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Supplementary method

Detailed information about sampling selection

1) Study sites selection

From November 2014 to December 2021, we selected 351 sites from all 31 provinces based on their geographic locations within each province, the number of residents living in rural or urban area, minority ethnicity distribution, quality of disease and death registries, and local capacity to support the project (see **Figure 1** below). Specifically, staff in the provincial coordinating office collected basic information (geographic information, economic development, population size, and minority ethnicity distribution) about the selected sites in their province; reported this information to the national coordinating office; and discussed with staff in the national coordinating office to determine the study sites. In each site, about 8-9 towns or sub-districts were chosen according to their population size, population stability (e.g., no sudden significant change in the number of residents), local staff's commitment, and ability to perform the screening. Initial screening stations were set up in each town or sub-district health center.

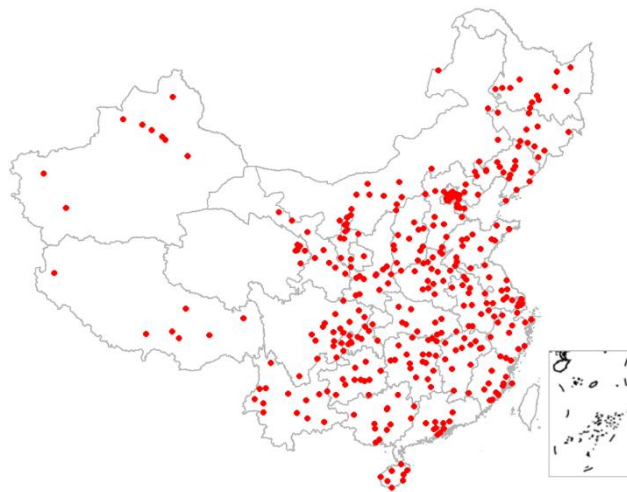


Figure 1. Study sites in ChinaHEART Project

2) Participants recruitment

Potentially eligible participants were identified in each town or sub-district through official residential records and then invited by local community workers via telephone or extensive publicity campaigns on television and in newspaper. All participants were required to bring their identity cards to the screening clinics to verify that they met the inclusion criteria: 1) aged 35 to 75 years; 2) registered in the selected site's Hukou (a record officially identifying a person as a resident of an area), and lived in the selected regions at least 6 months during the last 12 months. After the verification, eligible participants who had signed the informed consent agreement were then enrolled in the project.

For each site, an annual target number of screening was determined in advance according to the population size. The number of participants enrolled in each site was showed in the **Figure 2**. From November 2014 through December 2021, a total of 12,323,531 local residents aged 35-75 years were invited, and 4.5 million was recruited into the project. The response rate was 36.5%.

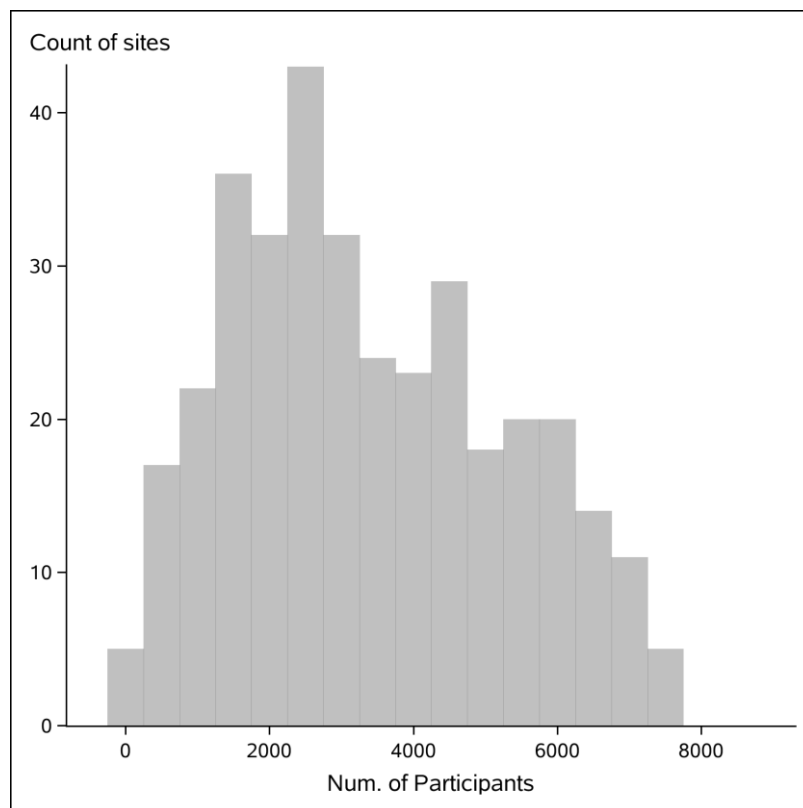
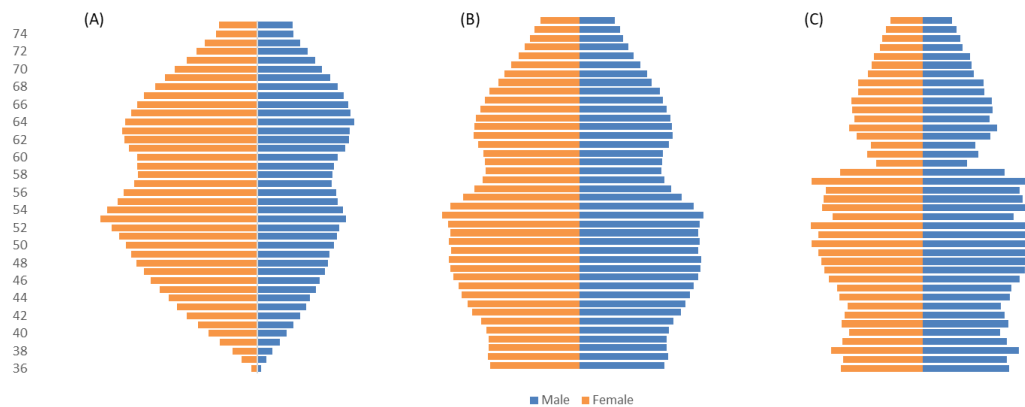


Figure 2. Number of participants enrolled in each site

3) Participants recruitment

We acknowledged that there was possible selection bias, so the distribution of education levels in our study cohort may not represent that in the national population due to the nature of non-random sampling. To measure the bias, we compared the demographic profiles in our study cohort with that in 2020 national census data. As showed in the following figure, the age and gender distributions in the inhabitants aged 35-75 years in the selected sites were similar to that in national population, while participants included in our cohort have a slight higher proportion of the aged and women than the aforementioned two populations because aged population and women are more likely connected with the health system. Moreover, the education composition in this study cohort was very close to the distribution in the national population based on the national census data as showed in following table.



Age pyramid of 2020 Chinese Census (right) and participants in this cohort (left)

Proportions of college or above in 2020 Chinese Census data and participants in this study

	2020 Chinese Census data (%)	Participants in this study (%)
1940's	3.5	3.2
1950's	4.1	3.3
1960's	7.2	6.8
1970's	13.8	15.4

Measurement of healthy lifestyle behaviours

Smoking

Participants were inquired about smoking status (never, former, or current smokers). Ever smokers were further asked for the frequency, type, and amount of cigarette per day. Former smokers were additionally asked for the reasons for cessation.

Alcohol consumption

For alcohol consumption, habitual drinking frequency ('never', 'once or less per month', '2-4 times per month', '2-3 times per week', 'more than 4 times per week') was asked in the questionnaire. For ever drinkers, the amount of alcohol consumption during a typical drinking day was further asked using an ordinal variable, including '1 or 2 units', '3 or 4 units', '5 or 6 units', '7 to 9 units' and '10 units or above'. One unit in the evaluation of alcohol consumption is equal to pure alcohol 17ml (≈ 14 g), which equals to about wine 120mL, beer 360mL, or liquor 45mL. An average daily alcohol consumption was estimated on the basis of these information.

Estimation of average daily alcohol consumption

Drinking frequency	Values	Amount of alcohol consumption during a typical drinking day	Values
never	0	1 or 2 units	1.5
once or less per month	0	3 or 4 units	3.5
2-4 times per month	0	5 or 6 units	5.5
2-3 times per week	2.5	7 to 9 units	8.0
more than 4 times per week	5.5	10 units or above	10.0

Leisure time physical activity (LTPA)

We measured habitual exercise by asking typical type of activity at different intensity (vigorous or moderate), frequency, and exercise time per week.

Typical type and intensity of LTPA	
Type	Intensity
Tai-Chi/qigong/leisure walking	Moderate
Running/aerobic exercise	Vigorous
Ball games (e.g., basketball, table tennis, badminton)	Moderate
Brisk walking/gymnastics/folk dancing	Moderate
Swimming	Vigorous
Other exercise (e.g., mountain walking, home exercise and rope jumping)	Moderate

* LTPA: leisure time physical activity. The intensity for each type of LTPA was adopted in a prior study: Zhu N, Yu C, Guo Y, et al. Adherence to a healthy lifestyle and all-cause and cause-specific mortality in Chinese adults: a 10-year prospective study of 0.5 million people. *International Journal of Behavioral Nutrition and Physical Activity* 2019;16(1):98.

Assessment of food intake

Habitual food intake frequency during the past year was asked in the questionnaire: ‘daily’, ‘4-6 days per week’, ‘1-3 days per week’, ‘1-3 days per month’, ‘never or almost never’. In this study we focused on 6 food groups: fresh fruit, fresh vegetable, whole grains (mainly referring to crops except rice and flour, including millet, corn, sorghum, sweet potato, etc.), fish and other seafood (referring to fish, shrimp, crab, shellfish, snails, etc.), bean and bean products (referring to all kinds of soy foods including tofu, dried tofu, beverage made from soybeans, etc.), and red meat (referring to a variety of fresh or processed meat such as pork, beef, lamb, etc.).

The definition of healthy diet score

Food groups	'Healthy' (score=1)
Fresh fruit	every day per week
Fresh vegetables	every day per week
Whole grains	every day per week
Fish and other seafood	≥ 1 day per week
Bean and bean products	≥ 4 days per week
Red meat	<7 days per week

Measurement of blood pressure, blood glucose, blood lipid, height, weight, and waist circumference

All measurements were taken using standardized devices and procedures by trained local staffs. Blood pressure was measured twice in the right upper arm after 5 minutes of rest in a seated position using a standardized electronic blood pressure monitor (Omron HEM-7430, Omron Corporation, Kyoto, Japan). If the difference between the two systolic blood pressure measurements was larger than 10 mmHg, a third measurement was obtained and the average of the last two readings was used. Considering the clinical meaning and data distribution, during the analysis, the SBP and DBP were divided into 20 groups by 5.6 and 2.8 mmHg, with 100mmHg and 60mmHg as the lowest limit, respectively.

Participants received lipid blood test and glucose blood test by unified devices using whole blood samples. Total cholesterol, triglycerides, and high-density lipoprotein cholesterol were measured by a rapid lipid analyzer (CardioChek PA Analyzer; Polymer Technology Systems, USA). Low density lipoprotein cholesterol was calculated with the Friedewald equation. Glucose level was measured by a rapid blood glucose analyzer (BeneCheck BK6–20M Multi-Monitoring System, Suzhou Pu Chun Tang Biotechnology, China). Participants were considered in a fasting state if they had eaten their last meal at least 8 h before their visits. Similar with blood pressure, both the TC and glucose were also divided into 20 groups by 0.28mmol/L, with the lowest limit of 2.5mmol/L and 4.5mmol/L, respectively.

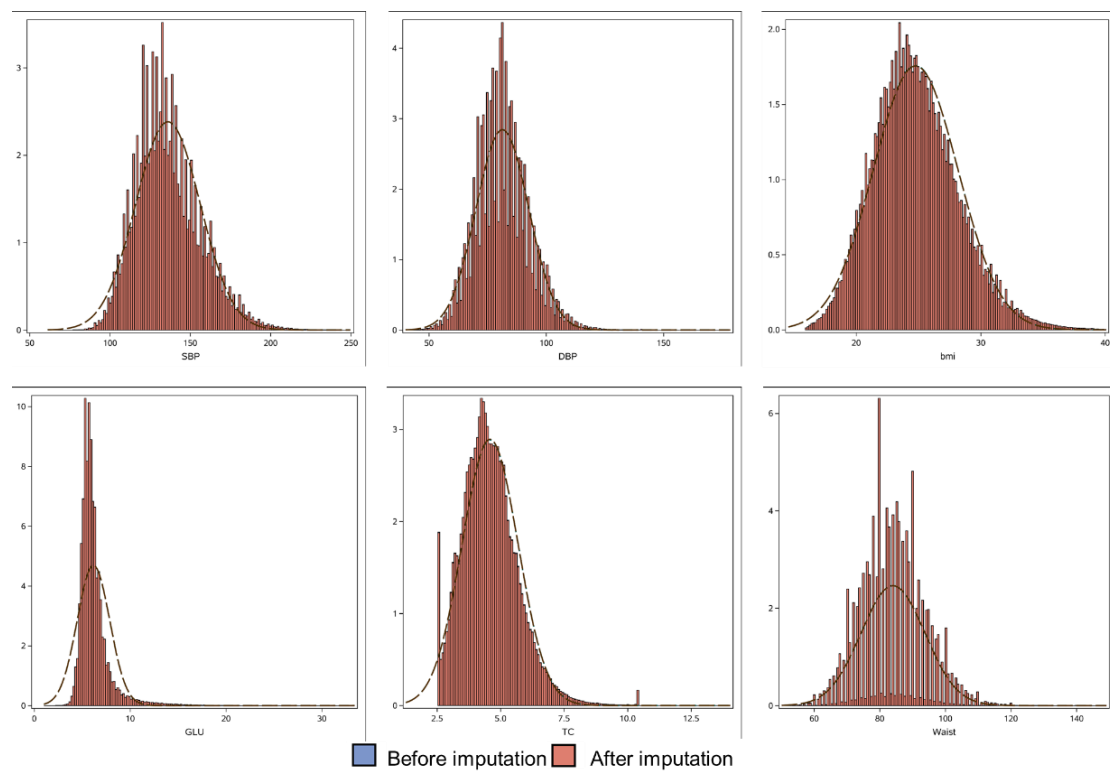
Participants were required to wear light clothes, no shoes, and no cap for

measurements of height and weight. The degree of accuracy was to the nearest 0.1 kg and 0.1 cm separately for weight and height. Body mass index (BMI) was defined as weight in kilograms divided by the square of height in meters. Waist circumference was measured midway between the lower edge of the costal arch and the upper edge of the iliac crest and to the nearest 0.1 cm. The BMI index was divided into 20 groups by 1.2 kg/m² with the lowest limit of 18kg/m², and the waist circumference was divided by 2.2cm with the lowest limit of 70cm.

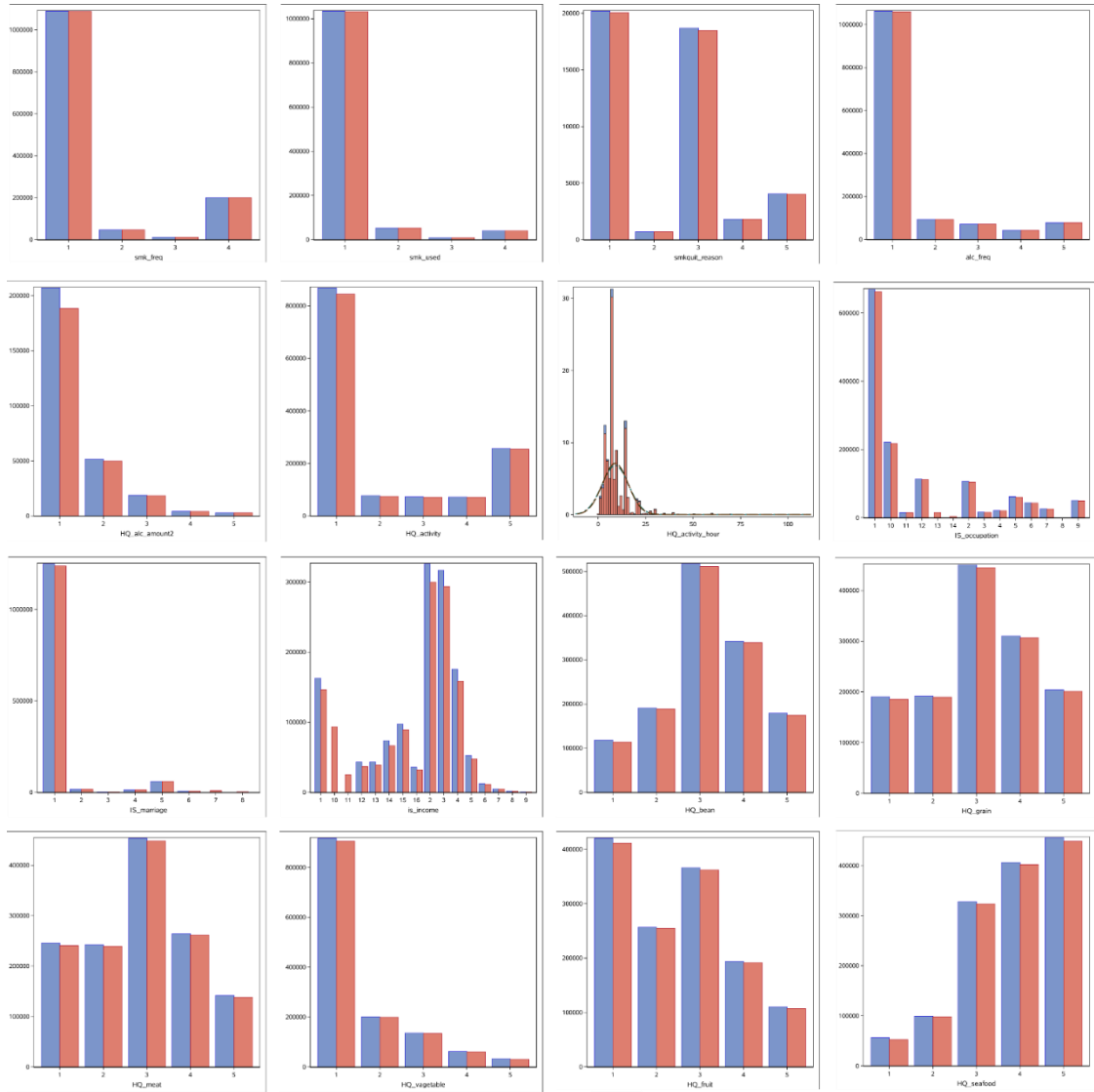
	SBP, mmHg	DBP, mmHg	TC, mmol/L	Blood glucose, mmol/L	BMI, kg/m²	Waist, cm
Group 1	<100	<60	<2.5	<4.5	<18	<70
Group 2	100 - 105.6	60 - 62.8	2.5 - 2.78	4.5 - 4.78	18 - 19.2	70 - 72.2
Group 3	105.6 - 111.2	62.8 - 65.6	2.78 - 3.06	4.78 - 5.06	19.2 - 20.4	72.2 - 74.4
Group 4	111.2 - 116.8	65.6 - 68.4	3.06 - 3.34	5.06 - 5.34	20.4 - 21.6	74.4 - 76.6
Group 5	116.8 - 122.4	68.4 - 71.2	3.34 - 3.62	5.34 - 5.62	21.6 - 22.8	76.6 - 78.8
Group 6	122.4 - 128	71.2 - 74	3.62 - 3.9	5.62 - 5.9	22.8 - 24	78.8 - 81
Group 7	128 - 133.6	74 - 76.8	3.9 - 4.18	5.9 - 6.18	24 - 25.2	81 - 83.2
Group 8	133.6 - 139.2	76.8 - 79.6	4.18 - 4.46	6.18 - 6.46	25.2 - 26.4	83.2 - 85.4
Group 9	139.2 - 144.8	79.6 - 82.4	4.46 - 4.74	6.46 - 6.74	26.4 - 27.6	85.4 - 87.6
Group 10	144.8 - 150.4	82.4 - 85.2	4.74 - 5.02	6.74 - 7.02	27.6 - 28.8	87.6 - 89.8
Group 11	150.4 - 156	85.2 - 88	5.02 - 5.3	7.02 - 7.3	28.8 - 30	89.8 - 92
Group 12	156 - 161.6	88 - 90.8	5.3 - 5.58	7.3 - 7.58	30 - 31.2	92 - 94.2
Group 13	161.6 - 167.2	90.8 - 93.6	5.58 - 5.86	7.58 - 7.86	31.2 - 32.4	94.2 - 96.4
Group 14	167.2 - 172.8	93.6 - 96.4	5.86 - 6.14	7.86 - 8.14	32.4 - 33.6	96.4 - 98.6
Group 15	172.8 - 178.4	96.4 - 99.2	6.14 - 6.42	8.14 - 8.42	33.6 - 34.8	98.6 - 100.8
Group 16	178.4 - 184	99.2 - 102	6.42 - 6.7	8.42 - 8.7	34.8 - 36	100.8 - 103
Group 17	184 - 189.6	102 - 104.8	6.7 - 6.98	8.7 - 8.98	36 - 37.2	103 - 105.2
Group 18	189.6 - 195.2	104.8 - 107.6	6.98 - 7.26	8.98 - 9.26	37.2 - 38.4	105.2 - 107.4
Group 19	195.2 - 200.8	107.6 - 110.4	7.26 - 7.54	9.26 - 9.54	38.4 - 39.6	107.4 - 109.6
Group 20	>200.8	>110.4	>7.54	>9.54	>39.6	>109.6

Details about data imputation

There were 8.8% of participants excluded due to missing data, mainly related to lifestyles. We used a widely-accepted random forest method to conduct the imputation for categorical and the continuous variables ('missForest' package in R). Figures showed the comparison of data distribution before and after imputation. The re-analysis results after imputation were consistent with prior ones.



Continuous variates distribution before and after imputation

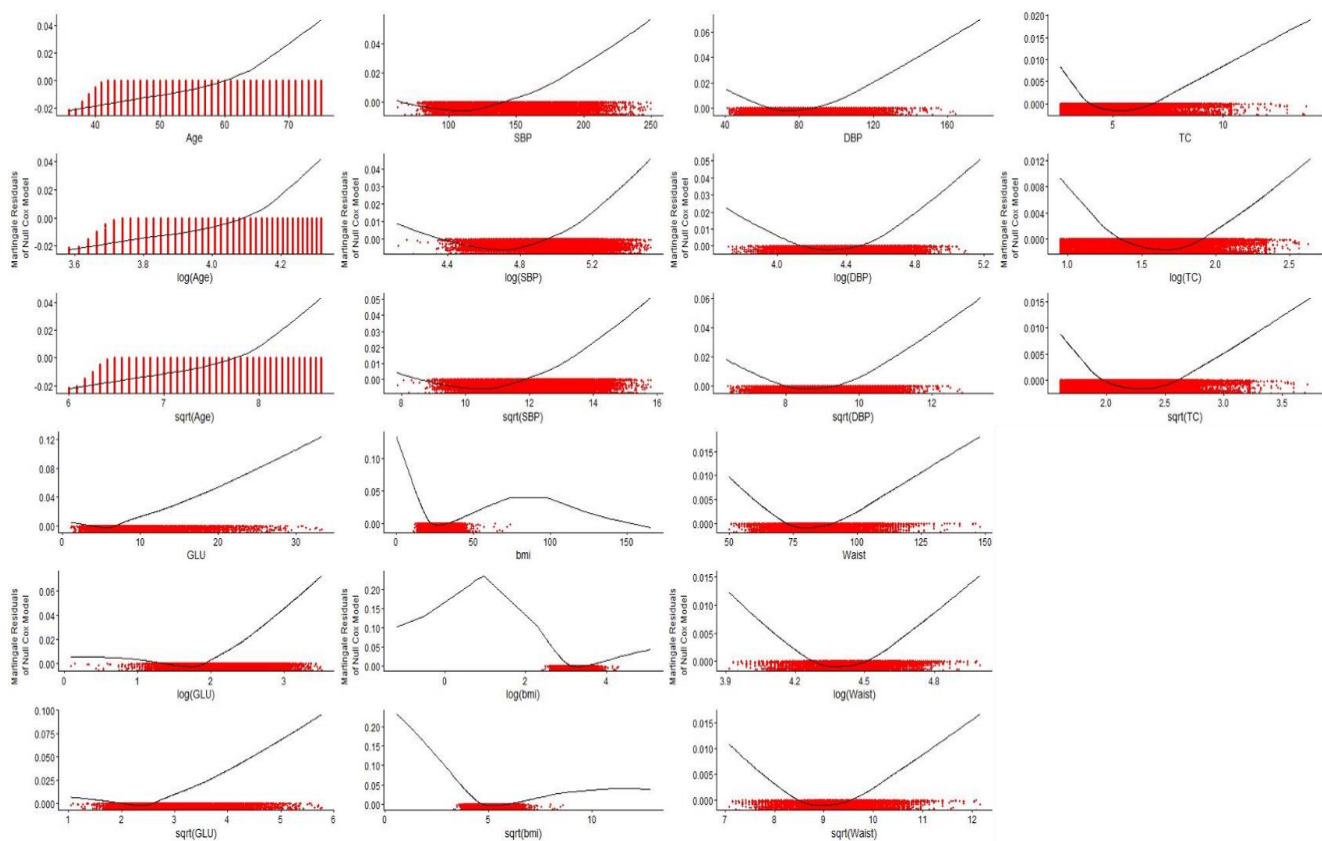


Before imputation After imputation

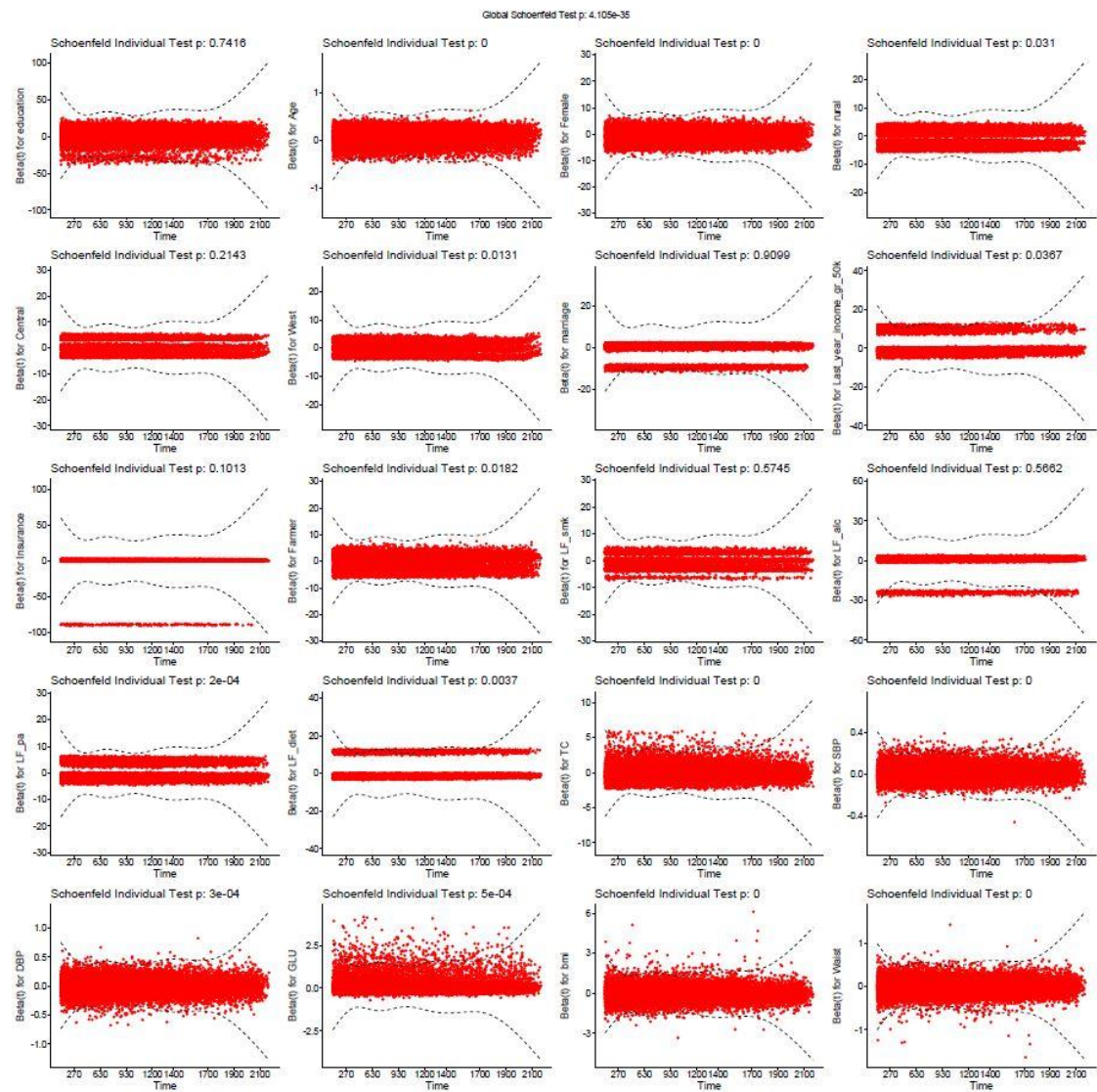
Categorical variates distribution before and after imputation

Tests for the proportion hazard (PH) and linear assumption of the Cox models.

We provided the plot of Schoenfeld test for each variable to test the PH assumption, and Martingale test for the linear assumption for continuous variables, using R package. It was demonstrated that the PH assumption can be fully satisfied, and the associations between continues variables and all-cause mortality were non-linear except age. For the non-linear association, we categorized each of these variables into 20 groups, which was consistent with the data processing during analysis throughout the article.



Plots for the linear assumption test



Plots for the proportion hazard assumption tests

Analytical code for PH and linear assumption test

```
#### read dataset####
setwd("W:\\02 Project Analysis\\...\\1.3.x.3 Data")

ddata<-read_sas("forPHtest.sas7bdat")

str(ddata)

#### Test for PH and linear assumption####
res.cox<-coxph(Surv(fu_days,death)~education+
               Age+ Female+ rural+ Central +West+
               marriage+ Last_year_income_gr_50k+ Insurance+ Farmer+
               LF_smk+ LF_alc+ LF_pa+ LF_diet+
               TC + SBP +DBP +GLU +bmi +Waist,
```

```

data=ddata)

test.ph<-cox.zph(res.cox)
test.ph

# PHplot<-ggcoxzph(test.ph)

f1=paste("PH test plot all case",".pdf")
cairo_pdf(filename=f1,width=20,height=20)
ggcoxzph(test.ph)
dev.off()


p1<-ggcoxfunctional(Surv(fu_days,death)~ Age+ log(Age)+sqrt(Age),data=ddata)
ggsave("linear test plot all case Age.jpg",width=5,height=5)
jpeg("linear test plot all case Age.jpg",width=500,height=500,units="px")
p1
dev.off()


ddatax<-subset(ddata,TC>0)
p2<-ggcoxfunctional(Surv(fu_days,death)~ TC+ log(TC)+sqrt(TC),data=ddatax)
ggsave("linear test plot all case TC.jpg",width=5,height=5)
jpeg("linear test plot all case TC.jpg",width=500,height=500,units="px")
p2
dev.off()


ddatax<-subset(ddata,SBP>0)
p3<-ggcoxfunctional(Surv(fu_days,death)~ SBP+
log(SBP)+sqrt(SBP),data=ddatax)
ggsave("linear test plot all case SBP.jpg",width=5,height=5)
jpeg("linear test plot all case SBP.jpg",width=500,height=500,units="px")
p3
dev.off()


ddatax<-subset(ddata,DBP>0)
p4<-ggcoxfunctional(Surv(fu_days,death)~ DBP+
log(DBP)+sqrt(DBP),data=ddatax)
ggsave("linear test plot all case DBP.jpg",width=5,height=5)
jpeg("linear test plot all case DBP.jpg",width=500,height=500,units="px")
p4
dev.off()


ddatax<-subset(ddata,GLU>0)
p5<-ggcoxfunctional(Surv(fu_days,death)~ GLU+

```

```

log(GLU)+sqrt(GLU),data=ddatax)
ggsave("linear test plot all case GLU.jpg",width=5,height=5)
jpeg("linear test plot all case GLU.jpg",width=500,height=500,units="px")
p5
dev.off()

```

```

ddatax<-subset(ddata,bmi>0)
p6<-ggcoxfunctional(Surv(fu_days,death)~ bmi+ log(bmi)+sqrt(bmi),data=ddatax)
ggsave("linear test plot all case bmi.jpg",width=5,height=5)
jpeg("linear test plot all case bmi.jpg",width=500,height=500,units="px")
p6
dev.off()

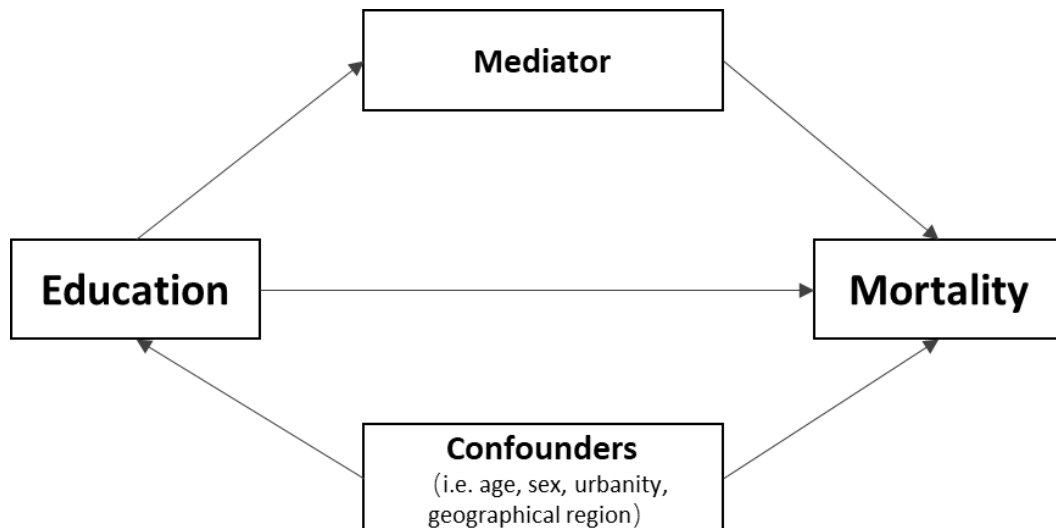
```

```

ddatax<-subset(ddata,Waist>0)
p7<-ggcoxfunctional(Surv(fu_days,death)~ Waist+
log(Waist)+sqrt(Waist),data=ddatax)
ggsave("linear test plot all case Waist.jpg",width=5,height=5)
jpeg("linear test plot all case Waist.jpg",width=500,height=500,units="px")
p7
dev.off()

```

Directed Acyclic graph (DAG) – causal structure of the association between education and mortality



In this study, we aimed to evaluate the educational inequalities in mortality based on testing the association between **education level** and **mortality**, and explore influence of **potential relevant factors** on the association between education and mortality. According to the study aim, we made the above DAG to describe the causal questions of this study. As showed in the DAG, education is the exposure factor and mortality is the outcome. For the association between education and mortality, **socioeconomic (annual household income, health insurance, marital status and occupation), health behavior (smoking, alcohol drinking, physical activity and diet) and metabolic factors (blood pressure, blood glucose, lipids, body mass index and waist circumference)** are potential mediators based on previous epidemiological studies and clinical knowledge. And age, sex, urbanity and geographical region are potential confounders.

Based on this DAG, we conducted a series of causal mediation analyses or mediation analyses to assess individual mediating effect of each mediator and the cumulative mediating effect of each category of risk factors (socioeconomic, behavioral and metabolic factors).

Supplementary tables

Supplementary Table 1. Educational composition of study participants in overall population and by sex and urbanity

	College education or above	High school education	Middle school education	Primary school education or less
Overall				
1940's	5248(3.22)	14134(8.67)	35275(21.65)	108292(66.46)
1950's	13922(3.3)	54530(12.92)	117324(27.8)	236300(55.99)
1960's	29146(6.82)	69510(16.25)	161148(37.68)	167847(39.25)
1970's	41680(15.37)	44680(16.48)	105379(38.87)	79359(29.27)
Female				
1940's	1735(1.96)	6079(6.87)	15748(17.8)	64892(73.36)
1950's	5271(2.16)	27443(11.25)	57601(23.6)	153706(62.99)
1960's	14060(5.24)	39892(14.87)	94829(35.36)	119415(44.53)
1970's	23156(13.87)	25395(15.21)	63295(37.92)	55066(32.99)
Male				
1940's	3513(4.72)	8055(10.81)	19527(26.21)	43400(58.26)
1950's	8651(4.86)	27087(15.21)	59723(33.54)	82594(46.39)
1960's	15086(9.46)	29618(18.57)	66319(41.59)	48432(30.37)
1970's	18524(17.78)	19285(18.51)	42084(40.39)	24293(23.32)
Rural				
1940's	1026(1.02)	4089(4.07)	17056(16.97)	78335(77.94)
1950's	3615(1.43)	19866(7.86)	58152(23)	171152(67.71)
1960's	11977(4.55)	28683(10.89)	97281(36.93)	125506(47.64)
1970's	18142(11.19)	19032(11.74)	64691(39.89)	60289(37.18)
Urban				
1940's	4222(6.76)	10045(16.09)	18219(29.18)	29957(47.97)
1950's	10307(6.09)	34664(20.48)	59172(34.95)	65148(38.48)
1960's	17169(10.46)	40827(24.86)	63867(38.89)	42341(25.79)
1970's	23538(21.61)	25648(23.54)	40688(37.35)	19070(17.5)

Supplementary Table 2. Characteristics of study participants in four generations by education level

	Overall	College education or above	High school education	Middle school education	Primary school education or less	P for trend
1940's	N=162949	N=5248	N=14134	N=35275	N=108292	
Mortality	9140 (5.61)	198 (3.77)	593 (4.20)	1786 (5.06)	6563 (6.06)	<0.001
CVD	4050 (2.49)	69 (1.31)	260 (1.84)	785 (2.23)	2936 (2.71)	<0.001
Follow-up duration, years	3.73(2.72, 5.49)	3.72(2.94, 5.35)	3.78(3.01, 5.52)	3.78(2.77, 5.55)	3.71(2.68, 5.44)	<0.001*
Basic characteristics						
Age ±years	70.98±2.44	71.04±2.47	70.9±2.42	70.86±2.46	71.02±2.43	<0.001
Sex						
Male	74495 (45.7)	3513 (66.9)	8055 (57.0)	19527 (55.4)	43400 (40.1)	<0.001
Female	88454 (54.3)	1735 (33.1)	6079 (43.0)	15748 (44.6)	64892 (59.9)	
Urbanity						
Urban	62443 (38.3)	4222 (80.5)	10045 (71.1)	18219 (51.7)	29957 (27.7)	<0.001
Rural	100506 (61.7)	1026 (19.6)	4089 (28.9)	17056 (48.4)	78335 (72.3)	
Medical history						
Hypertension	108713 (66.7)	3452 (65.8)	9128 (64.6)	23386 (66.3)	72747 (67.2)	<0.001
Type 2 diabetes	41720 (25.6)	1638 (31.2)	4153 (29.4)	9479 (26.9)	26450 (24.4)	<0.001*
Cardiovascular diseases	11196 (6.87)	502 (9.57)	1245 (8.81)	2788 (7.90)	6661 (6.15)	<0.001*
Dyslipidemia	21861 (13.4)	962 (18.3)	2319 (16.4)	4842 (13.7)	13738 (12.7)	<0.001*
Healthy lifestyle behaviours						
No smoking	129500 (79.5)	4334 (82.6)	11489 (81.3)	27277 (77.3)	86400 (79.8)	0.0552
None or moderate alcohol use	158654 (97.4)	5191 (98.9)	13906 (98.4)	34398 (97.5)	105159 (97.1)	<0.001*
Sufficient LTPA	53629 (32.9)	3229 (61.5)	7749 (54.8)	15351 (43.5)	27300 (25.2)	<0.001*

Healthy diet	18720 (11.5)	1310 (25.0)	2832 (20.0)	5612 (15.9)	8966 (8.28)	<0.001*
Health measurements						
SBP, mmHg	144.54±20.52	140.05±18.32	141.43±19.19	143.47±20	145.51±20.86	<0.001
DBP, mmHg	80.08±11.05	78.94±10.46	79.05±10.46	80.13±10.79	80.25±11.23	<0.001
TC, mmol/L	4.66±1.12	4.47±1.11	4.56±1.12	4.6±1.11	4.7±1.12	<0.001
Blood glucose, mmol/L	6.44±1.83	6.47±1.69	6.48±1.78	6.46±1.8	6.43±1.86	<0.001*
Waist circumference, cm	84.62±9.89	86.57±9.1	86±9.46	85.61±9.72	84.01±9.98	<0.001*
BMI, kg/m ²	24.45±3.48	24.7±3.08	24.73±3.26	24.73±3.37	24.32±3.55	<0.001*
Social economic status						
In marriage	139288 (85.5)	4889 (93.2)	12937 (91.5)	31756 (90.0)	89706 (82.8)	<0.001*
Household income>50000 RMB						<0.001*
Yuan	22090 (13.6)	2729 (52.0)	4938 (34.9)	6499 (18.4)	7924 (7.32)	
Having health insurance	160764 (98.7)	5166 (98.4)	13869 (98.1)	34723 (98.4)	107006 (98.8)	<0.001*
Farmer	87317 (53.6)	43 (0.82)	848 (6.00)	11892 (33.7)	74534 (68.8)	<0.001
1950's	N=422076	N=13922	N=54530	N=117324	N=236300	
Mortality	8835 (2.09)	170 (1.22)	845 (1.55)	2316 (1.97)	5504 (2.33)	<0.001
CVD	3421 (0.81)	64 (0.46)	318 (0.58)	891 (0.76)	2148 (0.91)	<0.001
Follow-up duration, years	3.54(2.11, 4.74)	3.61(2.5, 4.79)	3.59(2.61, 4.73)	3.58(2.5, 4.76)	3.47(2.02, 4.72)	<0.001*
Basic characteristics						
Age ±years	63.34±3.29	62.81±3.33	62.15±3.15	63.07±3.24	63.79±3.26	<0.001
Sex						
Male	178055 (42.2)	8651 (62.1)	27087 (49.7)	59723 (50.9)	82594 (35.0)	<0.001
Female	244021 (57.8)	5271 (37.9)	27443 (50.3)	57601 (49.1)	153706 (65.1)	
Urbanity						
Urban	169291 (40.1)	10307 (74.0)	34664 (63.6)	59172 (50.4)	65148 (27.6)	<0.001
Rural	252785 (59.9)	3615 (26.0)	19866 (36.4)	58152 (49.6)	171152 (72.4)	

Medical history						
Hypertension	249470 (59.1)	7705 (55.3)	30252 (55.5)	68436 (58.3)	143077 (60.6)	<0.001
Type 2 diabetes	97224 (23.0)	3732 (26.8)	13257 (24.3)	27847 (23.7)	52388 (22.2)	<0.001*
Cardiovascular diseases	22230 (5.27)	981 (7.05)	3194 (5.86)	6798 (5.79)	11257 (4.76)	<0.001*
Dyslipidemia	58239 (13.8)	2490 (17.9)	8854 (16.2)	16343 (13.9)	30552 (12.9)	<0.001*
Healthy lifestyle behaviours						
No smoking	329018 (78.0)	10683 (76.7)	41891 (76.8)	87204 (74.3)	189240 (80.1)	<0.001
None or moderate alcohol use	408202 (96.7)	13547 (97.3)	52855 (96.9)	113178 (96.5)	228622 (96.8)	0.0442
Sufficient LTPA	135974 (32.2)	8085 (58.1)	26207 (48.1)	46205 (39.4)	55477 (23.5)	<0.001*
Healthy diet	50146 (11.9)	3087 (22.2)	10018 (18.4)	17358 (14.8)	19683 (8.33)	<0.001*
Health measurements						
SBP, mmHg	140.82±19.88	136.18±18.34	137.8±19	139.88±19.36	142.26±20.27	<0.001
DBP, mmHg	81.69±10.96	81.13±10.92	81.3±10.73	81.79±10.8	81.76±11.1	<0.001
TC, mmol/L	4.69±1.13	4.55±1.1	4.68±1.13	4.64±1.12	4.72±1.14	<0.001
Blood glucose, mmol/L	6.35±1.81	6.38±1.66	6.36±1.72	6.36±1.76	6.35±1.86	<0.001*
Waist circumference, cm	84.72±9.64	86.39±9.17	85.36±9.29	85.38±9.5	84.15±9.78	<0.001*
BMI, kg/m ²	24.76±3.39	24.89±3.05	24.84±3.21	24.9±3.31	24.67±3.49	<0.001*
Social economic status						
In marriage	391216 (92.7)	13355 (95.9)	51718 (94.8)	110802 (94.4)	215341 (91.1)	<0.001*
Household income>50000 RMB						<0.001*
Yuan	67358 (16.0)	7059 (50.7)	17201 (31.5)	23224 (19.8)	19874 (8.41)	
Having health insurance	416410 (98.7)	13661 (98.1)	53601 (98.3)	115572 (98.5)	233576 (98.9)	<0.001
Farmer	224127 (53.1)	143 (1.03)	8831 (16.2)	45474 (38.8)	169679 (71.8)	<0.001
1960's	N=427651	N=29146	N=69510	N=161148	N=167847	
Mortality	3579 (0.84)	138 (0.47)	504 (0.73)	1290 (0.80)	1647 (0.98)	<0.001
CVD	1297 (0.30)	49 (0.17)	186 (0.27)	441 (0.27)	621 (0.37)	<0.001

Follow-up duration, years	3.51(2.08, 4.71)	3.58(2.27, 4.8)	3.59(2.57, 4.73)	3.53(2.11, 4.73)	3.16(1.98, 4.68)	<0.001*
Basic characteristics						
Age ±years	53.29±3.28	52.57±3.27	53.67±3.29	53.15±3.22	53.39±3.31	<0.001
Sex						
Male	159455 (37.3)	15086 (51.8)	29618 (42.6)	66319 (41.2)	48432 (28.9)	<0.001
Female	268196 (62.7)	14060 (48.2)	39892 (57.4)	94829 (58.9)	119415 (71.2)	
Urbanity						
Urban	164204 (38.4)	17169 (58.9)	40827 (58.7)	63867 (39.6)	42341 (25.2)	<0.001
Rural	263447 (61.6)	11977 (41.1)	28683 (41.3)	97281 (60.4)	125506 (74.8)	
Medical history						
Hypertension	196067 (45.9)	12309 (42.2)	31129 (44.8)	74530 (46.3)	78099 (46.5)	<0.001
Type 2 diabetes	73247 (17.1)	5247 (18.0)	12725 (18.3)	27567 (17.1)	27708 (16.5)	<0.001*
Cardiovascular diseases	11472 (2.68)	909 (3.12)	2187 (3.15)	4343 (2.70)	4033 (2.40)	<0.001*
Dyslipidemia	47583 (11.1)	3659 (12.6)	8841 (12.7)	17660 (11.0)	17423 (10.4)	<0.001*
Healthy lifestyle behaviours						
No smoking	339564 (79.4)	22540 (77.3)	54156 (77.9)	123547 (76.7)	139321 (83.0)	<0.001
None or moderate alcohol use	413750 (96.8)	28088 (96.4)	67131 (96.6)	155341 (96.4)	163190 (97.2)	<0.001
Sufficient LTPA	113943 (26.6)	14042 (48.2)	27708 (39.9)	44413 (27.6)	27780 (16.6)	<0.001*
Healthy diet	48773 (11.4)	5142 (17.6)	11704 (16.8)	19168 (11.9)	12759 (7.60)	<0.001*
Health measurements						
SBP, mmHg	135.04±19.23	131.26±18.6	133.46±18.79	135.14±18.91	136.24±19.68	<0.001
DBP, mmHg	82.49±11.35	82.31±11.83	82.12±11.29	82.73±11.23	82.45±11.4	0.001
TC, mmol/L	4.63±1.11	4.62±1.09	4.67±1.1	4.62±1.1	4.63±1.12	0.001
Blood glucose, mmol/L	6.15±1.71	6.14±1.57	6.17±1.64	6.15±1.68	6.15±1.79	<0.001*
Waist circumference, cm	84.23±9.55	84.44±9.49	84.36±9.51	84.49±9.49	83.9±9.63	<0.001*
BMI, kg/m ²	25.01±3.37	24.79±3.09	24.88±3.24	25.1±3.34	25.01±3.5	<0.001

Social economic status						
In marriage	410553 (96.0)	28178 (96.7)	66378 (95.5)	155210 (96.3)	160787 (95.8)	<0.001
Household income>50000 RMB						<0.001*
Yuan	80003 (18.7)	16193 (55.6)	20564 (29.6)	27117 (16.8)	16129 (9.61)	
Having health insurance	421219 (98.5)	28744 (98.6)	68308 (98.3)	158853 (98.6)	165314 (98.5)	0.296
Farmer	218499 (51.1)	400 (1.37)	12172 (17.5)	79063 (49.1)	126864 (75.6)	<0.001
1970's	N=271098	N=41680	N=44680	N=105379	N=79359	
Mortality	998 (0.37)	81 (0.19)	149 (0.33)	406 (0.39)	362 (0.46)	<0.001
CVD	339 (0.13)	37 (0.09)	50 (0.11)	138 (0.13)	114 (0.14)	0.007
Follow-up duration, years	3.42(2.01, 4.68)	3.52(2.04, 4.71)	3.53(2.21, 4.69)	3.43(2.03, 4.69)	3.04(1.72, 4.64)	<0.001*
Basic characteristics						
Age ±years	44.22±3.39	43.37±3.43	43.82±3.36	44.24±3.34	44.86±3.32	<0.001
Sex						
Male	104186 (38.4)	18524 (44.4)	19285 (43.2)	42084 (39.9)	24293 (30.6)	<0.001
Female	166912 (61.6)	23156 (55.6)	25395 (56.8)	63295 (60.1)	55066 (69.4)	
Urbanity						
Urban	108944 (40.2)	23538 (56.5)	25648 (57.4)	40688 (38.6)	19070 (24.0)	<0.001
Rural	162154 (59.8)	18142 (43.5)	19032 (42.6)	64691 (61.4)	60289 (76.0)	
Medical history						
Hypertension	75483 (27.8)	10421 (25.0)	11828 (26.5)	29945 (28.4)	23289 (29.4)	<0.001
Type 2 diabetes	27605 (10.2)	4076 (9.78)	4446 (9.95)	10681 (10.1)	8402 (10.6)	<0.001
Cardiovascular diseases	2800 (1.03)	443 (1.06)	458 (1.03)	1039 (0.99)	860 (1.08)	0.726
Dyslipidemia	16260 (6.00)	2899 (6.96)	2815 (6.30)	5961 (5.66)	4585 (5.78)	<0.001
Healthy lifestyle behaviours						
No smoking	218910 (80.8)	33822 (81.2)	35497 (79.5)	83245 (79.0)	66346 (83.6)	<0.001
None or moderate alcohol use	263972 (97.4)	40479 (97.1)	43535 (97.4)	102384 (97.2)	77574 (97.8)	<0.001

Sufficient LTPA	60897 (22.5)	15489 (37.2)	13029 (29.2)	22092 (21.0)	10287 (13.0)	<0.001*
Healthy diet	32361 (11.9)	7298 (17.5)	7179 (16.1)	11954 (11.3)	5930 (7.47)	<0.001*
Health measurements						
SBP, mmHg	127.63±17.52	125.09±17.41	126.61±17.4	128.05±17.23	128.99±17.85	<0.001
DBP, mmHg	80.17±11.37	79.58±11.63	79.94±11.41	80.42±11.27	80.29±11.31	<0.001
TC, mmol/L	4.36±1.02	4.4±1.01	4.38±1.01	4.36±1.01	4.33±1.04	<0.001*
Blood glucose, mmol/L	5.84±1.41	5.8±1.28	5.81±1.37	5.84±1.41	5.88±1.5	<0.001
Waist circumference, cm	82.56±9.74	82.21±9.69	82.61±9.81	82.67±9.73	82.58±9.73	<0.001
BMI, kg/m ²	24.69±3.39	24.33±3.22	24.55±3.31	24.81±3.4	24.81±3.5	<0.001
Social economic status						
In marriage	263145 (97.1)	40478 (97.1)	43275 (96.9)	102617 (97.4)	76775 (96.7)	0.023
Household income>50000 RMB						<0.001*
Yuan	69065 (25.5)	23906 (57.4)	15140 (33.9)	21427 (20.3)	8592 (10.8)	
Having health insurance	266044 (98.1)	41099 (98.6)	43589 (97.6)	103506 (98.2)	77850 (98.1)	0.023
Farmer	114466 (42.2)	661 (1.59)	5477 (12.3)	48910 (46.4)	59418 (74.9)	<0.001

*A decreasing trend was identified. CVD: Cardiovascular disease, LTPA: Leisure-time physical activity, SBP: Systolic blood pressure, DBP:

Diastolic blood pressure, TC: Total cholesterol, BMI: Body mass index.

Supplementary Table 3. Hazard ratios (95% CI) of mortality between the different education groups in four generations

		1940's				1950's			
		Model1	Model2	Model3	Model4	Model1	Model2	Model3	Model4
All-cause mortality	Overall								
	College and above	Ref.				Ref.			
	High school	1.14(0.97 to 1.34)	1.12(0.95 to 1.32)	1.10(0.93 to 1.29)	1.10(0.94 to 1.29)	1.47(1.24 to 1.73)	1.37(1.16 to 1.61)	1.33(1.13 to 1.57)	1.33(1.12 to 1.56)
	Middle school	1.40(1.21 to 1.63)	1.26(1.09 to 1.47)	1.22(1.05 to 1.42)	1.23(1.05 to 1.42)	1.74(1.48 to 2.03)	1.52(1.30 to 1.78)	1.46(1.25 to 1.72)	1.46(1.25 to 1.71)
	Primary school and below	1.83(1.58 to 2.11)	1.53(1.32 to 1.77)	1.45(1.25 to 1.68)	1.44(1.24 to 1.67)	2.33(2.00 to 2.72)	1.91(1.63 to 2.24)	1.80(1.54 to 2.11)	1.77(1.51 to 2.07)
	Male								
	College and above	Ref.				Ref.			
	High school	1.29(1.07 to 1.56)	1.26(1.04 to 1.51)	1.24(1.03 to 1.49)	1.24(1.03 to 1.50)	1.53(1.27 to 1.85)	1.42(1.18 to 1.72)	1.39(1.15 to 1.68)	1.38(1.14 to 1.67)
	Middle school	1.56(1.31 to 1.85)	1.39(1.17 to 1.66)	1.35(1.14 to 1.61)	1.36(1.14 to 1.62)	1.86(1.56 to 2.22)	1.62(1.35 to 1.94)	1.57(1.31 to 1.88)	1.56(1.30 to 1.86)
	Primary school and below	2.00(1.69 to 2.36)	1.67(1.40 to 1.99)	1.60(1.34 to 1.90)	1.58(1.33 to 1.89)	2.44(2.05 to 2.91)	1.97(1.64 to 2.36)	1.87(1.56 to 2.25)	1.83(1.52 to 2.19)
	Female								
	College and above	Ref.				Ref.			
	High school	0.77(0.56 to 1.06)	0.78(0.56 to 1.07)	0.77(0.56 to 1.06)	0.76(0.55 to 1.05)	1.29(0.91 to 1.82)	1.22(0.86 to 1.73)	1.20(0.85 to 1.70)	1.20(0.85 to 1.69)
	Middle school	1.01(0.75 to 1.35)	0.95(0.71 to 1.27)	0.93(0.69 to 1.24)	0.92(0.69 to 1.24)	1.43(1.02 to 1.99)	1.29(0.92 to 1.80)	1.25(0.90 to 1.75)	1.24(0.89 to 1.74)
	Primary school and below	1.36(1.03 to 1.81)	1.18(0.88 to 1.57)	1.12(0.84 to 1.49)	1.10(0.83 to 1.47)	2.03(1.46 to 2.82)	1.73(1.24 to 2.41)	1.64(1.17 to 2.28)	1.59(1.14 to 2.22)
	Rural								
	College and above	Ref.				Ref.			
	High school	1.44(1.02 to 2.03)	1.39(0.98 to 1.96)	1.36(0.96 to 1.92)	1.39(0.98 to 1.96)	1.34(1.00 to 1.80)	1.16(0.86 to 1.56)	1.13(0.84 to 1.52)	1.13(0.84 to 1.52)
	Middle school	1.84(1.33 to 2.54)	1.55(1.12 to 2.15)	1.50(1.08 to 2.08)	1.53(1.10 to 2.12)	1.76(1.33 to 2.32)	1.39(1.05 to 1.84)	1.34(1.01 to 1.78)	1.35(1.02 to 1.79)
	Primary school and below	2.24(1.63 to 3.09)	1.79(1.30 to 2.48)	1.71(1.23 to 2.36)	1.72(1.25 to 2.39)	2.20(1.67 to 2.89)	1.66(1.25 to 2.19)	1.57(1.19 to 2.08)	1.55(1.17 to 2.06)
	Urban								
	College and above	Ref.				Ref.			
	High school	1.08(0.89 to 1.30)	1.04(0.86 to 1.25)	1.02(0.85 to 1.23)	1.01(0.84 to 1.22)	1.55(1.27 to 1.90)	1.49(1.22 to 1.83)	1.46(1.19 to 1.78)	1.44(1.18 to 1.76)
	Middle school	1.25(1.06 to 1.49)	1.14(0.96 to 1.36)	1.11(0.93 to 1.32)	1.10(0.92 to 1.31)	1.68(1.39 to 2.04)	1.56(1.29 to 1.90)	1.51(1.24 to 1.83)	1.49(1.23 to 1.81)
	Primary school and below	1.82(1.54 to 2.15)	1.46(1.23 to 1.74)	1.39(1.16 to 1.65)	1.36(1.14 to 1.63)	2.54(2.10 to 3.07)	2.16(1.77 to 2.63)	2.04(1.67 to 2.49)	1.98(1.62 to 2.41)
		1960's				1970's			
		Model1	Model2	Model3	Model4	Model1	Model2	Model3	Model4
All-cause mortality	Overall								
	College and above	Ref.				Ref.			
	High school	1.55(1.29 to 1.88)	1.38(1.14 to 1.67)	1.36(1.12 to 1.65)	1.35(1.12 to 1.64)	1.66(1.27 to 2.18)	1.49(1.13 to 1.96)	1.48(1.12 to 1.95)	1.47(1.12 to 1.93)
	Middle school	1.88(1.58 to 2.24)	1.55(1.29 to 1.86)	1.51(1.25 to 1.81)	1.50(1.25 to 1.80)	1.94(1.52 to 2.46)	1.56(1.20 to 2.02)	1.54(1.19 to 2.00)	1.54(1.19 to 2.00)
	Primary school and below	2.73(2.29 to 3.25)	2.16(1.79 to 2.61)	2.08(1.72 to 2.51)	2.01(1.66 to 2.43)	2.55(1.99 to 3.26)	1.89(1.43 to 2.49)	1.86(1.41 to 2.46)	1.83(1.38 to 2.42)
	Male								
	College and above	Ref.				Ref.			

CVD mortality	High school	1.63(1.31 to 2.03)	1.45(1.16 to 1.81)	1.41(1.13 to 1.77)	1.39(1.11 to 1.74)	1.63(1.19 to 2.25)	1.44(1.04 to 2.00)	1.43(1.03 to 1.98)	1.41(1.02 to 1.95)
	Middle school	1.93(1.57 to 2.37)	1.59(1.28 to 1.97)	1.53(1.24 to 1.90)	1.51(1.21 to 1.87)	1.89(1.42 to 2.52)	1.49(1.10 to 2.03)	1.46(1.07 to 2.00)	1.45(1.07 to 1.98)
	Primary school and below	2.84(2.31 to 3.49)	2.22(1.78 to 2.78)	2.13(1.70 to 2.66)	2.01(1.61 to 2.52)	2.46(1.83 to 3.31)	1.74(1.25 to 2.44)	1.71(1.22 to 2.40)	1.66(1.18 to 2.33)
	Female								
	College and above	Ref.				Ref.			
	High school	1.36(0.94 to 1.97)	1.25(0.86 to 1.81)	1.24(0.86 to 1.80)	1.23(0.85 to 1.78)	1.75(1.05 to 2.91)	1.59(0.95 to 2.67)	1.60(0.95 to 2.68)	1.61(0.96 to 2.69)
	Middle school	1.73(1.22 to 2.44)	1.47(1.03 to 2.09)	1.44(1.01 to 2.06)	1.40(0.98 to 2.00)	2.05(1.31 to 3.23)	1.71(1.06 to 2.75)	1.72(1.07 to 2.78)	1.75(1.08 to 2.82)
	Primary school and below	2.45(1.74 to 3.45)	1.99(1.39 to 2.84)	1.94(1.35 to 2.77)	1.82(1.27 to 2.60)	2.75(1.74 to 4.33)	2.14(1.30 to 3.51)	2.16(1.31 to 3.56)	2.11(1.28 to 3.49)
	Rural								
	College and above	Ref.				Ref.			
	High school	1.65(1.23 to 2.23)	1.38(1.02 to 1.87)	1.36(1.00 to 1.84)	1.39(1.03 to 1.88)	2.25(1.43 to 3.56)	1.97(1.24 to 3.13)	1.98(1.25 to 3.14)	1.93(1.21 to 3.06)
	Middle school	2.16(1.64 to 2.85)	1.66(1.25 to 2.22)	1.62(1.22 to 2.16)	1.67(1.25 to 2.23)	3.09(2.06 to 4.62)	2.41(1.57 to 3.68)	2.41(1.57 to 3.69)	2.39(1.56 to 3.65)
	Primary school and below	3.12(2.37 to 4.10)	2.34(1.75 to 3.12)	2.27(1.70 to 3.04)	2.27(1.70 to 3.04)	4.08(2.73 to 6.10)	2.94(1.90 to 4.55)	2.95(1.90 to 4.59)	2.86(1.84 to 4.44)
	Urban								
	College and above	Ref.				Ref.			
	High school	1.51(1.19 to 1.93)	1.42(1.11 to 1.82)	1.39(1.09 to 1.78)	1.36(1.06 to 1.74)	1.39(0.99 to 1.95)	1.28(0.91 to 1.81)	1.27(0.90 to 1.79)	1.26(0.89 to 1.78)
	Middle school	1.70(1.35 to 2.15)	1.50(1.18 to 1.91)	1.45(1.14 to 1.85)	1.42(1.11 to 1.81)	1.34(0.97 to 1.85)	1.12(0.79 to 1.57)	1.10(0.78 to 1.55)	1.08(0.77 to 1.53)
	Primary school and below	2.41(1.90 to 3.07)	1.98(1.52 to 2.57)	1.89(1.46 to 2.46)	1.81(1.39 to 2.35)	1.58(1.08 to 2.29)	1.19(0.78 to 1.82)	1.17(0.76 to 1.79)	1.13(0.74 to 1.74)
	1940's					1950's			
		Model1	Model2	Model3	Model4	Model1	Model2	Model3	Model4
CVD mortality	Overall								
	College and above	Ref.				Ref.			
	High school	1.42(1.09 to 1.85)	1.37(1.05 to 1.79)	1.35(1.03 to 1.76)	1.34(1.03 to 1.75)	1.49(1.14 to 1.94)	1.32(1.01 to 1.73)	1.28(0.98 to 1.68)	1.27(0.97 to 1.66)
	Middle school	1.75(1.37 to 2.24)	1.48(1.15 to 1.90)	1.45(1.13 to 1.86)	1.41(1.10 to 1.81)	1.78(1.38 to 2.30)	1.45(1.12 to 1.87)	1.40(1.08 to 1.81)	1.38(1.06 to 1.78)
	Primary school and below	2.27(1.79 to 2.90)	1.72(1.34 to 2.21)	1.65(1.28 to 2.11)	1.60(1.24 to 2.05)	2.40(1.87 to 3.09)	1.80(1.39 to 2.33)	1.69(1.31 to 2.19)	1.64(1.26 to 2.12)
	Male								
	College and above	Ref.				Ref.			
	High school	1.67(1.23 to 2.28)	1.60(1.17 to 2.19)	1.58(1.16 to 2.16)	1.58(1.15 to 2.16)	1.75(1.28 to 2.39)	1.56(1.15 to 2.14)	1.52(1.12 to 2.08)	1.50(1.10 to 2.05)
	Middle school	1.99(1.49 to 2.66)	1.65(1.23 to 2.22)	1.62(1.21 to 2.18)	1.59(1.18 to 2.14)	2.09(1.56 to 2.81)	1.73(1.28 to 2.33)	1.67(1.24 to 2.25)	1.65(1.22 to 2.23)
	Primary school and below	2.52(1.89 to 3.36)	1.89(1.40 to 2.54)	1.82(1.35 to 2.45)	1.78(1.32 to 2.39)	2.61(1.95 to 3.50)	2.01(1.49 to 2.72)	1.90(1.40 to 2.57)	1.86(1.38 to 2.52)
	Female								
	College and above	Ref.				Ref.			
	High school	0.89(0.53 to 1.48)	0.88(0.53 to 1.47)	0.87(0.52 to 1.45)	0.86(0.52 to 1.43)	0.90(0.53 to 1.55)	0.83(0.48 to 1.42)	0.81(0.47 to 1.40)	0.78(0.45 to 1.35)
	Middle school	1.23(0.77 to 1.97)	1.11(0.69 to 1.77)	1.08(0.68 to 1.74)	1.05(0.65 to 1.68)	1.13(0.68 to 1.87)	0.93(0.56 to 1.56)	0.91(0.54 to 1.52)	0.85(0.51 to 1.42)
	Primary school and below	1.67(1.06 to 2.64)	1.33(0.84 to 2.12)	1.27(0.79 to 2.01)	1.21(0.76 to 1.93)	1.78(1.08 to 2.94)	1.33(0.80 to 2.21)	1.26(0.76 to 2.09)	1.14(0.68 to 1.89)
	Rural								
	College and above	Ref.				Ref.			
	High school	3.54(1.64 to 7.62)	3.37(1.56 to 7.25)	3.35(1.56 to 7.22)	3.43(1.59 to 7.40)	1.57(0.96 to 2.57)	1.26(0.77 to 2.06)	1.22(0.75 to 2.01)	1.23(0.75 to 2.01)
	Middle school	4.29(2.03 to 9.05)	3.39(1.60 to 7.18)	3.34(1.58 to 7.07)	3.39(1.60 to 7.17)	1.99(1.24 to 3.18)	1.41(0.87 to 2.27)	1.36(0.84 to 2.19)	1.38(0.85 to 2.22)

CVD mortality	Primary school and below	5.19(2.47 to 10.9)	3.81(1.80 to 8.04)	3.70(1.75 to 7.83)	3.76(1.78 to 7.94)	2.37(1.49 to 3.77)	1.60(0.99 to 2.57)	1.52(0.94 to 2.44)	1.51(0.94 to 2.44)
	Urban								
	College and above	Ref.				Ref.			
	High school	1.17(0.87 to 1.57)	1.11(0.82 to 1.48)	1.08(0.80 to 1.45)	1.06(0.79 to 1.42)	1.46(1.06 to 2.02)	1.38(1.00 to 1.91)	1.33(0.97 to 1.85)	1.30(0.94 to 1.80)
	Middle school	1.41(1.07 to 1.85)	1.21(0.92 to 1.60)	1.18(0.89 to 1.55)	1.13(0.86 to 1.49)	1.65(1.21 to 2.24)	1.48(1.08 to 2.02)	1.42(1.04 to 1.93)	1.37(1.00 to 1.87)
	Primary school and below	2.08(1.60 to 2.70)	1.48(1.12 to 1.95)	1.39(1.06 to 1.84)	1.32(1.00 to 1.74)	2.73(2.01 to 3.69)	2.19(1.59 to 3.01)	2.05(1.49 to 2.81)	1.93(1.40 to 2.66)
	1960's					1970's			
		Model1	Model2	Model3	Model4	Model1	Model2	Model3	Model4
	Overall								
	College and above	Ref.				Ref.			
	High school	1.62(1.18 to 2.22)	1.35(0.98 to 1.85)	1.32(0.96 to 1.82)	1.32(0.96 to 1.82)	1.22(0.80 to 1.87)	1.11(0.72 to 1.71)	1.12(0.72 to 1.72)	1.09(0.71 to 1.68)
	Middle school	1.83(1.36 to 2.46)	1.38(1.01 to 1.87)	1.34(0.98 to 1.82)	1.32(0.97 to 1.80)	1.46(1.01 to 2.11)	1.25(0.84 to 1.85)	1.26(0.85 to 1.88)	1.25(0.84 to 1.85)
	Primary school and below	2.91(2.16 to 3.91)	2.09(1.53 to 2.86)	2.02(1.47 to 2.77)	1.94(1.42 to 2.67)	1.85(1.26 to 2.72)	1.49(0.97 to 2.30)	1.53(0.99 to 2.37)	1.45(0.94 to 2.26)
	Male								
	College and above	Ref.				Ref.			
	High school	1.60(1.13 to 2.25)	1.30(0.92 to 1.84)	1.26(0.89 to 1.78)	1.24(0.88 to 1.76)	1.26(0.78 to 2.02)	1.16(0.72 to 1.87)	1.18(0.73 to 1.91)	1.16(0.72 to 1.87)
	Middle school	1.72(1.25 to 2.37)	1.28(0.91 to 1.79)	1.22(0.87 to 1.71)	1.20(0.85 to 1.68)	1.41(0.93 to 2.14)	1.24(0.79 to 1.94)	1.27(0.81 to 1.99)	1.26(0.81 to 1.99)
	Primary school and below	2.40(1.74 to 3.32)	1.70(1.20 to 2.40)	1.60(1.13 to 2.28)	1.54(1.09 to 2.20)	1.62(1.04 to 2.52)	1.32(0.79 to 2.19)	1.38(0.82 to 2.30)	1.35(0.81 to 2.26)
	Female								
	College and above	Ref.				Ref.			
	High school	2.18(0.93 to 5.13)	1.95(0.83 to 4.61)	1.95(0.83 to 4.61)	1.90(0.80 to 4.49)	1.09(0.41 to 2.94)	0.94(0.35 to 2.56)	0.94(0.35 to 2.55)	0.96(0.35 to 2.61)
	Middle school	2.85(1.25 to 6.48)	2.29(1.00 to 5.28)	2.30(1.00 to 5.30)	2.12(0.92 to 4.89)	1.71(0.76 to 3.87)	1.35(0.57 to 3.17)	1.35(0.57 to 3.19)	1.36(0.57 to 3.25)
	Primary school and below	5.53(2.45 to 12.5)	4.20(1.83 to 9.66)	4.23(1.84 to 9.75)	3.70(1.60 to 8.53)	2.53(1.13 to 5.71)	1.88(0.77 to 4.60)	1.90(0.77 to 4.67)	1.76(0.71 to 4.37)
	Rural								
	College and above	Ref.				Ref.			
	High school	1.65(1.01 to 2.69)	1.27(0.77 to 2.10)	1.25(0.76 to 2.06)	1.27(0.77 to 2.10)	1.40(0.69 to 2.81)	1.26(0.62 to 2.56)	1.29(0.63 to 2.63)	1.26(0.62 to 2.56)
	Middle school	2.02(1.28 to 3.17)	1.41(0.88 to 2.27)	1.38(0.86 to 2.21)	1.43(0.89 to 2.30)	2.07(1.16 to 3.69)	1.71(0.92 to 3.19)	1.76(0.94 to 3.30)	1.75(0.93 to 3.28)
	Primary school and below	3.29(2.10 to 5.16)	2.27(1.41 to 3.65)	2.21(1.37 to 3.56)	2.24(1.39 to 3.62)	2.58(1.44 to 4.63)	2.00(1.04 to 3.83)	2.09(1.08 to 4.03)	2.01(1.04 to 3.90)
	Urban								
	College and above	Ref.				Ref.			
	High school	1.51(1.19 to 1.93)	1.46(0.96 to 2.21)	1.43(0.95 to 2.17)	1.40(0.92 to 2.13)	1.15(0.67 to 1.97)	1.05(0.61 to 1.81)	1.04(0.60 to 1.80)	1.02(0.59 to 1.76)
	Middle school	1.75(1.18 to 2.61)	1.40(0.93 to 2.11)	1.36(0.90 to 2.05)	1.29(0.86 to 1.95)	1.10(0.66 to 1.83)	0.97(0.56 to 1.65)	0.97(0.57 to 1.67)	0.99(0.57 to 1.70)
	Primary school and below	2.45(1.63 to 3.70)	1.76(1.13 to 2.75)	1.70(1.09 to 2.65)	1.57(1.00 to 2.46)	1.30(0.70 to 2.39)	1.14(0.57 to 2.26)	1.17(0.58 to 2.34)	1.16(0.58 to 2.33)

Supplementary Table 4. Results of Cox regression models with different types of behavioural variables (binary or polytomous variables)

Outcome	Generation	Education level	HR (95%CI)		Difference in the estimated HRs	
			Original model	New model*	absolute	relative
All-cause mortality	1940's	College and above	Ref.			
		High school	1.10(0.94 to 1.29)	1.1(0.93 to 1.29)	0	0.00%
		Middle school	1.23(1.05 to 1.42)	1.23(1.06 to 1.43)	0	0.00%
		Primary school and below	1.44(1.24 to 1.67)	1.43(1.23 to 1.66)	-0.01	-0.69%
	1950's	College and above	Ref.			
		High school	1.33(1.12 to 1.56)	1.34(1.13 to 1.58)	0.01	0.75%
		Middle school	1.46(1.25 to 1.71)	1.47(1.26 to 1.73)	0.01	0.68%
		Primary school and below	1.77(1.51 to 2.07)	1.77(1.51 to 2.08)	0	0.00%
	1960's	College and above	Ref.			
		High school	1.35(1.12 to 1.64)	1.37(1.13 to 1.66)	0.02	1.48%
		Middle school	1.50(1.25 to 1.80)	1.52(1.26 to 1.83)	0.02	1.33%
		Primary school and below	2.01(1.66 to 2.43)	2.02(1.67 to 2.44)	0.01	0.50%
	1970's	College and above	Ref.			
		High school	1.47(1.12 to 1.93)	1.46(1.11 to 1.92)	-0.01	-0.68%
		Middle school	1.54(1.19 to 2.00)	1.53(1.18 to 1.98)	-0.01	-0.65%
		Primary school and below	1.83(1.38 to 2.42)	1.79(1.35 to 2.37)	-0.04	-2.19%
CVD mortality	1940's	College and above	Ref.			
		High school	1.34(1.03 to 1.75)	1.34(1.03 to 1.75)	0	0.00%
		Middle school	1.41(1.10 to 1.81)	1.43(1.11 to 1.84)	0.02	1.42%
		Primary school and below	1.60(1.24 to 2.05)	1.6(1.25 to 2.06)	0	0.00%
	1950's	College and above	Ref.			
		High school	1.27(0.97 to 1.66)	1.3(0.99 to 1.7)	0.03	2.36%
		Middle school	1.38(1.06 to 1.78)	1.41(1.09 to 1.83)	0.03	2.17%
		Primary school and below	1.64(1.26 to 2.12)	1.67(1.28 to 2.16)	0.03	1.83%
	1960's	College and above	Ref.			
		High school	1.32(0.96 to 1.82)	1.37(0.99 to 1.88)	0.05	3.79%
		Middle school	1.32(0.97 to 1.80)	1.37(1 to 1.87)	0.05	3.79%
		Primary school and below	1.94(1.42 to 2.67)	1.99(1.45 to 2.74)	0.05	2.58%
	1970's	College and above	Ref.			
		High school	1.09(0.71 to 1.68)	1.07(0.69 to 1.65)	-0.02	-1.83%
		Middle school	1.25(0.84 to 1.85)	1.22(0.82 to 1.82)	-0.03	-2.40%
		Primary school and below	1.45(0.94 to 2.26)	1.42(0.91 to 2.2)	-0.03	-2.07%

*In this new model, we used original polytomous variables of health lifestyles. In detail: smoking (never smoking, former smoking and current smoking), alcohol drinking (never drinking, moderate drinking and excessive drinking), physical activities (yes/no) and diet score (based on weekly food intake of 6 components). Considering other suggestions, we also used splines to all continuous covariates (TC, SBP, DBP, glucose, Waist circumference and BMI), and additionally adjusted for geographical regions in the model.

Supplementary Table 5. RIIs on all-cause mortality and cause-specific mortality by sex and generation

		By steps					Separately		
Outcomes	Sex	Decade	Model 1	Model 2	Model 3	Model 4	Socioeconomic factors	Healthy lifestyles	Metabolic factors
All-cause Morality	Overall	1940's	2.05 (1.86 to 2.26)	1.63 (1.47 to 1.81)	1.55 (1.39 to 1.72)	1.52 (1.37 to 1.69)	1.63 (1.47 to 1.81)	1.99 (1.81 to 2.19)	2.13 (1.94 to 2.34)
		1950's	2.20 (2.01 to 2.41)	1.80 (1.63 to 1.99)	1.70 (1.54 to 1.88)	1.64 (1.49 to 1.82)	1.80 (1.63 to 1.99)	2.08 (1.90 to 2.28)	2.21 (2.03 to 2.41)
		1960's	2.71 (2.39 to 3.08)	2.22 (1.93 to 2.56)	2.16 (1.87 to 2.49)	2.04 (1.76 to 2.36)	2.22 (1.93 to 2.56)	2.69 (2.36 to 3.06)	2.65 (2.34 to 3.01)
		1970's	2.61 (2.08 to 3.29)	1.83 (1.39 to 2.43)	1.81 (1.37 to 2.40)	1.76 (1.33 to 2.33)	1.83 (1.39 to 2.43)	2.79 (2.21 to 3.53)	2.81 (2.23 to 3.55)
	Male	1940's	2.04 (1.82 to 2.29)	1.64 (1.44 to 1.87)	1.56 (1.37 to 1.78)	1.53 (1.34 to 1.74)	1.64 (1.44 to 1.87)	1.95 (1.74 to 2.19)	2.05 (1.84 to 2.29)
		1950's	2.20 (1.97 to 2.46)	1.75 (1.56 to 1.98)	1.67 (1.48 to 1.88)	1.61 (1.43 to 1.82)	1.75 (1.56 to 1.98)	2.03 (1.82 to 2.27)	2.10 (1.89 to 2.34)
		1960's	2.78 (2.37 to 3.26)	2.22 (1.86 to 2.66)	2.15 (1.79 to 2.58)	1.99 (1.66 to 2.40)	2.22 (1.86 to 2.66)	2.66 (2.25 to 3.14)	2.55 (2.17 to 2.99)
		1970's	2.56 (1.92 to 3.41)	1.69 (1.20 to 2.39)	1.66 (1.17 to 2.35)	1.60 (1.13 to 2.26)	1.69 (1.20 to 2.39)	2.68 (2.00 to 3.60)	2.74 (2.05 to 3.65)
	Female	1940's	2.11 (1.78 to 2.50)	1.69 (1.41 to 2.02)	1.59 (1.32 to 1.91)	1.55 (1.29 to 1.87)	1.69 (1.41 to 2.02)	2.11 (1.78 to 2.49)	2.26 (1.92 to 2.66)
		1950's	2.25 (1.91 to 2.65)	1.92 (1.61 to 2.28)	1.79 (1.50 to 2.13)	1.72 (1.45 to 2.05)	1.92 (1.61 to 2.28)	2.25 (1.92 to 2.63)	2.43 (2.08 to 2.83)
		1960's	2.56 (2.07 to 3.16)	2.14 (1.70 to 2.70)	2.08 (1.64 to 2.64)	1.92 (1.51 to 2.44)	2.14 (1.70 to 2.70)	2.69 (2.17 to 3.33)	2.49 (2.03 to 3.07)
		1970's	2.70 (1.84 to 3.96)	2.02 (1.25 to 3.26)	2.05 (1.27 to 3.31)	1.95 (1.20 to 3.16)	2.02 (1.25 to 3.26)	2.99 (2.03 to 4.41)	2.73 (1.85 to 4.02)
	Rural	1940's	1.75 (1.55 to 1.98)	1.44 (1.27 to 1.64)	1.38 (1.21 to 1.58)	1.36 (1.19 to 1.56)	1.44 (1.27 to 1.64)	1.61 (1.42 to 1.83)	1.67 (1.47 to 1.89)
		1950's	1.91 (1.70 to 2.14)	1.60 (1.41 to 1.80)	1.53 (1.35 to 1.73)	1.48 (1.31 to 1.67)	1.60 (1.41 to 1.80)	1.79 (1.60 to 2.02)	1.83 (1.63 to 2.06)
		1960's	2.75 (2.35 to 3.21)	2.32 (1.96 to 2.75)	2.28 (1.92 to 2.71)	2.17 (1.82 to 2.58)	2.32 (1.96 to 2.75)	2.76 (2.35 to 3.25)	2.69 (2.30 to 3.14)
		1970's	3.18 (2.41 to 4.20)	2.17 (1.56 to 3.02)	2.17 (1.56 to 3.03)	2.09 (1.50 to 2.92)	2.17 (1.56 to 3.02)	3.18 (2.40 to 4.21)	3.16 (2.39 to 4.17)
	Urban	1940's	2.40 (2.07 to 2.77)	1.76 (1.49 to 2.07)	1.66 (1.40 to 1.96)	1.62 (1.37 to 1.93)	1.76 (1.49 to 2.07)	2.11 (1.82 to 2.45)	2.28 (1.97 to 2.64)
		1950's	2.56 (2.22 to 2.94)	2.06 (1.77 to 2.41)	1.94 (1.66 to 2.28)	1.88 (1.60 to 2.20)	2.06 (1.77 to 2.41)	2.25 (1.95 to 2.60)	2.40 (2.09 to 2.77)
		1960's	2.36 (1.91 to 2.93)	1.88 (1.47 to 2.39)	1.79 (1.40 to 2.29)	1.72 (1.34 to 2.20)	1.88 (1.47 to 2.39)	2.17 (1.74 to 2.71)	2.25 (1.82 to 2.80)
		1970's	1.55 (1.04 to 2.30)	1.10 (0.69 to 1.75)	1.08 (0.68 to 1.71)	1.04 (0.65 to 1.66)	1.10 (0.69 to 1.75)	1.51 (1.01 to 2.28)	1.51 (1.00 to 2.29)
CVD Morality	Overall	1940's	2.12 (1.83 to 2.45)	1.51 (1.29 to 1.77)	1.43 (1.22 to 1.68)	1.40 (1.19 to 1.64)	1.51 (1.29 to 1.77)	2.03 (1.76 to 2.34)	2.18 (1.90 to 2.50)
		1950's	2.24 (1.94 to 2.60)	1.72 (1.48 to 2.01)	1.63 (1.39 to 1.90)	1.56 (1.33 to 1.83)	1.72 (1.48 to 2.01)	2.11 (1.83 to 2.44)	2.24 (1.95 to 2.58)
		1960's	2.99 (2.42 to 3.69)	2.35 (1.86 to 2.97)	2.29 (1.81 to 2.91)	2.16 (1.70 to 2.75)	2.35 (1.86 to 2.97)	3.06 (2.46 to 3.81)	2.97 (2.40 to 3.67)
		1970's	2.10 (1.43 to 3.10)	1.65 (1.04 to 2.64)	1.70 (1.06 to 2.73)	1.61 (1.00 to 2.57)	1.65 (1.04 to 2.64)	2.32 (1.56 to 3.45)	2.12 (1.43 to 3.13)
	Male	1940's	2.09 (1.75 to 2.50)	1.47 (1.21 to 1.80)	1.41 (1.16 to 1.73)	1.39 (1.13 to 1.69)	1.47 (1.21 to 1.80)	1.96 (1.64 to 2.34)	2.09 (1.76 to 2.48)
		1950's	2.05 (1.72 to 2.44)	1.59 (1.32 to 1.92)	1.51 (1.25 to 1.82)	1.48 (1.23 to 1.80)	1.59 (1.32 to 1.92)	1.82 (1.53 to 2.17)	1.96 (1.65 to 2.32)
		1960's	2.27 (1.75 to 2.94)	1.71 (1.28 to 2.29)	1.64 (1.21 to 2.21)	1.57 (1.16 to 2.12)	1.71 (1.28 to 2.29)	2.18 (1.66 to 2.86)	2.21 (1.70 to 2.88)
		1970's	1.71 (1.08 to 2.71)	1.34 (0.77 to 2.34)	1.41 (0.81 to 2.47)	1.39 (0.80 to 2.42)	1.34 (0.77 to 2.34)	1.90 (1.18 to 3.05)	1.81 (1.14 to 2.87)
	Female	1940's	2.25 (1.75 to 2.90)	1.64 (1.26 to 2.15)	1.54 (1.17 to 2.01)	1.49 (1.13 to 1.95)	1.64 (1.26 to 2.15)	2.23 (1.74 to 2.86)	2.40 (1.89 to 3.05)
		1950's	2.90 (2.19 to 3.84)	2.16 (1.62 to 2.89)	2.02 (1.51 to 2.70)	1.84 (1.37 to 2.46)	2.16 (1.62 to 2.89)	3.02 (2.31 to 3.94)	3.03 (2.33 to 3.93)
		1960's	5.11 (3.50 to 7.46)	4.10 (2.73 to 6.15)	4.13 (2.72 to 6.26)	3.55 (2.33 to 5.41)	4.10 (2.73 to 6.15)	5.79 (3.94 to 8.51)	4.56 (3.11 to 6.68)
		1970's	3.44 (1.64 to 7.22)	2.60 (1.06 to 6.42)	2.64 (1.06 to 6.58)	2.25 (0.91 to 5.61)	2.60 (1.06 to 6.42)	3.89 (1.85 to 8.21)	2.90 (1.39 to 6.07)
	Rural	1940's	1.74 (1.45 to 2.10)	1.34 (1.10 to 1.63)	1.30 (1.07 to 1.59)	1.30 (1.07 to 1.59)	1.34 (1.10 to 1.63)	1.63 (1.34 to 1.97)	1.71 (1.42 to 2.06)
		1950's	1.72 (1.44 to 2.07)	1.40 (1.15 to 1.70)	1.34 (1.10 to 1.63)	1.31 (1.08 to 1.60)	1.40 (1.15 to 1.70)	1.64 (1.36 to 1.98)	1.72 (1.43 to 2.07)
		1960's	3.28 (2.54 to 4.24)	2.78 (2.11 to 3.67)	2.75 (2.07 to 3.64)	2.69 (2.02 to 3.57)	2.78 (2.11 to 3.67)	3.40 (2.60 to 4.45)	3.41 (2.63 to 4.42)
		1970's	2.63 (1.64 to 4.21)	1.93 (1.09 to 3.42)	2.00 (1.12 to 3.57)	1.91 (1.07 to 3.43)	1.93 (1.09 to 3.42)	2.75 (1.69 to 4.47)	2.60 (1.62 to 4.16)
	Urban	1940's	2.65 (2.13 to 3.30)	1.66 (1.29 to 2.14)	1.55 (1.20 to 2.00)	1.45 (1.12 to 1.87)	1.66 (1.29 to 2.14)	2.20 (1.76 to 2.75)	2.36 (1.89 to 2.93)

	1950's	3.09 (2.46 to 3.88)	2.34 (1.83 to 3.00)	2.19 (1.70 to 2.81)	2.06 (1.60 to 2.66)	2.34 (1.83 to 3.00)	2.66 (2.10 to 3.36)	2.79 (2.21 to 3.51)
	1960's	2.23 (1.56 to 3.18)	1.54 (1.03 to 2.31)	1.48 (0.98 to 2.24)	1.36 (0.89 to 2.06)	1.54 (1.03 to 2.31)	2.05 (1.42 to 2.96)	1.97 (1.37 to 2.83)
	1970's	1.26 (0.65 to 2.44)	1.06 (0.51 to 2.23)	1.09 (0.52 to 2.28)	1.11 (0.51 to 2.42)	1.06 (0.51 to 2.23)	1.32 (0.67 to 2.59)	1.27 (0.63 to 2.56)

Supplementary Table 6. Mediation analysis of the effect of three categories of potential mediators on outcomes

Separately							By step					
Outcome	Sex	Decade	Mediator	PTE(95% CI)	P value		Mediator	PTE(95% CI)	P value			
All-cause mortality	Overall	Overall	Socioeconomic factors	37.52(32.55 to 42.75)	<0.001	Sig.	Socioeconomic factors	37.52(32.55 to 42.75)	<0.001	Sig.		
		1940's		40.85(31.59 to 50.82)	<0.001	Sig.		40.85(31.59 to 50.82)	<0.001	Sig.		
		1950's		34.27(27.09 to 42.24)	<0.001	Sig.		34.27(27.09 to 42.24)	<0.001	Sig.		
		1960's		33.66(24.68 to 44.00)	<0.001	Sig.		33.66(24.68 to 44.00)	<0.001	Sig.		
		1970's		49.94(27.95 to 71.96)	<0.001	Sig.		49.94(27.95 to 71.96)	<0.001	Sig.		
		Male	Overall	36.69(30.77 to 43.04)	<0.001	Sig.		36.69(30.77 to 43.04)	<0.001	Sig.		
			1940's	39.47(28.45 to 51.67)	<0.001	Sig.		39.47(28.45 to 51.67)	<0.001	Sig.		
			1950's	33.03(24.95 to 42.27)	<0.001	Sig.		33.03(24.95 to 42.27)	<0.001	Sig.		
			1960's	34.50(23.32 to 47.71)	<0.001	Sig.		34.50(23.32 to 47.71)	<0.001	Sig.		
			1970's	55.21(25.33 to 81.74)	<0.001	Sig.		55.21(25.33 to 81.74)	<0.001	Sig.		
		Female	Overall	38.39(29.84 to 47.73)	<0.001	Sig.		38.39(29.84 to 47.73)	<0.001	Sig.		
			1940's	39.13(24.64 to 55.82)	<0.001	Sig.		39.13(24.64 to 55.82)	<0.001	Sig.		
			1950's	39.18(24.67 to 55.89)	<0.001	Sig.		39.18(24.67 to 55.89)	<0.001	Sig.		
			1960's	33.10(19.33 to 50.55)	<0.001	Sig.		33.10(19.33 to 50.55)	<0.001	Sig.		
			1970's	42.71(15.24 to 75.56)	<0.001	Sig.		42.71(15.24 to 75.56)	<0.001	Sig.		
		Rural	Overall	32.91(27.13 to 39.24)	<0.001	Sig.		32.91(27.13 to 39.24)	<0.001	Sig.		
			1940's	39.81(26.95 to 54.25)	<0.001	Sig.		39.81(26.95 to 54.25)	<0.001	Sig.		
			1950's	33.47(24.17 to 44.27)	<0.001	Sig.		33.47(24.17 to 44.27)	<0.001	Sig.		
			1960's	28.14(18.73 to 39.95)	<0.001	Sig.		28.14(18.73 to 39.95)	<0.001	Sig.		
			1970's	34.45(18.93 to 54.19)	<0.001	Sig.		34.45(18.93 to 54.19)	<0.001	Sig.		
	Urban	Overall	42.50(34.23 to 51.22)	<0.001	Sig.	42.50(34.23 to 51.22)	<0.001	Sig.				
		1940's	45.37(31.92 to 59.53)	<0.001	Sig.	45.37(31.92 to 59.53)	<0.001	Sig.				
		1950's	34.15(24.12 to 45.84)	<0.001	Sig.	34.15(24.12 to 45.84)	<0.001	Sig.				
		1960's	39.80(22.51 to 60.08)	<0.001	Sig.	39.80(22.51 to 60.08)	<0.001	Sig.				
		1970's	118.15(-638.49 to 931.66)	0.001		118.15(-638.49 to 931.66)	0.001					
	Overall	Overall	Healthy lifestyles	13.89(11.98 to 16.04)	<0.001	Sig.	Socioeconomic factors+ Healthy lifestyles	42.97(37.51 to 48.61)	<0.001	Sig.		
				1940's	16.25(12.58 to 20.72)	<0.001		Sig.	46.97(36.56 to 57.66)	<0.001	Sig.	
				1950's	14.64(11.62 to 18.29)	<0.001		Sig.	40.35(32.25 to 49.02)	<0.001	Sig.	
				1960's	8.74(5.68 to 13.22)	<0.001		Sig.	37.93(28.08 to 48.89)	<0.001	Sig.	
				1970's	4.88(1.34 to 16.20)	0.057			51.83(29.03 to 73.90)	<0.001	Sig.	
		Male	Overall	13.31(11.00 to 16.01)	<0.001	Sig.	41.62(35.16 to 48.37)	<0.001	Sig.			
			1940's	16.07(11.56 to 21.91)	<0.001	Sig.	45.03(32.78 to 57.93)	<0.001	Sig.			
			1950's	13.41(10.02 to 17.72)	<0.001	Sig.	38.39(29.38 to 48.28)	<0.001	Sig.			
			1960's	10.08(6.15 to 16.11)	<0.001	Sig.	39.53(27.15 to 53.40)	<0.001	Sig.			
			1970's	6.41(1.64 to 22.00)	0.062		58.11(26.46 to 84.25)	<0.001	Sig.			
		Female	Overall	12.89(10.02 to 16.43)	<0.001	Sig.	43.51(34.01 to 53.51)	<0.001	Sig.			
			1940's	13.82(9.00 to 20.64)	<0.001	Sig.	44.48(28.15 to 62.09)	<0.001	Sig.			
			1950's	16.46(10.80 to 24.27)	<0.001	Sig.	46.09(29.14 to 64.00)	<0.001	Sig.			
			1960's	7.07(3.07 to 15.45)	0.004	Sig.	36.44(21.30 to 54.84)	<0.001	Sig.			
			1970's	1.35(0.00 to 91.32)	0.383		41.97(14.71 to 75.21)	0.001	Sig.			
		Rural	Overall	11.66(9.47 to 14.29)	<0.001	Sig.	37.78(31.46 to 44.55)	<0.001	Sig.			
			1940's	17.01(11.63 to 24.20)	<0.001	Sig.	46.74(31.89 to 62.18)	<0.001	Sig.			
			1950's	12.60(9.00 to 17.37)	<0.001	Sig.	38.95(28.53 to 50.49)	<0.001	Sig.			
			1960's	5.99(2.97 to 11.73)	0.001	Sig.	30.92(20.76 to 43.33)	<0.001	Sig.			
			1970's	2.06(0.12 to 26.83)	0.243		34.92(19.07 to 54.99)	<0.001	Sig.			
		Urban	Overall	17.50(14.18 to 21.41)	<0.001	Sig.	49.20(39.89 to 58.56)	<0.001	Sig.			
			1940's	18.30(13.12 to 24.94)	<0.001	Sig.	52.10(36.84 to 66.97)	<0.001	Sig.			
			1950's	17.23(12.52 to 23.24)	<0.001	Sig.	41.10(29.51 to 53.77)	<0.001	Sig.			
			1960's	12.84(6.99 to 22.41)	<0.001	Sig.	46.25(26.44 to 67.32)	<0.001	Sig.			
			1970's	13.50(1.11 to 68.43)	0.136		124.43(-660.85 to 1036.50)	<0.001				
		Overall	Overall	Metabolic factors	4.67(3.73 to 5.81)	<0.001	Sig.	Healthy lifestyles + Metabolic factors + Socioeconomic factors	43.45(37.89 to 49.17)	<0.001	Sig.	
					1940's	6.99(4.96 to 9.76)	<0.001		Sig.	48.53(37.75 to 59.45)	<0.001	Sig.
					1950's	5.48(3.93 to 7.58)	<0.001		Sig.	41.62(33.25 to 50.51)	<0.001	Sig.
					1960's	5.07(3.35 to 7.60)	<0.001		Sig.	40.69(30.28 to 52.02)	<0.001	Sig.
					1970's	0.34(0.00 to 98.99)	0.424			51.47(28.68 to 73.66)	<0.001	Sig.
			Male	Overall	7.27(5.85 to 9.01)	<0.001	Sig.		43.06(36.40 to 49.97)	<0.001	Sig.	
				1940's	8.84(6.01 to 12.82)	<0.001	Sig.		47.10(34.27 to 60.32)	<0.001	Sig.	
				1950's	7.30(5.09 to 10.35)	<0.001	Sig.		40.13(30.73 to 50.31)	<0.001	Sig.	
				1960's	8.74(5.71 to 13.15)	<0.001	Sig.		44.09(30.54 to 58.57)	<0.001	Sig.	
				1970's	0.51(0.00 to 99.47)	0.426			58.62(26.71 to 84.63)	<0.001	Sig.	
			Female	Overall	5.51(3.82 to 7.87)	<0.001	Sig.		45.49(35.47 to 55.89)	<0.001	Sig.	

		1940's		5.77(2.85 to 11.36)	<0.001	Sig.		45.95(28.83 to 64.09)	<0.001	Sig.
		1950's		5.84(3.18 to 10.49)	<0.001	Sig.		48.56(30.45 to 67.05)	<0.001	Sig.
		1960's		12.27(7.72 to 18.96)	<0.001	Sig.		43.32(25.91 to 62.55)	<0.001	Sig.
		1970's		5.51(1.10 to 23.52)	0.091			42.59(14.32 to 76.70)	0.002	Sig.
	Rural	Overall		3.87(2.76 to 5.41)	<0.001	Sig.		37.62(31.24 to 44.45)	<0.001	Sig.
		1940's		8.85(5.59 to 13.73)	<0.001	Sig.		48.77(33.21 to 64.58)	<0.001	Sig.
		1950's		5.20(3.14 to 8.49)	<0.001	Sig.		40.09(29.28 to 51.96)	<0.001	Sig.
		1960's		2.95(1.31 to 6.53)	0.006	Sig.		32.18(21.59 to 44.98)	<0.001	Sig.
		1970's		-0.61(-4.50 to 2.94)	0.363			34.79(18.89 to 55.01)	<0.001	Sig.
	Urban	Overall		5.58(3.94 to 7.85)	<0.001	Sig.		50.63(41.02 to 60.20)	<0.001	Sig.
		1940's		6.07(3.32 to 10.84)	<0.001	Sig.		53.60(37.74 to 68.77)	<0.001	Sig.
		1950's		7.34(4.75 to 11.19)	0.500			44.03(31.65 to 57.19)	<0.001	Sig.
		1960's		5.29(2.11 to 12.62)	0.010	Sig.		49.71(28.47 to 71.05)	<0.001	Sig.
		1970's		11.68(0.88 to 66.36)	0.134			134.05(-772.27 to 1268.95)	<0.001	
CVD mortality	Overall	Overall	Socioeconomic factors	47.90(38.80 to 57.15)	<0.001	Sig.	Socioeconomic factors	47.90(38.80 to 57.15)	<0.001	Sig.
		1940's		49.87(35.09 to 64.68)	<0.001	Sig.		49.87(35.09 to 64.68)	<0.001	Sig.
		1950's		41.95(29.61 to 55.39)	<0.001	Sig.		41.95(29.61 to 55.39)	<0.001	Sig.
		1960's		45.09(27.78 to 63.68)	<0.001	Sig.		45.09(27.78 to 63.68)	<0.001	Sig.
		1970's		44.09(10.03 to 84.81)	0.009	Sig.		44.09(10.03 to 84.81)	0.009	Sig.
	Male	Overall		48.24(36.16 to 60.53)	<0.001	Sig.		48.24(36.16 to 60.53)	<0.001	Sig.
		1940's		51.53(32.22 to 70.40)	<0.001	Sig.		51.53(32.22 to 70.40)	<0.001	Sig.
		1950's		36.87(23.32 to 52.86)	<0.001	Sig.		36.87(23.32 to 52.86)	<0.001	Sig.
		1960's		55.81(24.56 to 83.04)	<0.001	Sig.		55.81(24.56 to 83.04)	<0.001	Sig.
		1970's		49.22(3.65 to 96.12)	0.052			49.22(3.65 to 96.12)	0.052	
	Female	Overall		40.53(29.63 to 52.45)	<0.001	Sig.		40.53(29.63 to 52.45)	<0.001	Sig.
		1940's		42.89(23.99 to 64.12)	<0.001	Sig.		42.89(23.99 to 64.12)	<0.001	Sig.
		1950's		46.61(25.80 to 68.67)	<0.001	Sig.		46.61(25.80 to 68.67)	<0.001	Sig.
		1960's		30.43(15.82 to 50.44)	<0.001	Sig.		30.43(15.82 to 50.44)	<0.001	Sig.
		1970's		36.13(6.84 to 81.33)	0.026	Sig.		36.13(6.84 to 81.33)	0.026	Sig.
	Rural	Overall		44.13(32.50 to 56.44)	<0.001	Sig.		44.13(32.50 to 56.44)	<0.001	Sig.
		1940's		49.92(28.12 to 71.75)	<0.001	Sig.		49.92(28.12 to 71.75)	<0.001	Sig.
		1950's		46.39(26.13 to 67.93)	<0.001	Sig.		46.39(26.13 to 67.93)	<0.001	Sig.
		1960's		33.19(17.99 to 52.95)	<0.001	Sig.		33.19(17.99 to 52.95)	<0.001	Sig.
		1970's		29.81(6.93 to 70.77)	0.032	Sig.		29.81(6.93 to 70.77)	0.032	Sig.
	Urban	Overall		50.52(37.31 to 63.67)	<0.001	Sig.		50.52(37.31 to 63.67)	<0.001	Sig.
		1940's		53.84(33.38 to 73.08)	<0.001	Sig.		53.84(33.38 to 73.08)	<0.001	Sig.
		1950's		36.50(23.05 to 52.45)	<0.001	Sig.		36.50(23.05 to 52.45)	<0.001	Sig.
		1960's		64.81(17.39 to 94.16)	<0.001	Sig.		64.81(17.39 to 94.16)	<0.001	Sig.
		1970's		138.48(-640.44 to 645.45)	0.147			138.48(-640.44 to 645.45)	0.147	
	Overall	Overall	Healthy lifestyles	15.68(12.59 to 19.36)	<0.001	Sig.	Socioeconomic factors+ Healthy lifestyles	53.44(43.38 to 63.23)	<0.001	Sig.
		1940's		15.98(11.24 to 22.21)	<0.001	Sig.		54.64(38.33 to 70.01)	<0.001	Sig.
		1950's		15.65(11.00 to 21.79)	<0.001	Sig.		47.83(33.90 to 62.10)	<0.001	Sig.
		1960's		9.10(4.46 to 17.65)	<0.001	Sig.		49.14(30.15 to 68.39)	<0.001	Sig.
		1970's		-2.01(-25.68 to 11.85)	0.385			41.39(8.95 to 83.54)	0.016	Sig.
	Male	Overall		16.47(12.21 to 21.85)	<0.001	Sig.		53.88(40.46 to 66.75)	<0.001	Sig.
		1940's		16.19(10.10 to 24.94)	<0.001	Sig.		55.72(34.59 to 74.97)	<0.001	Sig.
		1950's		15.74(9.97 to 23.94)	<0.001	Sig.		43.00(27.57 to 59.92)	<0.001	Sig.
		1960's		16.15(7.19 to 32.38)	<0.001	Sig.		63.81(26.10 to 89.80)	<0.001	Sig.
		1970's		-8.95(-55.90 to 17.06)	0.225			42.40(2.87 to 94.82)	0.090	
	Female	Overall		11.00(7.93 to 15.06)	<0.001	Sig.		44.33(32.51 to 56.83)	<0.001	Sig.
		1940's		13.32(7.81 to 21.78)	<0.001	Sig.		47.52(26.52 to 69.43)	<0.001	Sig.
		1950's		13.61(7.69 to 22.95)	<0.001	Sig.		51.54(28.12 to 74.31)	<0.001	Sig.
		1960's		2.72(0.33 to 18.96)	0.169			30.96(15.87 to 51.60)	<0.001	Sig.
		1970's		0.55(0.00 to 100.00)	0.464			35.67(6.68 to 81.13)	0.032	Sig.
	Rural	Overall		13.22(9.42 to 18.23)	<0.001	Sig.		49.04(36.24 to 61.96)	<0.001	Sig.
		1940's		14.89(8.29 to 25.29)	<0.001	Sig.		54.58(30.37 to 76.79)	<0.001	Sig.
		1950's		14.85(8.39 to 24.93)	<0.001	Sig.		52.19(29.21 to 74.28)	<0.001	Sig.
		1960's		6.38(2.12 to 17.66)	0.023	Sig.		35.96(19.52 to 56.52)	<0.001	Sig.
		1970's		-3.12(-20.40 to 7.81)	0.309			26.86(5.17 to 71.22)	0.058	
	Urban	Overall		19.26(14.47 to 25.16)	<0.001	Sig.		57.27(42.28 to 71.03)	<0.001	Sig.
		1940's		19.98(13.19 to 29.10)	<0.001	Sig.		60.13(36.84 to 79.59)	<0.001	Sig.
		1950's		16.80(10.84 to 25.11)	<0.001	Sig.		42.85(27.44 to 59.79)	<0.001	Sig.
		1960's		14.29(4.90 to 35.03)	0.006	Sig.		71.42(15.30 to 97.19)	<0.001	Sig.
		1970's		-22.62(-162.03 to 110.89)	0.315			120.68(-600.58 to 494.14)	0.178	
	Overall	Overall	Metabolic factors	7.67(5.99 to 9.77)	<0.001	Sig.	Healthy lifestyles + Metabolic	56.42(45.79 to 66.48)	<0.001	Sig.
		1940's		9.97(6.95 to 14.11)	<0.001	Sig.		59.73(41.68 to 75.49)	<0.001	Sig.
		1950's		6.41(4.02 to 10.07)	<0.001	Sig.		49.99(35.35 to 64.63)	<0.001	Sig.

Male	1960's	6.85(3.77 to 12.12)	<0.001	Sig.	factors + Socioeconomic factors	53.18(32.53 to 72.80)	<0.001	Sig.
	1970's	3.36(0.22 to 35.11)	0.224			42.51(9.30 to 84.22)	0.014	Sig.
	Overall	7.12(4.82 to 10.38)	<0.001	Sig.		55.67(41.78 to 68.73)	<0.001	Sig.
	1940's	10.00(6.07 to 16.04)	<0.001	Sig.		60.44(37.21 to 79.75)	<0.001	Sig.
	1950's	5.48(2.53 to 11.46)	0.002	Sig.		43.67(27.87 to 60.88)	<0.001	Sig.
Female	1960's	7.27(2.40 to 20.00)	0.021	Sig.		67.00(26.01 to 92.14)	<0.001	Sig.
	1970's	-7.00(-155.88 to -0.71)	0.178			39.03(2.63 to 93.83)	0.107	
	Overall	11.41(8.48 to 15.18)	<0.001	Sig.		51.26(37.56 to 64.78)	<0.001	Sig.
	1940's	9.13(4.83 to 16.62)	<0.001	Sig.		51.98(28.45 to 74.67)	<0.001	Sig.
	1950's	12.86(7.70 to 20.70)	<0.001	Sig.		60.03(31.41 to 83.12)	<0.001	Sig.
Rural	1960's	15.96(9.79 to 24.93)	<0.001	Sig.		40.78(22.11 to 62.55)	<0.001	Sig.
	1970's	16.36(4.80 to 43.16)	0.011	Sig.		39.37(6.81 to 85.24)	0.033	Sig.
	Overall	2.45(1.00 to 5.88)	0.011	Sig.		47.73(30.15 to 60.62)	<0.001	Sig.
	1940's	7.41(3.58 to 14.71)	<0.001	Sig.		56.78(31.19 to 79.20)	<0.001	Sig.
	1950's	2.31(0.34 to 13.96)	0.143			51.34(28.52 to 73.61)	<0.001	Sig.
Urban	1960's	-0.68(-5.19 to 4.05)	0.371			34.23(17.97 to 55.30)	<0.001	Sig.
	1970's	-2.01(-14.17 to 6.54)	0.320			25.78(4.69 to 71.01)	0.069	
	Overall	12.58(9.35 to 16.74)	<0.001	Sig.		63.87(46.81 to 78.02)	<0.001	Sig.
	1940's	13.00(8.21 to 19.96)	<0.001	Sig.		67.31(39.94 to 86.44)	<0.001	Sig.
	1950's	10.99(6.87 to 17.13)	<0.001	Sig.		48.33(30.92 to 66.15)	<0.001	Sig.
	1960's	19.02(8.12 to 38.42)	<0.001	Sig.		84.84(4.49 to 99.85)	<0.001	Sig.
	1970's	-15.51(-291.54 to 121.99)	0.378	.		82.66(0.00 to 100.00)	0.279	

CVD: Cardiovascular disease, PTE: Proportion of effect mediated by the mediator, CI: Confidence interval.

Supplementary Table 7. Mediation analysis of the effect of individual mediating factors on outcomes

Population	Birth decade	Mediator	All-cause mortality			CVD mortality		
			Proportion of effect mediated by mediator	p value		Proportion of effect mediated by mediator	p value	
Overall	Overall		1.28(1.02 to 1.60)	<0.001	Sig.	1.45(1.05 to 2.00)	<0.001	Sig.
	1940's		1.70(1.08 to 2.67)	<0.001	Sig.	1.83(1.02 to 3.25)	<0.001	Sig.
	1950's	In marriage	1.18(0.80 to 1.73)	<0.001	Sig.	1.05(0.55 to 1.98)	<0.001	Sig.
	1960's		0.43(0.22 to 0.84)	0.002	Sig.	0.54(0.24 to 1.20)	0.004	Sig.
	1970's		1.37(0.72 to 2.59)	<0.001	Sig.	1.75(0.52 to 5.73)	0.02	Sig.
	Overall		10.28(8.37 to 12.57)	<0.001	Sig.	14.77(11.55 to 18.71)	<0.001	Sig.
	1940's	Annual household income>50k RMB	9.10(6.01 to 13.55)	<0.001	Sig.	11.23(6.96 to 17.61)	<0.001	Sig.
	1950's		9.04(6.41 to 12.59)	<0.001	Sig.	14.53(10.03 to 20.60)	<0.001	Sig.
	1960's		11.41(7.70 to 16.58)	<0.001	Sig.	18.30(11.21 to 28.45)	<0.001	Sig.
	1970's		20.39(11.79 to 32.93)	<0.001	Sig.	25.83(8.29 to 57.31)	0.003	Sig.
	Overall		-0.01(-0.52 to 0.00)	0.316		-0.02(-0.31 to 0.00)	0.219	
	1940's	Having health insurance	-0.03(-0.42 to 0.00)	0.221		-0.01(-5.72 to 0.00)	0.373	
	1950's		0.04(0.00 to 0.42)	0.21		-0.06(-0.83 to 0.00)	0.227	
	1960's		0.00(0.00 to 100.00)	0.463		-0.01(-2.41 to 0.00)	0.352	
	1970's		-0.15(-0.61 to -0.04)	0.072		-0.30(-1.47 to -0.06)	0.088	
	Overall		31.49(27.17 to 36.16)	<0.001	Sig.	38.71(31.11 to 46.90)	<0.001	Sig.
	1940's	Farmer	34.92(26.97 to 43.79)	<0.001	Sig.	42.47(30.02 to 55.94)	<0.001	Sig.
	1950's		29.43(23.09 to 36.68)	<0.001	Sig.	33.35(23.08 to 45.49)	<0.001	Sig.
	1960's		27.09(19.24 to 36.70)	<0.001	Sig.	34.22(20.24 to 51.61)	<0.001	Sig.
	1970's		37.20(19.78 to 58.72)	<0.001	Sig.	27.16(4.85 to 73.17)	0.06	
	Overall		1.97(1.52 to 2.56)	<0.001	Sig.	1.57(0.96 to 2.58)	<0.001	Sig.

1940's		3.05(2.01 to 4.62)	<0.001	Sig.	0.82(0.13 to 4.88)	0.137	
1950's	No tobacco	1.68(1.09 to 2.59)	<0.001	Sig.	1.64(0.83 to 3.21)	<0.001	Sig.
1960's	smoking	0.98(0.47 to 2.03)	0.003	Sig.	1.35(0.54 to 3.33)	0.012	Sig.
1970's		0.81(0.16 to 3.92)	0.107		1.36(0.13 to 12.48)	0.185	
Overall		-0.08(-0.99 to -0.01)	0.214		-0.48(-0.93 to -0.24)	0.001	
1940's	No alcohol	-0.83(-1.54 to -0.44)	<0.001		-1.77(-2.68 to -1.17)	<0.001	
1950's	drinking	-0.02(-0.46 to 0.39)	0.461		-0.38(-1.58 to -0.09)	0.081	
1960's		0.10(0.02 to 0.46)	0.1		0.10(0.01 to 0.84)	0.17	
1970's		0.08(0.01 to 1.05)	0.219		0.38(0.06 to 2.26)	0.121	
Overall		10.95(9.37 to 12.77)	<0.001	Sig.	13.69(11.00 to 16.93)	<0.001	Sig.
1940's	Healthy	12.67(9.73 to 16.34)	<0.001	Sig.	15.37(11.05 to 20.99)	<0.001	Sig.
1950's	physical	11.43(8.96 to 14.47)	<0.001	Sig.	13.54(9.53 to 18.88)	<0.001	Sig.
1960's	activity	7.39(4.64 to 11.56)	<0.001	Sig.	7.01(3.02 to 15.41)	0.004	Sig.
1970's		4.25(1.09 to 15.22)	0.067		-0.72(-17.78 to 15.35)	0.457	
Overall		1.76(1.21 to 2.53)	<0.001	Sig.	1.50(0.77 to 2.93)	0.001	Sig.
1940's	Healthy	2.17(1.21 to 3.87)	<0.001	Sig.	2.05(0.89 to 4.66)	0.006	Sig.
1950's	diet	2.30(1.45 to 3.63)	<0.001	Sig.	1.47(0.50 to 4.28)	0.03	Sig.
1960's	patterns	0.54(0.06 to 4.63)	0.182		0.97(0.13 to 6.92)	0.162	
1970's		-0.13(-2.04 to 2.95)	0.454		-3.17(-20.97 to -0.55)	0.110	
Overall		0.07(0.00 to 1.88)	0.279		-0.01(-0.37 to 0.24)	0.476	
1940's		-0.89(-1.77 to -0.45)	0.002		-0.62(-1.74 to -0.22)	0.025	
1950's	TC	-0.21(-1.53 to -0.03)	0.162		-0.24(-2.33 to -0.02)	0.194	
1960's		0.90(0.43 to 1.84)	0.003	Sig.	0.43(0.04 to 4.81)	0.211	
1970's		-0.82(-5.62 to -0.13)	0.149		-2.79(-12.10 to -0.69)	0.068	
Overall		-0.90(-1.52 to -0.54)	<0.001		-1.30(-2.20 to -0.77)	<0.001	
1940's	GLU	-0.68(-2.83 to -0.17)	0.080		-0.65(-3.63 to -0.12)	0.121	

			1950's	-1.09(-2.13 to -0.56)	0.001		-1.79(-3.32 to -0.97)	<0.001	
			1960's	-1.38(-2.55 to -0.75)	<0.001		-2.15(-4.37 to -1.07)	<0.001	
			1970's	0.39(0.02 to 6.95)	0.253		-0.22(-5.45 to 3.14)	0.437	
			Overall	1.75(1.34 to 2.29)	<0.001	Sig.	6.46(5.27 to 7.90)	<0.001	Sig.
			1940's	2.02(1.29 to 3.16)	<0.001	Sig.	5.68(4.04 to 7.93)	<0.001	Sig.
		SBP	1950's	2.42(1.71 to 3.41)	<0.001	Sig.	7.23(5.28 to 9.81)	<0.001	Sig.
			1960's	2.41(1.59 to 3.63)	<0.001	Sig.	6.31(4.16 to 9.45)	<0.001	Sig.
			1970's	-0.55(-14.30 to -0.02)	0.265		2.51(0.37 to 15.27)	0.139	
			Overall	1.06(0.74 to 1.50)	<0.001	Sig.	3.57(2.75 to 4.63)	<0.001	Sig.
			1940's	2.51(1.73 to 3.62)	<0.001	Sig.	5.70(4.04 to 8.00)	<0.001	Sig.
		DBP	1950's	1.34(0.85 to 2.12)	<0.001	Sig.	3.08(1.96 to 4.80)	<0.001	Sig.
			1960's	-0.25(-3.03 to -0.02)	0.213		-0.73(-5.68 to -0.10)	0.162	
			1970's	-1.81(-3.73 to -0.89)	<0.001		-5.07(-14.75 to -1.85)	0.003	
			Overall	1.94(1.56 to 2.42)	<0.001	Sig.	-0.09(-0.70 to 0.49)	0.376	
			1940's	3.11(2.21 to 4.35)	<0.001	Sig.	1.22(0.49 to 3.02)	0.013	Sig.
		Waist	1950's	2.74(1.98 to 3.76)	<0.001	Sig.	-0.58(-4.10 to -0.08)	0.153	
			1960's	1.21(0.70 to 2.06)	<0.001	Sig.	-0.15(-1.48 to 0.79)	0.393	
			1970's	0.72(0.19 to 2.71)	0.067		0.13(0.00 to 100.00)	0.457	
			Overall	3.75(3.20 to 4.39)	<0.001	Sig.	2.15(1.55 to 2.95)	<0.001	Sig.
			1940's	4.85(3.64 to 6.45)	<0.001	Sig.	2.09(1.13 to 3.83)	<0.001	Sig.
		BMI	1950's	4.50(3.55 to 5.69)	<0.001	Sig.	1.65(0.83 to 3.25)	<0.001	Sig.
			1960's	3.19(2.35 to 4.32)	<0.001	Sig.	2.34(1.24 to 4.36)	<0.001	Sig.
			1970's	2.00(0.99 to 4.03)	<0.001	Sig.	5.32(2.15 to 12.58)	<0.001	Sig.
Male	Overall			2.67(2.14 to 3.33)	<0.001	Sig.	3.24(2.31 to 4.54)	<0.001	Sig.
	1940's	In marriage		2.77(1.81 to 4.24)	<0.001	Sig.	2.95(1.65 to 5.22)	<0.001	Sig.
	1950's			2.83(2.00 to 3.98)	<0.001	Sig.	2.96(1.70 to 5.09)	<0.001	Sig.

1960's		2.43(1.59 to 3.70)	<0.001	Sig.	4.08(2.07 to 7.88)	<0.001	Sig.
1970's		4.65(2.49 to 8.54)	<0.001	Sig.	6.39(1.50 to 23.39)	0.008	Sig.
Overall		10.26(7.97 to 13.10)	<0.001	Sig.	16.80(12.34 to 22.47)	<0.001	Sig.
1940's	Annual	9.62(5.96 to 15.17)	<0.001	Sig.	11.10(6.02 to 19.58)	<0.001	Sig.
1950's	household	7.26(4.48 to 11.56)	<0.001	Sig.	14.26(8.88 to 22.12)	<0.001	Sig.
1960's	income>50k	13.49(8.64 to 20.46)	<0.001	Sig.	30.76(16.09 to 50.71)	<0.001	Sig.
1970's	RMB	21.89(10.95 to 38.96)	<0.001	Sig.	29.34(4.89 to 77.03)	0.025	Sig.
Overall		-0.02(-0.36 to 0.00)	0.252		-0.06(-0.40 to -0.01)	0.157	
1940's	Having	0.00(0.00 to 100.00)	0.489		0.07(0.00 to 1.59)	0.269	
1950's	health	-0.03(-0.86 to 0.00)	0.288		-0.10(-0.72 to -0.01)	0.158	
1960's	insurance	-0.06(-0.59 to -0.01)	0.199		-0.19(-1.63 to -0.02)	0.168	
1970's		-0.16(-0.93 to -0.03)	0.128		-0.25(-6.06 to -0.01)	0.252	
Overall		30.41(25.24 to 36.13)	<0.001	Sig.	37.35(27.54 to 48.33)	<0.001	Sig.
1940's		33.11(23.64 to 44.17)	<0.001	Sig.	44.66(28.11 to 62.48)	<0.001	Sig.
1950's	Farmer	28.73(21.50 to 37.23)	<0.001	Sig.	27.35(16.47 to 41.82)	<0.001	Sig.
1960's		25.19(15.88 to 37.51)	<0.001	Sig.	33.84(13.86 to 61.91)	<0.001	Sig.
1970's		39.71(17.58 to 67.04)	<0.001	Sig.	26.55(1.33 to 90.62)	0.178	
Overall		2.20(1.61 to 3.01)	<0.001	Sig.	1.85(0.98 to 3.47)	<0.001	Sig.
1940's	No tobacco	3.84(2.44 to 5.99)	<0.001	Sig.	1.43(0.32 to 6.09)	0.086	
1950's	smoking	1.74(1.03 to 2.94)	<0.001	Sig.	1.73(0.72 to 4.13)	0.009	Sig.
1960's		1.19(0.50 to 2.81)	0.009	Sig.	2.21(0.75 to 6.34)	0.021	Sig.
1970's		1.39(0.33 to 5.66)	0.078		2.99(0.34 to 21.87)	0.142	
Overall		0.01(0.00 to 100.00)	0.469		-0.56(-1.32 to -0.24)	0.010	
1940's	No alcohol	-0.74(-1.89 to -0.29)	0.016		-2.04(-3.44 to -1.21)	<0.001	
1950's	drinking	0.17(0.01 to 2.78)	0.241		-0.38(-3.01 to -0.05)	0.166	
1960's		0.12(0.02 to 0.62)	0.114		0.13(0.01 to 1.67)	0.215	

1970's		0.10(0.01 to 1.21)	0.215		0.68(0.09 to 4.70)	0.123	
Overall		10.54(8.59 to 12.87)	<0.001	Sig.	14.73(10.92 to 19.57)	<0.001	Sig.
1940's	Healthy	12.62(8.92 to 17.54)	<0.001	Sig.	16.04(10.34 to 24.05)	<0.001	Sig.
1950's	physical	10.39(7.58 to 14.07)	<0.001	Sig.	13.78(8.73 to 21.08)	<0.001	Sig.
1960's	activity	8.78(5.20 to 14.47)	<0.001	Sig.	13.45(5.58 to 29.00)	0.001	Sig.
1970's		4.44(0.72 to 22.98)	0.13		-10.27(-422.53 to -1.08)	0.187	
Overall		1.23(0.68 to 2.24)	<0.001	Sig.	0.98(0.26 to 3.66)	0.067	
1940's	Healthy	1.14(0.30 to 4.27)	0.068		1.02(0.12 to 8.08)	0.174	
1950's	diet	1.87(1.00 to 3.48)	<0.001	Sig.	1.20(0.23 to 5.92)	0.109	
1960's	patterns	0.22(0.00 to 47.83)	0.372		0.75(0.02 to 25.12)	0.301	
1970's		0.77(0.04 to 14.20)	0.26		-2.30(-118.10 to -0.09)	0.256	
Overall		0.00(0.00 to 100.00)	0.486		0.04(0.00 to 67.87)	0.409	
1940's		-0.72(-1.98 to -0.26)	0.024		-0.67(-2.74 to -0.17)	0.075	
1950's	TC	-0.49(-1.26 to -0.19)	0.018		-0.51(-2.01 to -0.13)	0.069	
1960's		0.55(0.15 to 2.06)	0.068		-0.20(-2.45 to 1.30)	0.405	
1970's		-1.95(-6.84 to -0.57)	0.051		-6.44(-28.03 to -1.70)	0.028	
Overall		-1.77(-2.52 to -1.24)	<0.001		-2.76(-4.17 to -1.83)	<0.001	
1940's		-1.35(-3.31 to -0.56)	0.011		-1.34(-4.30 to -0.43)	0.037	
1950's	GLU	-1.80(-3.07 to -1.06)	<0.001		-3.24(-5.63 to -1.88)	<0.001	
1960's		-3.14(-5.09 to -1.94)	<0.001		-5.40(-11.49 to -2.61)	<0.001	
1970's		-0.54(-21.39 to -0.02)	0.285		-1.91(-65.24 to -0.09)	0.248	
Overall		1.90(1.45 to 2.49)	<0.001	Sig.	5.68(4.31 to 7.45)	<0.001	Sig.
1940's		2.01(1.16 to 3.44)	<0.001	Sig.	5.74(3.72 to 8.78)	<0.001	Sig.
1950's	SBP	2.44(1.66 to 3.57)	<0.001	Sig.	6.47(4.31 to 9.58)	<0.001	Sig.
1960's		0.94(0.37 to 2.38)	0.016	Sig.	2.60(0.90 to 7.23)	0.021	Sig.
1970's		-0.98(-6.40 to -0.16)	0.134		-4.59(-32.88 to -0.78)	0.084	

	Overall		0.77(0.45 to 1.33)	<0.001	Sig.	1.79(1.02 to 3.10)	<0.001	Sig.
	1940's		2.13(1.25 to 3.61)	<0.001	Sig.	5.17(3.28 to 8.04)	<0.001	Sig.
	1950's	DBP	1.34(0.76 to 2.36)	<0.001	Sig.	2.11(0.97 to 4.49)	0.003	Sig.
	1960's		0.07(0.00 to 99.98)	0.451		-3.37(-9.14 to -1.29)	0.010	
	1970's		-2.16(-6.53 to -0.74)	0.023		-11.72(-47.28 to -3.55)	<0.001	
	Overall		5.58(4.56 to 6.82)	<0.001	Sig.	0.81(0.12 to 5.18)	0.147	
	1940's		5.82(4.08 to 8.22)	<0.001	Sig.	2.01(0.66 to 5.94)	0.033	Sig.
	1950's	Waist	5.62(4.03 to 7.79)	<0.001	Sig.	-0.27(-2.69 to 2.15)	0.413	
	1960's		7.10(4.89 to 10.20)	<0.001	Sig.	3.27(0.76 to 13.02)	0.073	
	1970's		2.19(0.44 to 10.10)	0.1		-7.50(-37.21 to -1.83)	0.029	
	Overall		6.91(5.82 to 8.17)	<0.001	Sig.	2.27(1.24 to 4.12)	<0.001	Sig.
	1940's		7.13(5.17 to 9.76)	<0.001	Sig.	2.53(1.05 to 5.96)	0.008	Sig.
	1950's	BMI	6.84(5.21 to 8.93)	<0.001	Sig.	0.75(0.05 to 10.19)	0.231	
	1960's		8.71(6.32 to 11.88)	<0.001	Sig.	4.40(1.59 to 11.60)	0.012	Sig.
	1970's		5.13(2.56 to 9.99)	<0.001	Sig.	6.80(1.42 to 26.94)	0.035	Sig.
Female	Overall		0.22(0.09 to 0.54)	0.013	Sig.	0.21(0.05 to 0.79)	0.07	
	1940's		0.80(0.18 to 3.45)	0.088		0.99(0.23 to 4.17)	0.081	
	1950's	In marriage	0.11(0.01 to 1.79)	0.243		0.00(0.00 to 100.00)	0.493	
	1960's		-0.52(-2.04 to -0.13)	0.069		0.03(0.00 to 100.00)	0.47	
	1970's		-0.26(-103.91 to 0.00)	0.356		0.30(0.00 to 54.26)	0.369	
	Overall		10.58(7.45 to 14.81)	<0.001	Sig.	11.09(7.41 to 16.28)	<0.001	Sig.
	1940's		8.16(3.61 to 17.40)	0.004	Sig.	11.08(5.16 to 22.22)	0.001	Sig.
	1950's	Annual household income>50k	13.22(7.90 to 21.31)	<0.001	Sig.	14.04(7.76 to 24.08)	<0.001	Sig.
	1960's		7.81(3.36 to 17.11)	0.005	Sig.	5.22(1.34 to 18.26)	0.06	
	1970's	RMB	17.71(6.93 to 38.36)	0.003	Sig.	20.62(5.07 to 55.85)	0.013	Sig.
	Overall		0.00(0.00 to 91.09)	0.44		0.00(0.00 to 56.85)	0.425	

1940's	Having health insurance	0.07(0.00 to 1.36)	0.257		0.07(0.00 to 1.41)	0.261	
1950's		0.28(0.10 to 0.81)	0.023	Sig.	0.11(0.01 to 2.26)	0.253	
1960's		0.04(0.00 to 4.88)	0.346		-0.11(-0.49 to -0.02)	0.096	
1970's		-0.14(-1.23 to -0.02)	0.172		-0.31(-1.11 to -0.09)	0.041	
Overall		32.39(25.08 to 40.66)	<0.001	Sig.	33.99(24.78 to 44.59)	<0.001	Sig.
1940's	Farmer	34.41(22.05 to 49.32)	<0.001	Sig.	35.21(20.04 to 54.09)	<0.001	Sig.
1950's		31.18(19.41 to 46.02)	<0.001	Sig.	38.30(21.15 to 58.97)	<0.001	Sig.
1960's		29.74(17.21 to 46.30)	<0.001	Sig.	29.14(15.49 to 47.98)	<0.001	Sig.
1970's		32.70(10.80 to 66.10)	0.005	Sig.	23.29(3.71 to 70.54)	0.079	
Overall		0.83(0.51 to 1.35)	<0.001	Sig.	0.51(0.22 to 1.21)	0.008	Sig.
1940's	No tobacco smoking	0.52(0.13 to 1.99)	0.068		-0.26(-3.86 to -0.02)	0.228	
1950's		1.62(0.88 to 2.94)	<0.001	Sig.	1.60(0.74 to 3.42)	<0.001	Sig.
1960's		0.77(0.30 to 1.93)	0.013	Sig.	0.61(0.17 to 2.19)	0.056	
1970's		-0.30(-3.40 to -0.03)	0.200		-0.29(-8.58 to -0.01)	0.270	
Overall		-0.30(-0.51 to -0.18)	<0.001		-0.32(-0.56 to -0.18)	<0.001	
1940's	No alcohol drinking	-0.49(-1.07 to -0.23)	0.002		-0.61(-1.30 to -0.29)	<0.001	
1950's		-0.46(-0.95 to -0.23)	<0.001		-0.35(-0.99 to -0.12)	0.018	
1960's		0.07(0.00 to 2.18)	0.283		0.12(0.01 to 1.54)	0.219	
1970's		-0.07(-193.37 to 0.00)	0.388		-0.32(-0.78 to -0.13)	<0.001	
Overall		10.23(7.91 to 13.15)	<0.001	Sig.	9.37(6.79 to 12.80)	<0.001	Sig.
1940's	Healthy physical activity	10.62(6.86 to 16.08)	<0.001	Sig.	11.63(6.93 to 18.89)	<0.001	Sig.
1950's		12.71(8.29 to 18.99)	<0.001	Sig.	11.21(6.41 to 18.86)	<0.001	Sig.
1960's		5.36(2.05 to 13.29)	0.013	Sig.	1.14(0.01 to 50.10)	0.328	
1970's		3.81(0.48 to 24.58)	0.162		7.20(1.44 to 29.13)	0.087	
Overall		2.74(1.71 to 4.35)	<0.001	Sig.	1.93(0.90 to 4.06)	0.003	Sig.
1940's		3.99(2.13 to 7.35)	<0.001	Sig.	3.39(1.45 to 7.73)	0.003	Sig.

1950's	Healthy	3.32(1.61 to 6.71)	<0.001	Sig.	1.74(0.37 to 7.75)	0.089	
1960's	diet	1.21(0.16 to 8.34)	0.158		1.07(0.10 to 10.18)	0.196	
1970's	patterns	-2.20(-23.48 to -0.24)	0.180		-4.55(-33.27 to -0.76)	0.108	
Overall		0.86(0.48 to 1.55)	<0.001	Sig.	0.50(0.18 to 1.41)	0.026	Sig.
1940's		-1.04(-3.76 to -0.29)	0.056		-0.81(-4.16 to -0.16)	0.107	
1950's	TC	0.92(0.31 to 2.72)	0.031	Sig.	1.11(0.39 to 3.12)	0.02	Sig.
1960's		2.02(0.96 to 4.20)	0.001	Sig.	1.66(0.64 to 4.24)	0.01	Sig.
1970's		0.47(0.01 to 25.05)	0.321		0.45(0.00 to 74.23)	0.379	
Overall		2.80(2.04 to 3.82)	<0.001	Sig.	2.52(1.72 to 3.68)	<0.001	Sig.
1940's		2.42(1.14 to 5.05)	0.002	Sig.	2.15(0.89 to 5.13)	0.007	Sig.
1950's	GLU	3.11(1.85 to 5.19)	<0.001	Sig.	2.69(1.42 to 5.02)	<0.001	Sig.
1960's		4.06(2.61 to 6.27)	<0.001	Sig.	3.57(2.11 to 6.00)	<0.001	Sig.
1970's		4.28(1.93 to 9.22)	<0.001	Sig.	5.88(2.10 to 15.39)	0.001	Sig.
Overall		1.80(0.91 to 3.55)	0.001	Sig.	7.22(5.30 to 9.77)	<0.001	Sig.
1940's		1.65(0.52 to 5.08)	0.037	Sig.	5.74(3.22 to 10.03)	<0.001	Sig.
1950's	SBP	2.41(0.97 to 5.84)	0.009	Sig.	8.19(4.84 to 13.53)	<0.001	Sig.
1960's		6.97(4.26 to 11.20)	<0.001	Sig.	10.90(6.80 to 17.01)	<0.001	Sig.
1970's		2.32(0.22 to 20.62)	0.192		13.89(5.53 to 30.76)	<0.001	Sig.
Overall		3.14(2.26 to 4.35)	<0.001	Sig.	7.18(5.42 to 9.45)	<0.001	Sig.
1940's		3.90(2.31 to 6.53)	<0.001	Sig.	7.09(4.19 to 11.75)	<0.001	Sig.
1950's	DBP	2.84(1.52 to 5.22)	<0.001	Sig.	7.65(4.67 to 12.31)	<0.001	Sig.
1960's		4.10(2.41 to 6.89)	<0.001	Sig.	7.14(4.50 to 11.15)	<0.001	Sig.
1970's		0.11(0.00 to 100.00)	0.471		8.80(3.43 to 20.80)	<0.001	Sig.
Overall		0.36(0.04 to 3.42)	0.194		2.04(1.22 to 3.40)	<0.001	Sig.
1940's	Waist	1.17(0.34 to 3.94)	0.048	Sig.	1.13(0.26 to 4.85)	0.083	
1950's		-0.06(-1.61 to 1.13)	0.461		2.64(1.29 to 5.33)	<0.001	Sig.

			1960's	4.42(2.32 to 8.24)	<0.001	Sig.	5.58(3.07 to 9.94)	<0.001	Sig.
			1970's	4.56(1.20 to 15.79)	0.052		7.42(1.77 to 26.26)	0.043	Sig.
			Overall	-0.40(-3.67 to -0.05)	0.184		1.99(1.16 to 3.41)	<0.001	Sig.
			1940's	0.43(0.01 to 13.17)	0.289		1.15(0.26 to 4.97)	0.084	
		BMI	1950's	-0.57(-5.69 to -0.06)	0.192		2.14(0.95 to 4.78)	0.002	Sig.
			1960's	2.19(0.70 to 6.66)	0.034	Sig.	4.15(1.99 to 8.46)	<0.001	Sig.
			1970's	1.63(0.04 to 40.34)	0.293		4.97(0.56 to 32.70)	0.149	
Rural	Overall	In marriage		1.01(0.75 to 1.35)	<0.001	Sig.	1.13(0.73 to 1.75)	<0.001	Sig.
			1940's	1.42(0.76 to 2.64)	<0.001	Sig.	1.45(0.61 to 3.39)	0.005	Sig.
			1950's	1.45(0.93 to 2.26)	<0.001	Sig.	1.46(0.68 to 3.11)	0.001	Sig.
			1960's	0.61(0.32 to 1.15)	<0.001	Sig.	0.60(0.25 to 1.44)	0.008	Sig.
			1970's	1.63(0.89 to 2.99)	<0.001	Sig.	2.02(0.68 to 5.83)	0.012	Sig.
	Overall	Annual		6.76(4.89 to 9.27)	<0.001	Sig.	9.50(6.28 to 14.13)	<0.001	Sig.
		household	1940's	3.68(1.43 to 9.16)	0.014	Sig.	3.31(0.75 to 13.37)	0.081	
		income>50k	1950's	6.68(4.03 to 10.88)	<0.001	Sig.	13.95(8.07 to 23.03)	<0.001	Sig.
		RMB	1960's	8.88(5.17 to 14.84)	<0.001	Sig.	11.65(5.63 to 22.55)	<0.001	Sig.
			1970's	13.17(6.79 to 24.00)	<0.001	Sig.	12.20(2.83 to 39.84)	0.056	
	Overall			0.06(0.00 to 2.61)	0.306		-0.02(-0.44 to 0.33)	0.452	
	1940's	Having		0.04(0.00 to 93.18)	0.426		0.24(0.02 to 2.39)	0.194	
	1950's	health		0.36(0.11 to 1.18)	0.046	Sig.	0.04(0.00 to 100.00)	0.466	
	1960's	insurance		-0.38(-1.32 to -0.11)	0.053		-0.77(-2.74 to -0.22)	0.049	
	1970's			0.31(0.10 to 0.99)	0.037	Sig.	0.47(0.11 to 1.98)	0.065	
	Overall	Farmer		28.97(23.71 to 34.87)	<0.001	Sig.	38.62(28.24 to 50.14)	<0.001	Sig.
	1940's			37.21(25.16 to 51.08)	<0.001	Sig.	47.79(27.14 to 69.22)	<0.001	Sig.
	1950's			29.37(20.95 to 39.48)	<0.001	Sig.	38.04(21.10 to 58.49)	<0.001	Sig.
	1960's			23.37(14.92 to 34.65)	<0.001	Sig.	27.01(13.81 to 46.06)	<0.001	Sig.

1970's		25.85(12.87 to 45.15)	<0.001	Sig.	21.26(3.71 to 65.44)	0.082	
Overall		1.09(0.68 to 1.76)	<0.001	Sig.	0.69(0.19 to 2.40)	0.057	
1940's	No tobacco smoking	1.66(0.67 to 4.02)	0.011	Sig.	-0.48(-33.20 to -0.01)	0.310	
1950's		1.02(0.47 to 2.23)	0.005	Sig.	0.97(0.23 to 4.10)	0.081	
1960's		0.90(0.35 to 2.35)	0.018	Sig.	1.18(0.36 to 3.78)	0.043	Sig.
1970's		0.30(0.01 to 7.32)	0.274		0.47(0.01 to 29.79)	0.329	
Overall		-0.13(-0.49 to -0.04)	0.065		-0.46(-0.92 to -0.23)	0.001	
1940's	No alcohol drinking	-1.23(-2.17 to -0.70)	<0.001		-2.32(-3.95 to -1.37)	<0.001	
1950's		-0.14(-2.52 to -0.01)	0.248		-0.41(-2.27 to -0.07)	0.119	
1960's		0.01(0.00 to 99.84)	0.451		-0.02(-16.89 to 0.00)	0.384	
1970's		-0.08(-0.90 to -0.01)	0.206		-0.22(-4.18 to -0.01)	0.246	
Overall		10.17(8.18 to 12.59)	<0.001	Sig.	12.60(9.00 to 17.37)	<0.001	Sig.
1940's	Healthy physical activity	15.61(10.67 to 22.26)	<0.001	Sig.	16.71(9.75 to 27.14)	<0.001	Sig.
1950's		10.74(7.54 to 15.09)	<0.001	Sig.	13.74(7.77 to 23.16)	<0.001	Sig.
1960's		5.23(2.45 to 10.82)	0.003	Sig.	5.34(1.53 to 17.01)	0.042	Sig.
1970's		1.83(0.08 to 29.43)	0.26		-2.75(-20.09 to 6.88)	0.329	
Overall		0.93(0.52 to 1.66)	<0.001	Sig.	0.59(0.12 to 2.77)	0.101	
1940's	Healthy diet patterns	1.31(0.52 to 3.29)	0.013	Sig.	0.79(0.10 to 6.14)	0.169	
1950's		1.48(0.76 to 2.87)	<0.001	Sig.	0.91(0.13 to 5.96)	0.145	
1960's		0.04(0.00 to 100.00)	0.467		0.07(0.00 to 100.00)	0.461	
1970's		0.12(0.00 to 99.03)	0.431		-0.47(-4.65 to 2.55)	0.374	
Overall		0.17(0.03 to 1.10)	0.146		0.03(0.00 to 99.92)	0.449	
1940's	TC	-1.17(-2.82 to -0.49)	0.009		-1.21(-3.12 to -0.47)	0.013	
1950's		0.18(0.01 to 5.24)	0.284		0.14(0.00 to 31.23)	0.366	
1960's		1.02(0.48 to 2.13)	0.003	Sig.	0.31(0.01 to 11.39)	0.298	
1970's		-1.27(-3.84 to -0.43)	0.034		-2.69(-9.23 to -0.82)	0.039	

	Overall	GLU	-2.10(-2.97 to -1.49)	<0.001		-2.80(-4.35 to -1.81)	<0.001	
	1940's		-1.83(-4.58 to -0.74)	0.011		-1.53(-5.91 to -0.41)	0.060	
	1950's		-2.43(-4.19 to -1.42)	<0.001		-3.74(-7.45 to -1.91)	<0.001	
	1960's		-2.88(-4.62 to -1.81)	<0.001		-3.74(-7.06 to -2.01)	<0.001	
	1970's		-0.48(-8.61 to -0.03)	0.240		-1.49(-13.33 to -0.18)	0.161	
	Overall	SBP	0.70(0.38 to 1.28)	<0.001	Sig.	2.28(1.39 to 3.72)	0.161	
	1940's		1.33(0.54 to 3.23)	0.011	Sig.	1.77(0.52 to 5.85)	0.046	Sig.
	1950's		1.89(1.18 to 3.03)	<0.001	Sig.	4.70(2.68 to 8.11)	<0.001	Sig.
	1960's		0.60(0.14 to 2.46)	0.082		1.07(0.19 to 5.61)	0.117	
	1970's		-0.84(-4.42 to -0.17)	0.111		-1.20(-37.63 to -0.05)	0.264	
	Overall	DBP	-0.08(-53.36 to 0.00)	0.375		-0.11(-1.21 to 0.85)	0.419	
	1940's		1.92(1.02 to 3.61)	<0.001	Sig.	3.26(1.54 to 6.79)	<0.001	Sig.
	1950's		0.55(0.10 to 2.86)	0.117		0.18(0.00 to 99.39)	0.432	
	1960's		-1.71(-3.14 to -0.94)	<0.001		-4.68(-8.00 to -2.78)	<0.001	
	1970's		-2.07(-4.31 to -1.00)	0.001		-8.09(-17.53 to -3.90)	<0.001	
	Overall	Waist	2.61(1.97 to 3.45)	<0.001	Sig.	-1.14(-2.65 to -0.04)	0.023	
	1940's		5.51(3.62 to 8.32)	<0.001	Sig.	1.65(0.37 to 7.08)	0.087	
	1950's		3.36(2.12 to 5.29)	<0.001	Sig.	-2.62(-7.10 to -0.99)	0.015	
	1960's		1.56(0.81 to 3.00)	<0.001	Sig.	-1.07(-5.23 to -0.23)	0.098	
	1970's		0.60(0.10 to 3.54)	0.134		-0.99(-11.09 to -0.10)	0.197	
Urban	Overall	BMI	5.13(4.25 to 6.18)	<0.001	Sig.	1.27(0.51 to 3.12)	0.013	Sig.
	1940's		8.17(5.66 to 11.67)	<0.001	Sig.	2.41(0.77 to 7.30)	0.031	Sig.
	1950's		6.34(4.66 to 8.57)	<0.001	Sig.	0.80(0.04 to 12.57)	0.244	
	1960's		3.77(2.59 to 5.46)	<0.001	Sig.	0.13(0.00 to 99.96)	0.446	
	1970's		1.76(0.84 to 3.65)	0.002	Sig.	2.20(0.54 to 8.56)	0.058	
	Overall	In marriage	1.50(1.02 to 2.21)	<0.001	Sig.	1.82(1.11 to 2.97)	<0.001	Sig.

1940's		2.12(1.08 to 4.10)	<0.001	Sig.	2.48(1.15 to 5.25)	0.003	Sig.
1950's		0.73(0.30 to 1.77)	0.011	Sig.	0.61(0.15 to 2.50)	0.078	
1960's		0.18(0.02 to 1.71)	0.19		0.45(0.07 to 2.71)	0.125	
1970's		0.62(0.05 to 7.67)	0.184		0.52(0.00 to 99.96)	0.431	
Overall		14.66(11.20 to 18.97)	<0.001	Sig.	20.47(15.04 to 27.24)	<0.001	Sig.
1940's	Annual	14.93(9.61 to 22.47)	<0.001	Sig.	19.65(12.19 to 30.11)	<0.001	Sig.
1950's	household	11.12(6.95 to 17.32)	<0.001	Sig.	14.29(8.57 to 22.87)	<0.001	Sig.
1960's	income>50k	15.83(8.57 to 27.41)	<0.001	Sig.	32.81(13.63 to 60.16)	<0.001	Sig.
1970's	RMB	58.38(3.07 to 98.42)	<0.001	Sig.	170.44(-649.08 to 387.15)	0.006	Sig.
Overall		0.09(0.02 to 0.51)	0.129		0.10(0.01 to 0.80)	0.174	
1940's	Having	0.11(0.01 to 0.85)	0.168		0.12(0.01 to 1.07)	0.183	
1950's	health	0.04(0.00 to 6.57)	0.354		0.15(0.02 to 1.08)	0.161	
1960's	insurance	0.01(0.00 to 100.00)	0.488		-0.67(-2.82 to -0.16)	0.062	
1970's		-1.55(-56.01 to -0.06)	0.236		-6.74(-41.32 to 29.87)	0.197	
Overall	Farmer	34.34(27.42 to 41.99)	<0.001	Sig.	37.97(27.68 to 49.46)	<0.001	Sig.
1940's		36.97(25.99 to 49.49)	<0.001	Sig.	41.84(26.15 to 59.37)	<0.001	Sig.
1950's		29.03(20.32 to 39.62)	<0.001	Sig.	28.83(17.66 to 43.33)	<0.001	Sig.
1960's		29.93(16.01 to 48.91)	<0.001	Sig.	43.75(14.04 to 78.73)	<0.001	Sig.
1970's		78.77(0.11 to 99.99)	0.016	Sig.	14.53(0.00 to 100.00)	0.452	
Overall		3.94(2.96 to 5.22)	<0.001	Sig.	3.55(2.30 to 5.43)	<0.001	Sig.
1940's	No tobacco	5.92(3.92 to 8.85)	<0.001	Sig.	3.39(1.59 to 7.10)	0.002	Sig.
1950's	smoking	2.99(1.87 to 4.76)	<0.001	Sig.	2.91(1.54 to 5.41)	<0.001	Sig.
1960's		1.23(0.43 to 3.48)	0.025	Sig.	1.95(0.49 to 7.37)	0.049	Sig.
1970's		4.55(0.56 to 28.64)	0.087		13.99(0.02 to 99.34)	0.163	
Overall	No alcohol	0.32(0.06 to 1.60)	0.111		-0.14(-24.56 to 0.00)	0.346	
1940's	drinking	0.52(0.07 to 3.77)	0.163		-0.23(-66.79 to 0.00)	0.352	

1950's		0.37(0.05 to 2.61)	0.158		-0.22(-15.22 to 0.00)	0.316	
1960's		-0.09(-0.98 to 0.54)	0.401		0.13(0.00 to 98.58)	0.428	
1970's		-1.26(-23.19 to -0.08)	0.210		-6.75(-35.44 to 15.27)	0.134	
Overall		11.50(9.15 to 14.35)	<0.001	Sig.	14.10(10.55 to 18.59)	<0.001	Sig.
1940's	Healthy	10.49(7.19 to 15.06)	<0.001	Sig.	14.75(9.79 to 21.63)	<0.001	Sig.
1950's	physical	11.81(8.44 to 16.29)	<0.001	Sig.	12.89(8.32 to 19.43)	<0.001	Sig.
1960's	activity	9.90(5.09 to 18.35)	<0.001	Sig.	8.38(2.03 to 28.73)	0.051	
1970's		12.36(1.27 to 60.64)	0.104		5.66(0.00 to 100.00)	0.442	
Overall		3.01(1.92 to 4.70)	<0.001	Sig.	3.02(1.60 to 5.64)	<0.001	Sig.
1940's	Healthy	3.05(1.49 to 6.16)	0.002	Sig.	3.76(1.72 to 8.02)	0.002	Sig.
1950's	diet	3.20(1.72 to 5.89)	<0.001	Sig.	2.18(0.67 to 6.88)	0.04	Sig.
1960's	patterns	2.26(0.56 to 8.69)	0.074		4.50(1.13 to 16.26)	0.056	
1970's		-1.78(-95.7 to 27.82)	0.397		-37.76(-131.17 to 143.46)	0.088	
Overall	TC	0.07(0.00 to 5.64)	0.329		0.11(0.00 to 6.29)	0.318	
1940's		-0.33(-4.99 to -0.02)	0.232		0.30(0.01 to 9.69)	0.291	
1950's		-0.53(-1.79 to -0.16)	0.049		-0.60(-2.78 to -0.13)	0.093	
1960's		0.36(0.01 to 12.93)	0.297		0.62(0.01 to 26.08)	0.31	
1970's		3.10(0.14 to 42.22)	0.226		-4.53(-42.91 to 62.94)	0.396	
Overall	GLU	0.33(0.04 to 2.66)	0.175		0.28(0.01 to 6.47)	0.269	
1940's		0.05(0.00 to 100.00)	0.469		-0.18(-2.17 to 1.48)	0.408	
1950's		0.98(0.32 to 2.92)	0.035	Sig.	0.96(0.24 to 3.80)	0.075	
1960's		0.12(0.00 to 98.16)	0.427		0.17(0.00 to 99.94)	0.443	
1970's		2.93(0.15 to 37.06)	0.217		-4.15(-59.13 to 43.78)	0.400	
Overall	SBP	3.62(2.54 to 5.15)	<0.001	Sig.	10.53(7.94 to 13.84)	<0.001	Sig.
1940's		3.07(1.59 to 5.85)	<0.001	Sig.	8.93(5.72 to 13.68)	<0.001	Sig.
1950's		3.83(2.32 to 6.26)	<0.001	Sig.	9.37(6.21 to 13.92)	<0.001	Sig.

1960's		4.81(2.35 to 9.58)	<0.001	Sig.	15.16(6.77 to 30.56)	<0.001	Sig.
1970's		-0.34(-35.54 to 30.52)	0.475		23.91(0.02 to 99.83)	0.137	
Overall	DBP	1.97(1.25 to 3.10)	<0.001	Sig.	6.45(4.74 to 8.72)	<0.001	Sig.
1940's		3.48(2.00 to 5.99)	<0.001	Sig.	7.80(4.93 to 12.13)	<0.001	Sig.
1950's		1.76(0.93 to 3.32)	<0.001	Sig.	4.89(3.07 to 7.70)	<0.001	Sig.
1960's		0.63(0.04 to 9.19)	0.236		5.56(2.18 to 13.43)	0.002	Sig.
1970's		-1.71(-636.83 to -0.03)	0.299		8.26(0.01 to 99.04)	0.284	
Overall	Waist	1.14(0.73 to 1.78)	<0.001	Sig.	0.55(0.17 to 1.73)	0.043	Sig.
1940's		1.70(0.85 to 3.37)	0.001	Sig.	1.12(0.35 to 3.47)	0.04	Sig.
1950's		1.76(0.99 to 3.13)	<0.001	Sig.	0.26(0.00 to 19.70)	0.332	
1960's		0.74(0.18 to 3.03)	0.08		1.45(0.32 to 6.30)	0.072	
1970's		5.34(0.76 to 29.41)	0.056		8.10(0.01 to 98.90)	0.258	
Overall	BMI	2.04(1.33 to 3.11)	<0.001	Sig.	2.41(1.51 to 3.83)	<0.001	Sig.
1940's		2.49(1.24 to 4.92)	0.001	Sig.	1.92(0.75 to 4.81)	0.014	Sig.
1950's		2.81(1.77 to 4.43)	<0.001	Sig.	2.01(0.95 to 4.22)	0.002	Sig.
1960's		1.36(0.33 to 5.40)	0.078		4.34(1.60 to 11.24)	0.005	Sig.
1970's		6.82(0.69 to 43.61)	0.106		4.87(0.00 to 99.98)	0.409	

Supplementary Table 8. Comparison of the results using two mediation analysis methods

		Traditional mediation analysis using %mediate macro			Causal mediation analysis using 'mediation' package			
		Proportion of effect mediated by mediator	p value		Proportion of effect mediated by mediator	p value		
All-cause mortality	Overall	1.28(1.02 to 1.60)	<0.001	Sig.	0.27(0.18 to 0.41)	<0.001	Sig.	
	In marriage	1940's	1.70(1.08 to 2.67)	<0.001	Sig.	0.54(-1.71 to 2.56)	0.62	
		1950's	1.18(0.80 to 1.73)	<0.001	Sig.	1.03(0.43 to 1.6)	<0.001	Sig.
		1960's	0.43(0.22 to 0.84)	0.002	Sig.	-0.18(-0.39 to -0.03)	0.028	
		1970's	1.37(0.72 to 2.59)	<0.001	Sig.	-0.09(-0.33 to 0.11)	0.35	
	Annual household income>50k RMB	Overall	10.28(8.37 to 12.57)	<0.001	Sig.	11.9(8.97 to 15.08)	<0.001	Sig.
		1940's	9.10(6.01 to 13.55)	<0.001	Sig.	9.28(4.24 to 14.83)	<0.001	Sig.
		1950's	9.04(6.41 to 12.59)	<0.001	Sig.	8(3.93 to 12.43)	<0.001	Sig.
		1960's	11.41(7.70 to 16.58)	<0.001	Sig.	12.93(7.41 to 18.83)	<0.001	Sig.
		1970's	20.39(11.79 to 32.93)	<0.001	Sig.	23.82(12.93 to 38.49)	<0.001	Sig.
	Having health insurance	Overall	-0.01(-0.52 to 0.00)	0.316		0(-0.02 to 0.02)	0.98	
		1940's	-0.03(-0.42 to 0.00)	0.221		0.13(-0.12 to 0.65)	0.34	
		1950's	0.04(0.00 to 0.42)	0.21		-0.03(-0.19 to 0.18)	0.73	
		1960's	0.00(0.00 to 100.00)	0.463		0.03(-0.02 to 0.13)	0.26	
		1970's	-0.15(-0.61 to -0.04)	0.072		-5.98(-10.31 to -1.88)	0.002	
	Farmer	Overall	31.49(27.17 to 36.16)	<0.001	Sig.	29.17(22.48 to 35.81)	<0.001	Sig.
		1940's	34.92(26.97 to 43.79)	<0.001	Sig.	40.01(24.71 to 54.84)	<0.001	Sig.
		1950's	29.43(23.09 to 36.68)	<0.001	Sig.	26.51(17.58 to 36.22)	<0.001	Sig.
		1960's	27.09(19.24 to 36.70)	<0.001	Sig.	23.57(12.5 to 34.46)	<0.001	Sig.
		1970's	37.20(19.78 to 58.72)	<0.001	Sig.	31.83(6.45 to 58.79)	0.014	Sig.
	No smoking	Overall	1.97(1.52 to 2.56)	<0.001	Sig.	0.95(0.74 to 1.18)	<0.001	Sig.

	1940's	3.05(2.01 to 4.62)	<0.001	Sig.	2.64(1.79 to 3.53)	<0.001	Sig.
	1950's	1.68(1.09 to 2.59)	<0.001	Sig.	1(0.55 to 1.44)	<0.001	Sig.
	1960's	0.98(0.47 to 2.03)	0.003	Sig.	0.48(0.14 to 0.8)	0.006	Sig.
	1970's	0.81(0.16 to 3.92)	0.107		0.24(-0.41 to 0.84)	0.47	
	Overall	-0.08(-0.99 to -0.01)	0.214		0.03(-0.09 to 0.13)	0.61	
None or moderate alcohol use	1940's	-0.83(-1.54 to -0.44)	<0.001		-0.53(-1.95 to 0.35)	0.27	
	1950's	-0.02(-0.46 to 0.39)	0.461		0.01(-0.39 to 0.33)	0.95	
	1960's	0.10(0.02 to 0.46)	0.1		0.03(-0.04 to 0.12)	0.32	
	1970's	0.08(0.01 to 1.05)	0.219		0.04(-0.06 to 0.15)	0.36	
	Overall	10.95(9.37 to 12.77)	<0.001	Sig.	11.11(9.08 to 13.33)	<0.001	Sig.
Healthy physical activity	1940's	12.67(9.73 to 16.34)	<0.001	Sig.	10.68(6.31 to 15.38)	<0.001	Sig.
	1950's	11.43(8.96 to 14.47)	<0.001	Sig.	12.34(9.21 to 16)	<0.001	Sig.
	1960's	7.39(4.64 to 11.56)	<0.001	Sig.	10.57(6.83 to 14.48)	<0.001	Sig.
	1970's	4.25(1.09 to 15.22)	0.067		2.87(-3.44 to 10.68)	0.41	
	Overall	1.76(1.21 to 2.53)	<0.001	Sig.	1.82(0.82 to 2.87)	<0.001	Sig.
Healthy diet patterns	1940's	2.17(1.21 to 3.87)	<0.001	Sig.	2.51(0.52 to 4.94)	0.014	Sig.
	1950's	2.30(1.45 to 3.63)	<0.001	Sig.	2.9(1.19 to 4.9)	<0.001	Sig.
	1960's	0.54(0.06 to 4.63)	0.182		0.61(-1.16 to 2.71)	0.51	
	1970's	-0.13(-2.04 to 2.95)	0.454		-1.07(-3.81 to 2.21)	0.44	
	Overall	0.07(0.00 to 1.88)	0.279		1.18(0.86 to 1.58)	<0.001	Sig.
TC	1940's	-0.89(-1.77 to -0.45)	0.002		-0.5(-1.05 to -0.17)	<0.001	
	1950's	-0.21(-1.53 to -0.03)	0.162		0.27(0.11 to 0.49)	<0.001	Sig.
	1960's	0.90(0.43 to 1.84)	0.003	Sig.	0.39(-0.26 to 1.56)	0.2	
	1970's	-0.82(-5.62 to -0.13)	0.149		-0.63(-2.25 to 0.70)	0.38	
	Overall	-0.90(-1.52 to -0.54)	<0.001		0.06(-0.13 to 0.27)	0.47	
GLU	1940's	-0.68(-2.83 to -0.17)	0.080		-1.34(-2.36 to -0.39)	0.01	

CVD mortality	In marriage	1950's	-1.09(-2.13 to -0.56)	0.001		-0.01(-0.22 to 0.17)	0.94		
		1960's	-1.38(-2.55 to -0.75)	<0.001		-0.26(-0.74 to 0.07)	0.12		
		1970's	0.39(0.02 to 6.95)	0.253		1.54(0.51 to 2.81)	<0.001	Sig.	
		Overall	1.75(1.34 to 2.29)	<0.001	Sig.	-1.4(-2.68 to -0.21)	0.022		
		1940's	2.02(1.29 to 3.16)	<0.001	Sig.	0.76(-0.82 to 2.07)	0.38		
		SBP	1950's	2.42(1.71 to 3.41)	<0.001	Sig.	0.45(-0.78 to 1.56)	0.47	
		1960's	2.41(1.59 to 3.63)	<0.001	Sig.	1.44(-1.36 to 4.08)	0.22		
		1970's	-0.55(-14.30 to -0.02)	0.265		-0.94(-6.04 to 2.54)	0.73		
		Overall	1.06(0.74 to 1.50)	<0.001	Sig.	-0.47(-0.86 to -0.10)	0.012		
		1940's	2.51(1.73 to 3.62)	<0.001	Sig.	0.82(-0.05 to 1.84)	0.066		
		DBP	1950's	1.34(0.85 to 2.12)	<0.001	Sig.	0.57(0.19 to 0.97)	0.002	Sig.
		1960's	-0.25(-3.03 to -0.02)	0.213		0.78(0.18 to 1.45)	0.008	Sig.	
		1970's	-1.81(-3.73 to -0.89)	<0.001		-0.04(-0.77 to 0.77)	0.98		
		Overall	1.94(1.56 to 2.42)	<0.001	Sig.	-1.23(-1.55 to -0.95)	<0.001		
		1940's	3.11(2.21 to 4.35)	<0.001	Sig.	2.12(1.41 to 2.98)	<0.001	Sig.	
		Waist	1950's	2.74(1.98 to 3.76)	<0.001	Sig.	0.82(0.56 to 1.14)	<0.001	Sig.
		1960's	1.21(0.70 to 2.06)	<0.001	Sig.	-0.93(-1.59 to -0.43)	<0.001		
		1970's	0.72(0.19 to 2.71)	0.067		-0.02(-1.87 to 1.05)	0.69		
		Overall	3.75(3.20 to 4.39)	<0.001	Sig.	-5.48(-6.44 to -4.69)	<0.001		
		1940's	4.85(3.64 to 6.45)	<0.001	Sig.	1.87(1.1 to 2.91)	<0.001	Sig.	
		BMI	1950's	4.50(3.55 to 5.69)	<0.001	Sig.	0.26(-0.02 to 0.60)	0.062	
		1960's	3.19(2.35 to 4.32)	<0.001	Sig.	-3.26(-5.04 to -2.28)	<0.001		
		1970's	2.00(0.99 to 4.03)	<0.001	Sig.	-4.93(-9.44 to -1.88)	0.002		
		Overall	1.45(1.05 to 2.00)	<0.001	Sig.	0.32(0.18 to 0.47)	<0.001	Sig.	
		1940's	1.83(1.02 to 3.25)	<0.001	Sig.	-0.31(-3.44 to 2.65)	0.82		

Annual household income>50k RMB	1950's	1.05(0.55 to 1.98)	<0.001	Sig.	1.22(0.47 to 1.98)	0.01	Sig.
	1960's	0.54(0.24 to 1.20)	0.004	Sig.	-0.22(-0.53 to -0.04)	0.02	
	1970's	1.75(0.52 to 5.73)	0.02	Sig.	-0.11(-0.6 to 0.13)	0.35	
	Overall	14.77(11.55 to 18.71)	<0.001	Sig.	18.38(13.39 to 24.36)	<0.001	Sig.
	1940's	11.23(6.96 to 17.61)	<0.001	Sig.	13.25(6.38 to 21.98)	<0.001	Sig.
	1950's	14.53(10.03 to 20.60)	<0.001	Sig.	13.55(6.45 to 23.55)	<0.001	Sig.
	1960's	18.30(11.21 to 28.45)	<0.001	Sig.	22.74(13.45 to 35.84)	<0.001	Sig.
	1970's	25.83(8.29 to 57.31)	0.003	Sig.	30.07(9.95 to 74.39)	0.004	Sig.
	Overall	-0.02(-0.31 to 0.00)	0.219		0(-0.03 to 0.03)	0.86	
	1940's	-0.01(-5.72 to 0.00)	0.373		0.05(-0.24 to 0.7)	0.71	
Having health insurance	1950's	-0.06(-0.83 to 0.00)	0.227		-0.04(-0.29 to 0.4)	0.79	
	1960's	-0.01(-2.41 to 0.00)	0.352		0.05(-0.03 to 0.19)	0.25	
	1970's	-0.30(-1.47 to -0.06)	0.088		-5.89(-10.27 to -1.73)	0.002	
	Overall	38.71(31.11 to 46.90)	<0.001	Sig.	33.23(23.67 to 44.41)	<0.001	Sig.
	1940's	42.47(30.02 to 55.94)	<0.001	Sig.	50.57(32.07 to 72.97)	<0.001	Sig.
Farmer	1950's	33.35(23.08 to 45.49)	<0.001	Sig.	28.3(11.78 to 44.98)	<0.001	Sig.
	1960's	34.22(20.24 to 51.61)	<0.001	Sig.	25.2(3.18 to 46.92)	0.026	Sig.
	1970's	27.16(4.85 to 73.17)	0.06		11.07(-73.04 to 100.45)	0.736	
	Overall	1.57(0.96 to 2.58)	<0.001	Sig.	1.05(0.77 to 1.38)	<0.001	Sig.
	1940's	0.82(0.13 to 4.88)	0.137		2.02(0.85 to 3.15)	0.002	Sig.
No smoking	1950's	1.64(0.83 to 3.21)	<0.001	Sig.	1.08(0.43 to 1.71)	<0.001	Sig.
	1960's	1.35(0.54 to 3.33)	0.012	Sig.	0.69(0.2 to 1.19)	0.006	Sig.
	1970's	1.36(0.13 to 12.48)	0.185		0.56(-0.35 to 1.71)	0.148	
None or moderate alcohol use	Overall	-0.48(-0.93 to -0.24)	0.001		0.02(-0.16 to 0.18)	0.78	
	1940's	-1.77(-2.68 to -1.17)	<0.001		-1.12(-3.69 to 0.18)	0.084	
	1950's	-0.38(-1.58 to -0.09)	0.081		-0.31(-1.28 to 0.25)	0.3	

Healthy physical activity	1960's	0.10(0.01 to 0.84)	0.17		0.08(0.01 to 0.2)	0.04	Sig.
	1970's	0.38(0.06 to 2.26)	0.121		0.09(-0.08 to 0.42)	0.246	
	Overall	13.69(11.00 to 16.93)	<0.001	Sig.	14.15(10.44 to 17.89)	<0.001	Sig.
	1940's	15.37(11.05 to 20.99)	<0.001	Sig.	12.84(7.17 to 19.29)	<0.001	Sig.
	1950's	13.54(9.53 to 18.88)	<0.001	Sig.	15.27(10.17 to 21.41)	<0.001	Sig.
	1960's	7.01(3.02 to 15.41)	0.004	Sig.	10.75(4.23 to 18.31)	<0.001	Sig.
	1970's	-0.72(-17.78 to 15.35)	0.457		-0.87(-16.98 to 16.08)	0.928	
	Overall	1.50(0.77 to 2.93)	0.001	Sig.	2.21(0.74 to 3.89)	<0.001	Sig.
	1940's	2.05(0.89 to 4.66)	0.006	Sig.	4.51(1.45 to 7.82)	0.004	Sig.
	1950's	1.47(0.50 to 4.28)	0.03	Sig.	2.99(0.11 to 6.43)	0.048	Sig.
	1960's	0.97(0.13 to 6.92)	0.162		0.85(-2.12 to 4.63)	0.57	
	1970's	-3.17(-20.97 to -0.55)	0.110		-4.43(-13.49 to 0.72)	0.082	
	Overall	-0.01(-0.36 to 0.24)	0.476		0.77(0.42 to 1.57)	<0.001	Sig.
	1940's	-0.62(-1.74 to -0.22)	0.025		0.06(-0.45 to 0.63)	0.81	
	1950's	-0.24(-2.33 to -0.02)	0.194		0.32(0.1 to 0.63)	0.002	Sig.
	1960's	0.43(0.04 to 4.81)	0.211		-0.4(-1.75 to 1.36)	0.72	
	1970's	-2.79(-12.10 to -0.69)	0.068		-1.66(-6.6 to 1.41)	0.27	
	Overall	-1.30(-2.20 to -0.77)	<0.001		0.07(-0.14 to 0.33)	0.48	
TC	1940's	-0.65(-3.63 to -0.12)	0.121		-1.1(-2.32 to -0.19)	0.02	
	1950's	-1.79(-3.32 to -0.97)	<0.001		-0.01(-0.27 to 0.24)	0.92	
	1960's	-2.15(-4.37 to -1.07)	<0.001		-0.31(-0.95 to 0.11)	0.13	
	1970's	-0.22(-5.45 to 3.14)	0.437		2.43(0.13 to 7.50)	0.034	Sig.
	Overall	6.46(5.27 to 7.90)	<0.001	Sig.	7.43(5.49 to 9.95)	<0.001	Sig.
	1940's	5.68(4.04 to 7.93)	<0.001	Sig.	7.2(4.89 to 10.95)	<0.001	Sig.
SBP	1950's	7.23(5.28 to 9.81)	<0.001	Sig.	6.6(4.51 to 8.77)	<0.001	Sig.
	1960's	6.31(4.16 to 9.45)	<0.001	Sig.	10.7(6 to 18.31)	<0.001	Sig.

	1970's	2.51(0.37 to 15.27)	0.139		10.7(5.88 to 22.28)	0.002	Sig.
	Overall	3.57(2.75 to 4.63)	<0.001	Sig.	3.67(2.82 to 4.71)	<0.001	Sig.
	1940's	5.70(4.04 to 8.00)	<0.001	Sig.	6.12(4.23 to 8.83)	<0.001	Sig.
DBP	1950's	3.08(1.96 to 4.80)	<0.001	Sig.	3.38(2.54 to 4.51)	<0.001	Sig.
	1960's	-0.73(-5.68 to -0.10)	0.162		3.88(2.46 to 6.53)	<0.001	Sig.
	1970's	-5.07(-14.75 to -1.85)	0.003		2.39(0.62 to 6.31)	0.012	Sig.
	Overall	-0.09(-0.70 to 0.49)	0.376		-0.36(-0.62 to -0.14)	0.004	
	1940's	1.22(0.49 to 3.02)	0.013	Sig.	0.32(-0.4 to 1.12)	0.39	
Waist	1950's	-0.58(-4.10 to -0.08)	0.153		-0.45(-0.9 to -0.08)	0.02	
	1960's	-0.15(-1.48 to 0.79)	0.393		0.95(0.04 to 2.14)	0.042	Sig.
	1970's	0.13(0.00 to 100.00)	0.457		4.34(0.97 to 11.14)	0.006	Sig.
	Overall	2.15(1.55 to 2.95)	<0.001	Sig.	-2.23(-3.21 to -1.45)	<0.001	
	1940's	2.09(1.13 to 3.83)	<0.001	Sig.	0.62(0.21 to 1.38)	0.002	Sig.
BMI	1950's	1.65(0.83 to 3.25)	<0.001	Sig.	-0.02(-0.11 to 0.05)	0.57	
	1960's	2.34(1.24 to 4.36)	<0.001	Sig.	0.28(-1.49 to 1.92)	0.87	
	1970's	5.32(2.15 to 12.58)	<0.001	Sig.	1.14(-7.76 to 6.70)	0.948	

* Metabolic risk factors were included in their original form to meet the package requirement.

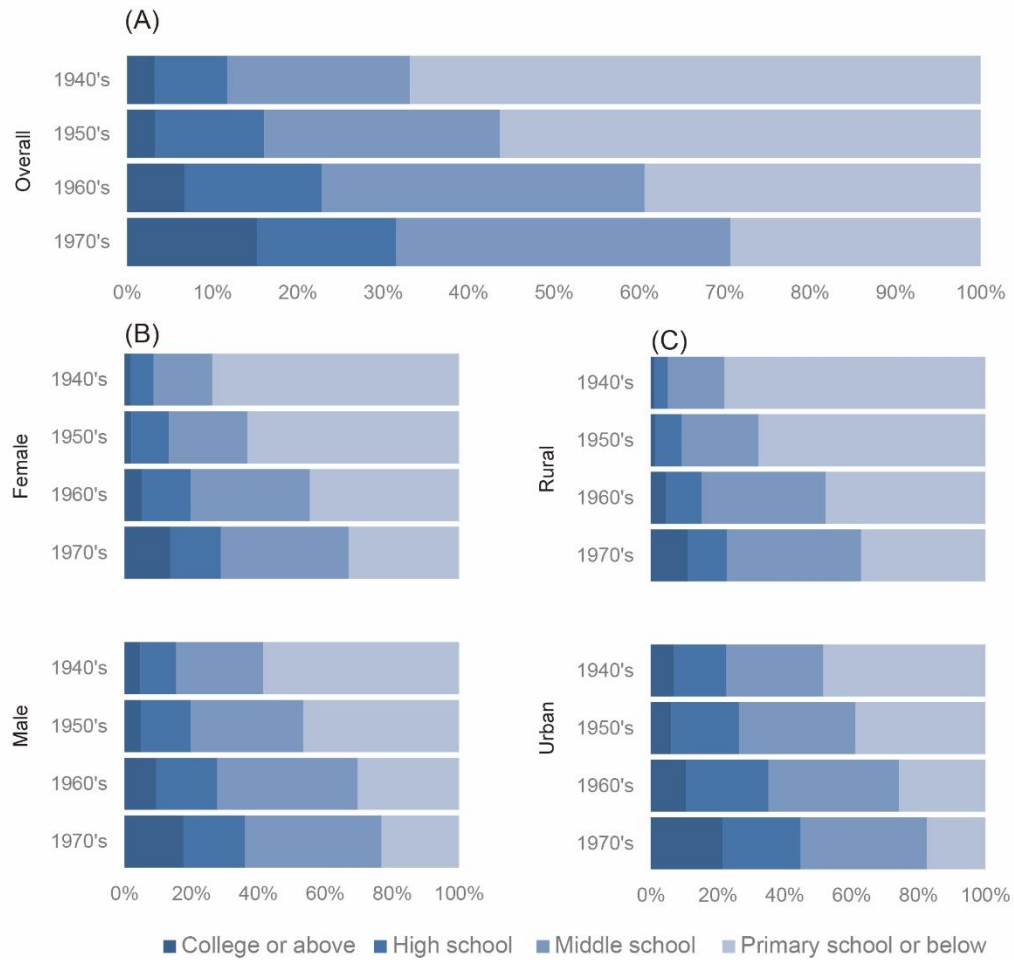
Supplementary Table 9. Mediation proportion (95% CI) of potential mediators on educational-associated all-cause mortality in complete cases

	Overall	1940's	1950's	1960's	1970's
Socioeconomic factors	45.24(40.04 to 50.54) *	49.68(40.29 to 59.10) *	42.27(34.35 to 50.61) *	39.28(29.53 to 49.97) *	51.61(31.32 to 71.38) *
In marriage	1.16(0.93 to 1.45) *	1.47(0.94 to 2.29) *	1.16(0.79 to 1.68) *	-0.10(-1.07 to -0.01)	0.30(0.08 to 1.18)
Annual household income>50k RMB	13.47(11.48 to 15.75) *	12.95(9.68 to 17.11) *	12.77(9.81 to 16.45) *	12.85(9.06 to 17.91) *	20.10(12.55 to 30.60) *
Having health insurance	0.02(0.00 to 1.01)	0.01(0.00 to 59.31)	0.09(0.02 to 0.45)	-0.10(-0.48 to -0.02)	0.09(0.02 to 0.43)
Farmer	38.66(34.05 to 43.49) *	42.85(34.68 to 51.43) *	36.58(29.51 to 44.29) *	33.18(24.42 to 43.28) *	40.95(23.98 to 60.40) *
Healthy lifestyles	18.17(15.98 to 20.58) *	21.89(17.81 to 26.60) *	19.44(15.82 to 23.64) *	10.27(6.83 to 15.18) *	3.63(0.70 to 16.79)
No smoking	2.42(1.91 to 3.05) *	3.24(2.20 to 4.75) *	2.16(1.47 to 3.16) *	1.35(0.72 to 2.53) *	1.39(0.50 to 3.82) *
None or moderate alcohol use	-0.14(-0.70 to -0.03)	-0.90(-1.57 to -0.52)	-0.02(-0.42 to 0.37)	0.08(0.01 to 1.16)	0.15(0.02 to 1.24)
Sufficient LTPA	14.08(12.28 to 16.10) *	17.52(14.17 to 21.46) *	14.74(11.82 to 18.23) *	8.05(5.06 to 12.56) *	2.25(0.22 to 19.56)
Healthy diet patterns	3.07(2.37 to 3.97) *	3.62(2.38 to 5.45) *	3.95(2.81 to 5.53) *	1.20(0.36 to 3.96) *	0.01(0.00 to 100.00)
Metabolic factors	7.45(6.38 to 8.69) *	10.06(7.89 to 12.74) *	8.30(6.47 to 10.59) *	6.58(4.65 to 9.24) *	0.70(0.01 to 37.59)
TC	-0.10(-0.89 to -0.01)	-0.97(-1.72 to -0.55)	-0.37(-1.17 to -0.12)	0.99(0.55 to 1.79) *	0.00(0.00 to 100.00)
Blood glucose	-0.95(-1.45 to -0.55)	-1.02(-2.22 to -0.47)	-0.85(-1.80 to -0.40)	-1.24(-2.35 to -0.66)	0.37(0.03 to 4.36)
SBP	2.60(2.11 to 3.19) *	2.65(1.87 to 3.74) *	3.36(2.50 to 4.50) *	3.15(2.16 to 4.58) *	-0.22(-1.84 to 1.41)
DBP	1.92(1.55 to 2.39) *	3.11(2.30 to 4.20) *	2.22(1.62 to 3.03) *	0.31(0.04 to 2.43)	-1.19(-2.76 to -0.52)

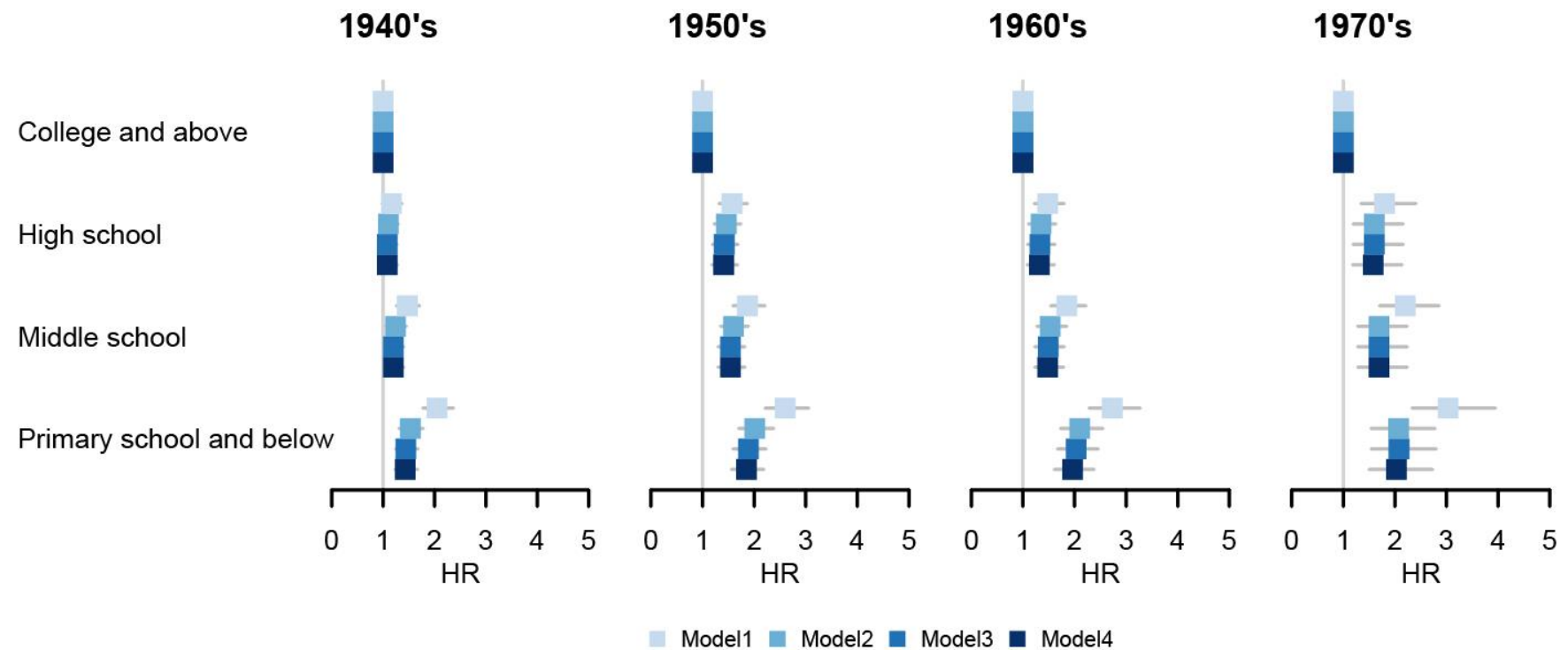
BMI	5.19(4.54 to 5.92) *	7.12(5.73 to 8.82) *	5.73(4.65 to 7.05) *	3.72(2.79 to 4.94) *	2.30(1.26 to 4.16) *
Waist	2.91(2.42 to 3.49) *	4.64(3.56 to 6.03) *	3.68(2.78 to 4.86) *	1.61(1.02 to 2.54) *	0.76(0.23 to 2.42) *

*P<0.05. CI: Confidence interval. LTPA: leisure-time physical activity, TC: total cholesterol, SBP: systolic blood pressure, DBP: diastolic blood pressure, TC: total cholesterol, BMI: body mass index.

Supplementary figures

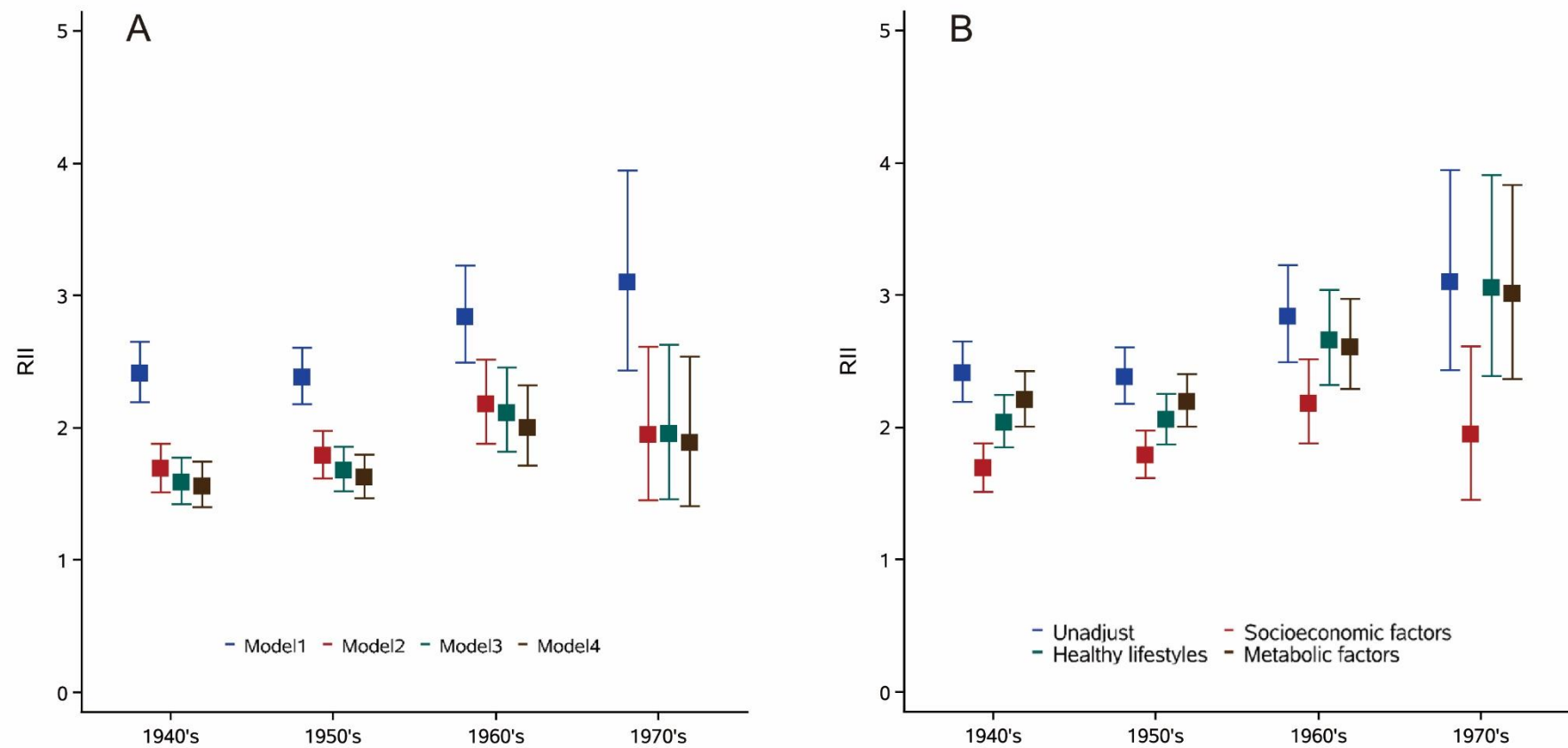


Supplementary Figure 1. Educational composition of study participants (A), and by sex (B) or by rural/urban (C) in complete cases



Supplementary Figure 2. Hazard ratios of all-cause mortality between different education groups by generation in complete cases

Model 1: adjusting for age, sex, urbanity and geographical region. Model 2: additionally adjusting for socioeconomic factors based on model 1. Model 3: additionally adjusting for healthy lifestyle behaviours based on model 2. Model 4: additionally adjusting for metabolic factors based on model 3. HR: hazard ratio.



Supplementary Figure 3. Relative index of inequality (RII) on all-cause mortality across different generations in complete cases

(A) Adjusting for factors: Model 1: adjusting for age, sex, urbanity and geographical region. Model 2: additionally adjusting for socioeconomic factors based on model 1. Model 3: additionally adjusting for healthy lifestyle behaviours based on model 2. Model 4: additionally adjusting for metabolic factors based on model 3. (B) Adjusting for each kind of factors separately.