60)		1.34 (1.27–1.42)
COPD/asthma	1.13 (1.07–1.19)		1.09 (1.04–1.16)
Diabetes	1.96 (1.82–2.12)		1.90 (1.76–2.05)
CHD	1.28 (1.21–1.35)		1.23 (1.16–1.30)
Other CVDs	1.06 (1.03–1.08)		1.04 (1.02–1.07)

COPD, chronic obstructive pulmonary disease; CHD, coronary heart disease; CVD, cardiovascular disease

^a N=948 630; incident dementia cases, N=67 693

^b Each exposure variable modeled separately; adjusted for sex and calendar year

^c Exposure variables mutually adjusted; adjusted for sex and calendar year

^d Reference: not having this particular condition

^e Alcohol-related diseases and accidental poisoning by alcohol

Supplementary Table 5. Hazard ratios for dementia by a history of clinical depression, and covariates for cohorts born in 1900–1919^a

Exposure variable	HR (95% CI)		
	Model 1 ^b	Model 2 ^c	Model 3 ^c
History of clinical depression			
No	1 [Reference]	1 [Reference]	1 [Reference]
Yes	1.06 (0.95–1.18)	1.06 (0.95–1.18)	1.06 (0.95–1.18)
Education			
Tertiary	1 [Reference]	1 [Reference]	1 [Reference]
Secondary	0.96 (0.92–1.01)	0.96 (0.92–1.01)	0.96 (0.92–1.01)
Basic	0.99 (0.95–1.03)	0.99 (0.95–1.03)	0.99 (0.95–1.03)
Marital status			
Married	1 [Reference]	1 [Reference]	1 [Reference]
Divorced	1.12 (1.07–1.18)	1.12 (1.07–1.18)	1.12 (1.07–1.18)
Widowed	1.01 (0.98–1.03)	1.01 (0.98–1.03)	1.01 (0.98–1.03)
Never married	0.97 (0.93–1.01)	0.97 (0.93–1.01)	0.97 (0.93–1.01)
Medical conditions ^d			
Alcohol-related ^e	1.12 (0.98–1.29)		1.12 (0.97–1.29)
COPD/asthma	1.04 (0.96–1.12)		1.03 (0.96–1.12)
Diabetes	1.02 (0.85–1.22)		1.02 (0.85–1.22)
CHD	0.98 (0.93–1.03)		0.98 (0.93–1.03)
Other CVDs	0.98 (0.95–1.01)		0.98 (0.95–1.01)

COPD, chronic obstructive pulmonary disease; CHD, coronary heart disease; CVD, cardiovascular disease

^a N=118 044; incident dementia cases, N=32 291

^b Each exposure variable modeled separately; adjusted for sex and calendar year

^c Exposure variables mutually adjusted; adjusted for sex and calendar year

^d Reference: not having this particular condition

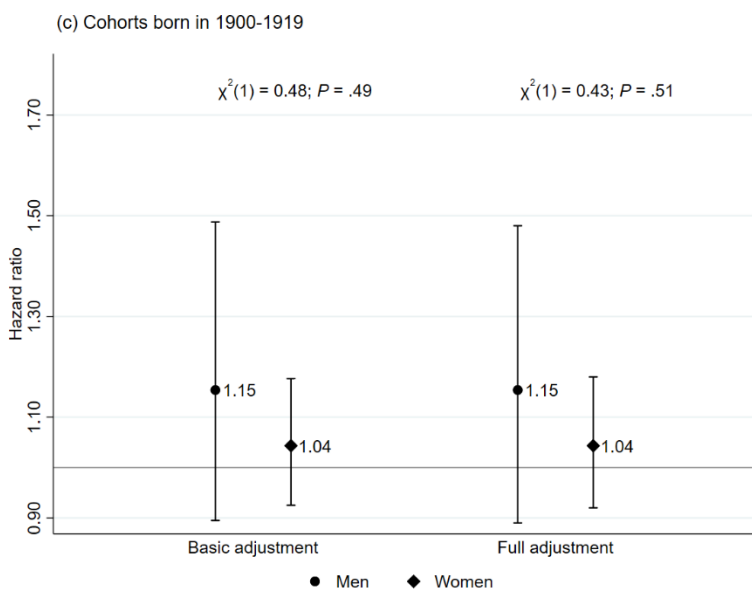
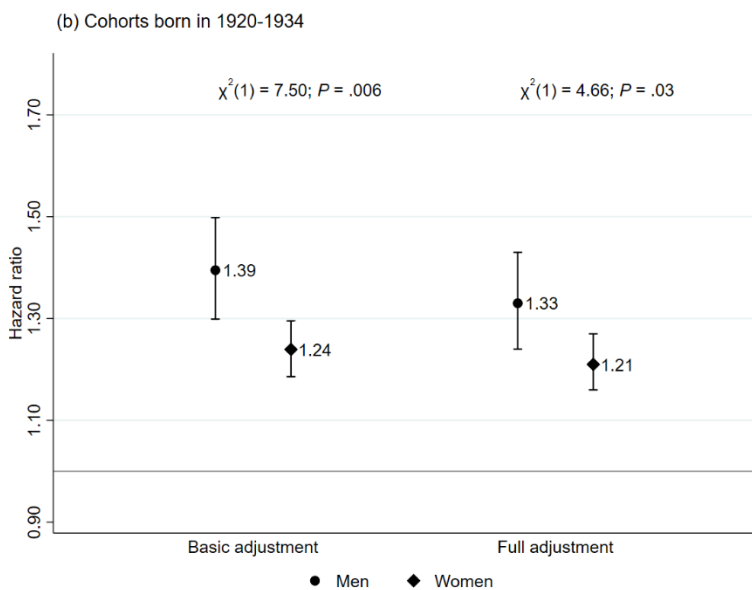
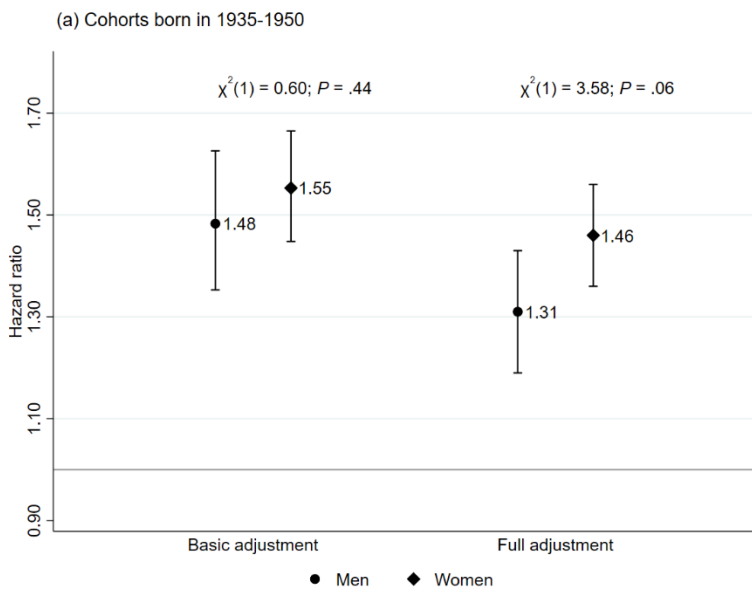
^e Alcohol-related diseases and accidental poisoning by alcohol

Supplementary Figure 1.

Association between a history of clinical depression and dementia by sex and birth cohort

Hazard Ratio = 1.00 for no history of clinical depression. *P* Value for likelihood ratio test for interaction.

In the basic adjustment, HRs are adjusted for age as the underlying time scale and calendar year. In the full adjustment, HRs are additionally adjusted for educational level, marital status, alcohol-related diseases and accidental poisoning by alcohol, chronic obstructive pulmonary disease and asthma, diabetes, coronary heart disease, and other non-stroke cardiovascular diseases. Error bars indicate 95% CIs.

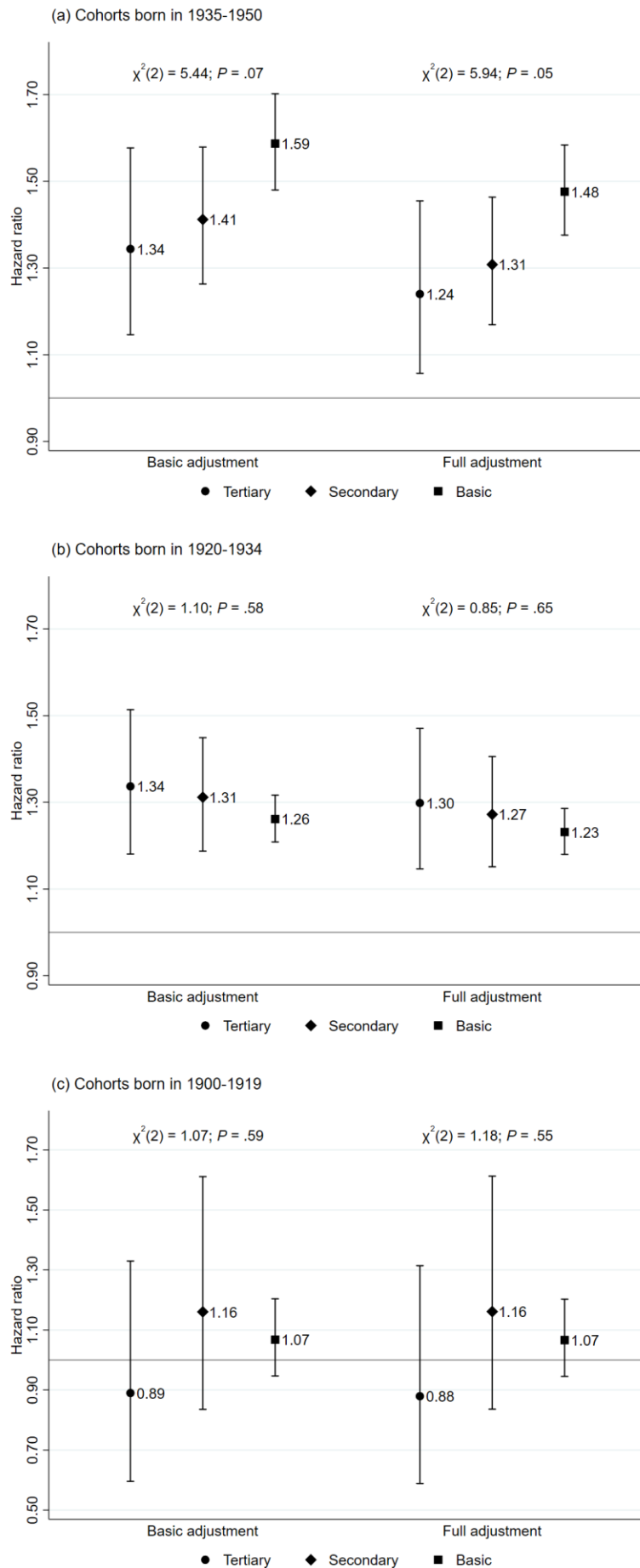


Supplementary Figure 2.

Association between a history of clinical depression and dementia by educational level and birth cohort

Hazard Ratio = 1.00 for no history of clinical depression. Note the different scale on y-axis between the panels. *P* Value for likelihood ratio test for interaction.

In the basic adjustment, HRs are adjusted for age as the underlying time scale, sex and calendar year. In the full adjustment, HRs are additionally adjusted for marital status, alcohol-related diseases and accidental poisoning by alcohol, chronic obstructive pulmonary disease and asthma, diabetes, coronary heart disease, and other non-stroke cardiovascular diseases. Error bars indicate 95% CIs.



Supplementary Figure 3.

Association between a history of clinical depression and dementia by marital status and birth cohort

Hazard Ratio = 1.00 for no history of clinical depression. Note the different scale on y-axis between the panels. *P* Value for likelihood ratio test for interaction.

In the basic adjustment, HRs are adjusted for age as the underlying time scale, sex and calendar year. In the full adjustment, HRs are additionally adjusted for educational level, alcohol-related diseases and accidental poisoning by alcohol, chronic obstructive pulmonary disease and asthma, diabetes, coronary heart disease, and other non-stroke cardiovascular diseases. Error bars indicate 95% CIs.

