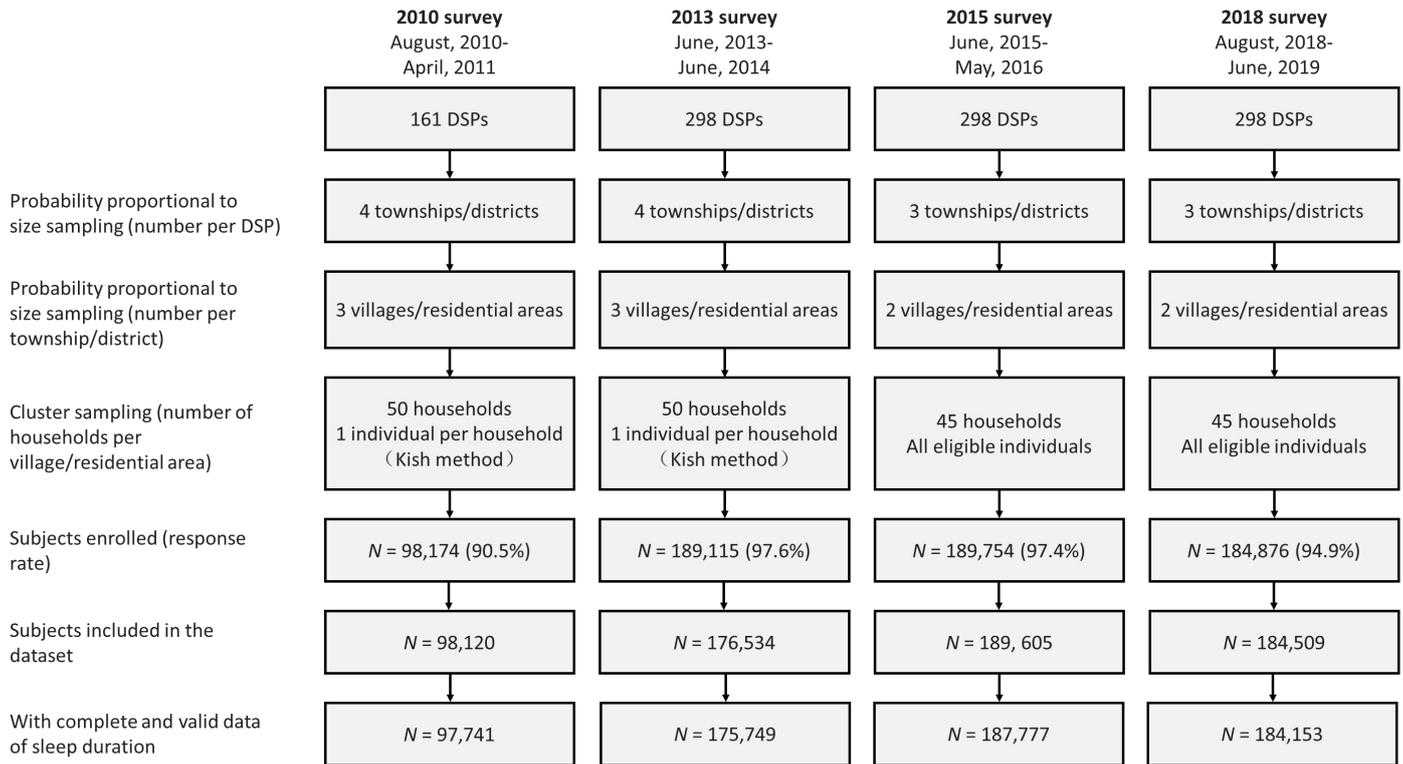


## Supplementary Materials



Abbreviation: DSP, Disease Surveillance Point.

**Supplementary Figure S1.** Flowchart of study design and sampling frame in China Chronic Disease and Risk Factor Surveillance from 2010 to 2018.

**Supplementary Table S1. Demographic characteristics of participants\***

Characteristics	No. (%)			
	2010 ( <i>n</i> = 97,741)	2013 ( <i>n</i> = 175,749)	2015 ( <i>n</i> = 187,777)	2018 ( <i>n</i> = 184,153)
Sex				
Male	44,700 (50.5)	75,127 (50.5)	88,368 (50.6)	81,763 (50.4)
Female	53,041 (49.5)	100,622 (49.5)	99,409 (49.4)	102,390 (49.6)
Age, years <sup>†</sup>				
18-29	14,634 (25.4)	14,161 (25.4)	17,178 (25.2)	9,891 (25.5)
30-39	17,823 (20.4)	22,816 (20.4)	23,037 (20.7)	18,440 (20.5)
40-49	24,694 (21.9)	43,457 (21.9)	41,422 (22.1)	33,362 (21.9)
50-59	20,831 (15.3)	44,235 (15.3)	45,299 (15.3)	48,169 (15.2)
60-69	12,673 (9.5)	33,631 (9.6)	40,899 (9.5)	49,796 (9.5)
≥ 70	7,086 (7.4)	17,449 (7.4)	19,693 (7.4)	24,495 (7.4)
Residence				
Urban	44,781 (46.4)	81,207 (46.0)	76,598 (51.8)	75,088 (51.7)
Rural	52,960 (53.6)	94,542 (54.0)	111,179 (48.2)	109,065 (48.3)
Geographic location				
East	32,817 (42.0)	66,201 (41.9)	70,091 (42.6)	68,465 (42.5)
Central	30,505 (31.7)	50,503 (31.7)	53,302 (31.4)	53,035 (31.3)
West	34,419 (26.3)	59,045 (26.4)	64,384 (26.0)	62,653 (26.1)
Education				
Primary or less	42,704 (37.0)	84,649 (36.1)	91,508 (34.4)	91,452 (31.5)
Junior high	31,033 (34.8)	54,758 (36.1)	57,585 (33.6)	55,789 (33.2)
Senior high	15,925 (17.9)	24,543 (17.1)	24,452 (17.2)	23,972 (17.6)
College or above	8,079 (10.2)	11,691 (10.7)	14,232 (14.8)	12,940 (17.7)
Occupation				
Agriculture-related	46,238 (44.0)	82,243 (42.4)	84,678 (35.4)	80,696 (33.8)
Other manual work	3,770 (5.7)	7,999 (6.3)	7,236 (5.8)	5,816 (5.0)
Non-manual work	34,918 (38.0)	64,936 (40.7)	69,676 (45.6)	67,164 (47.1)
Not working	4,932 (6.9)	5,932 (5.9)	9,126 (7.9)	10,046 (8.9)
Retired	7,883 (5.4)	14,539 (4.6)	17,061 (5.3)	20,431 (5.3)

**Note.** \*Standardized to the 2010 China census population. <sup>†</sup>Weighted mean age of participants was 42.88 (SD, 16.32) years old in 2010; 43.43 (16.16) in 2013; 43.34 (16.13) in 2015; 43.43 (16.08) in 2018.

**Supplementary Table S2.** Trends in prevalence of short sleep duration\* among adults in urban and rural China from 2010 to 2018, by sex and age

Characteristics		Prevalence, % (95% CI) <sup>†</sup>				<i>P</i> <sub>trend</sub>
		2010 ( <i>n</i> = 97,741)	2013 ( <i>n</i> = 175,749)	2015 ( <i>n</i> = 187,777)	2018 ( <i>n</i> = 184,153)	
<b>Urban</b>						
Male	18-29	10.6 (8.9, 12.3)	10.1 (8.4, 11.8)	8.0 (6.6, 9.4)	11.6 (8.9, 14.3)	0.81
	30-39	11.4 (9.7, 13.1)	13.9 (12.3, 15.4)	12.9 (11.1, 14.6)	13.2 (11.4, 15.0)	0.30
	40-49	18.1 (16.1, 20.0)	18.9 (17.0, 20.8)	17.6 (15.7, 19.5)	21.2 (19.6, 22.9)	0.04
	50-59	21.9 (19.6, 24.2)	23.3 (21.3, 25.4)	23.1 (21.1, 25.0)	26.6 (24.9, 28.4)	0.001
	60-69	25.2 (22.3, 28.1)	24.4 (22.5, 26.4)	23.7 (21.8, 25.6)	28.5 (26.6, 30.4)	0.08
	≥ 70	28.0 (24.7, 31.4)	28.1 (25.4, 30.8)	21.5 (19.2, 23.7)	27.1 (24.7, 29.5)	0.19
Female	18-29	6.7 (5.5, 7.9)	6.8 (5.4, 8.2)	6.0 (4.5, 7.4)	8.9 (6.9, 11.0)	0.10
	30-39	9.7 (8.2, 11.2)	10.7 (8.9, 12.5)	9.3 (7.9, 10.7)	11.5 (9.9, 13.2)	0.21
	40-49	15.1 (13.3, 16.9)	15.6 (14.2, 16.9)	14.7 (13.2, 16.2)	19.0 (17.3, 20.7)	0.003
	50-59	23.0 (21.0, 25.0)	26.8 (25.0, 28.6)	23.1 (21.4, 24.7)	29.1 (27.1, 31.1)	< 0.001
	60-69	29.3 (26.8, 31.8)	31.6 (29.5, 33.8)	28.4 (26.2, 30.7)	35.2 (33.2, 37.1)	0.003
	≥ 70	33.6 (29.2, 37.9)	35.6 (33.1, 38.2)	31.1 (27.8, 34.4)	38.1 (35.7, 40.4)	0.26
<b>Rural</b>						
Male	18-29	6.5 (5.2, 7.8)	8.9 (7.5, 10.4)	6.6 (5.3, 7.9)	9.2 (7.0, 11.4)	0.14
	30-39	10.2 (8.8, 11.6)	11.8 (10.0, 13.7)	11.4 (9.7, 13.1)	13.1 (11.5, 14.7)	0.02
	40-49	15.1 (13.4, 16.8)	16.6 (15.2, 18.1)	16.6 (15.2, 18.0)	18.8 (17.0, 20.7)	0.004
	50-59	18.9 (16.5, 21.3)	21.4 (19.9, 22.9)	20.8 (19.2, 22.4)	24.2 (22.7, 25.8)	< 0.001
	60-69	23.4 (20.8, 26.0)	23.1 (20.8, 25.3)	22.9 (21.3, 24.5)	26.9 (25.0, 28.8)	0.03
	≥ 70	26.7 (23.4, 30.0)	26.3 (23.1, 29.6)	22.4 (19.3, 25.5)	27.8 (25.6, 30.0)	0.91
Female	18-29	6.3 (5.0, 7.7)	5.8 (4.4, 7.3)	6.5 (5.4, 7.5)	8.1 (6.7, 9.5)	0.07
	30-39	7.9 (6.5, 9.3)	9.0 (7.6, 10.3)	8.9 (7.8, 10.0)	11.6 (10.0, 13.2)	0.001
	40-49	13.8 (11.6, 15.9)	14.7 (13.3, 16.0)	14.8 (13.5, 16.1)	16.9 (15.7, 18.2)	0.01
	50-59	22.5 (19.3, 25.7)	22.5 (20.4, 24.5)	22.6 (20.9, 24.3)	27.8 (25.8, 29.9)	0.006
	60-69	25.9 (22.6, 29.2)	28.0 (25.4, 30.7)	26.0 (23.8, 28.3)	30.8 (28.9, 32.8)	0.03
	≥ 70	33.6 (29.1, 38.1)	34.2 (29.6, 38.9)	29.0 (25.9, 32.1)	35.2 (32.4, 38.1)	0.99

**Note.** \*Short sleep duration was defined as whose total sleep duration  $\leq$  6 hours per day. <sup>†</sup>Standardized to the 2010 China census population.

**Supplementary Table S3.** Trends in prevalence of short sleep duration\* among adults in urban and rural China from 2010 to 2018, by sex and education

Characteristics		Prevalence, % (95% CI) <sup>†</sup>				<i>P</i> <sub>trend</sub>
		2010 ( <i>n</i> = 97,741)	2013 ( <i>n</i> = 175,749)	2015 ( <i>n</i> = 187,777)	2018 ( <i>n</i> = 184,153)	
<b>Urban</b>						
Male	Primary or less	22.4 (19.8, 24.9)	21.3 (19.6, 23.0)	19.8 (18.0, 21.6)	23.1 (20.6, 25.5)	0.97
	Junior high	16.6 (14.9, 18.4)	17.3 (15.6, 19.1)	16.8 (15.3, 18.3)	20.2 (18.0, 22.5)	0.01
	Senior high	15.0 (13.5, 16.5)	17.4 (15.7, 19.2)	15.0 (13.0, 16.9)	18.1 (16.4, 19.8)	0.06
	College or above	12.3 (10.5, 14.0)	13.8 (11.8, 15.7)	10.9 (9.0, 12.9)	14.0 (12.2, 15.8)	0.49
Female	Primary or less	23.0 (20.8, 25.2)	23.5 (21.8, 25.2)	19.6 (17.7, 21.6)	25.7 (23.5, 28.0)	0.45
	Junior high	13.5 (11.9, 15.1)	16.3 (14.5, 18.1)	14.6 (12.3, 16.9)	20.6 (18.1, 23.0)	< 0.001
	Senior high	13.6 (12.0, 15.2)	15.0 (13.1, 17.0)	13.7 (11.8, 15.7)	17.7 (15.8, 19.7)	0.003
	College or above	9.8 (8.2, 11.4)	10.4 (8.2, 12.5)	9.2 (7.9, 10.5)	11.5 (9.9, 13.2)	0.16
<b>Rural</b>						
Male	Primary or less	18.2 (16.3, 20.1)	19.8 (18.2, 21.4)	17.9 (16.4, 19.5)	22.0 (20.3, 23.8)	0.02
	Junior high	12.4 (10.9, 13.8)	13.8 (12.6, 15.1)	13.8 (12.7, 14.8)	16.9 (15.5, 18.3)	< 0.001
	Senior high	11.5 (9.8, 13.2)	12.5 (10.7, 14.4)	13.0 (11.0, 15.1)	14.7 (12.9, 16.4)	0.02
	College or above	8.4 (5.4, 11.5)	11.0 (6.7, 15.3)	9.6 (7.0, 12.1)	11.2 (8.1, 14.2)	0.33
Female	Primary or less	19.2 (16.8, 21.6)	20.0 (18.0, 21.9)	19.3 (17.6, 20.9)	23.8 (22.2, 25.5)	0.005
	Junior high	9.2 (7.7, 10.7)	10.4 (9.2, 11.6)	11.2 (10.3, 12.1)	15.3 (13.7, 16.9)	< 0.001
	Senior high	10.1 (7.5, 12.7)	9.4 (7.1, 11.7)	11.2 (9.0, 13.4)	11.8 (9.3, 14.3)	0.25
	College or above	6.3 (3.4, 9.3)	4.9 (2.4, 7.5)	6.5 (4.2, 8.8)	6.6 (4.8, 8.5)	0.61

**Note.** \*Short sleep duration was defined as whose total sleep duration  $\leq$  6 hours per day. <sup>†</sup>Standardized to the 2010 China census population.

**Supplementary Table S4.** Trends in prevalence of short sleep duration\* among adults in urban and rural China from 2010 to 2018, by sex and occupation

Characteristics		Prevalence, % (95% CI) <sup>†</sup>				<i>P</i> <sub>trend</sub>
		2010 ( <i>n</i> = 97,741)	2013 ( <i>n</i> = 175,749)	2015 ( <i>n</i> = 187,777)	2018 ( <i>n</i> = 184,153)	
<b>Urban</b>						
Male	Agriculture-related	17.8 (15.2, 20.3)	16.0 (14.6, 17.4)	16.0 (14.2, 17.8)	18.4 (16.2, 20.6)	0.71
	Other manual work	15.4 (13.1, 17.7)	14.3 (11.6, 17.1)	15.9 (13.8, 17.9)	20.2 (16.5, 23.8)	0.02
	Non-manual work	14.8 (13.4, 16.2)	17.0 (15.5, 18.5)	14.4 (13.1, 15.8)	16.8 (15.4, 18.2)	0.27
	Not working	16.0 (13.1, 19.0)	16.6 (13.2, 19.9)	11.8 (8.9, 14.7)	16.3 (12.7, 20.0)	0.70
	Retired	24.0 (20.9, 27.0)	28.7 (25.3, 32.1)	24.1 (21.6, 26.7)	31.0 (27.6, 34.5)	0.01
Female	Agriculture-related	15.3 (12.3, 18.4)	16.8 (14.8, 18.8)	15.8 (13.7, 17.9)	20.5 (17.6, 23.4)	0.03
	Other manual work	12.8 (10.4, 15.2)	14.5 (11.7, 17.3)	14.6 (11.8, 17.4)	16.4 (12.1, 20.7)	0.15
	Non-manual work	14.2 (12.7, 15.7)	14.3 (13.1, 15.6)	11.6 (10.1, 13.1)	15.5 (14.2, 16.7)	0.65
	Not working	11.1 (9.3, 12.9)	13.8 (11.1, 16.5)	11.5 (9.7, 13.2)	15.6 (12.0, 19.3)	0.05
	Retired	26.9 (24.4, 29.4)	34.6 (32.5, 36.7)	31.3 (29.1, 33.6)	36.8 (34.2, 39.4)	< 0.001
<b>Rural</b>						
Male	Agriculture-related	15.1 (13.6, 16.7)	16.3 (15.0, 17.6)	16.0 (14.8, 17.2)	19.6 (18.0, 21.2)	< 0.001
	Other manual work	11.9 (9.5, 14.3)	13.8 (10.9, 16.6)	13.6 (11.4, 15.7)	16.2 (13.0, 19.4)	0.07
	Non-manual work	13.2 (11.2, 15.1)	15.5 (13.8, 17.1)	13.9 (12.5, 15.2)	16.5 (14.7, 18.3)	0.05
	Not working	9.2 (5.6, 12.7)	13.3 (8.8, 17.8)	12.8 (10.1, 15.5)	13.4 (10.1, 16.7)	0.15
	Retired	30.0 (24.3, 35.6)	23.2 (15.3, 31.1)	23.2 (17.5, 28.9)	24.6 (20.8, 28.4)	0.18
Female	Agriculture-related	15.5 (13.3, 17.8)	15.5 (13.9, 17.2)	15.9 (14.8, 17.0)	20.8 (19.2, 22.3)	< 0.001
	Other manual work	12.8 (8.6, 17.1)	11.3 (7.3, 15.4)	10.7 (8.4, 13.1)	16.3 (11.8, 20.7)	0.31
	Non-manual work	14.5 (12.0, 16.9)	16.3 (14.5, 18.1)	15.8 (14.0, 17.5)	17.3 (15.8, 18.7)	0.09
	Not working	9.0 (4.7, 13.4)	10.6 (4.5, 16.7)	11.3 (8.6, 14.0)	14.5 (12.4, 16.5)	0.05
	Retired	32.6 (25.6, 39.7)	32.3 (23.6, 41.0)	28.9 (20.4, 37.3)	32.2 (26.0, 38.4)	0.77

**Note.** \*Short sleep duration was defined as whose total sleep duration  $\leq$  6 hours per day. <sup>†</sup>Standardized to the 2010 China census population.

**Supplementary Table S5.** Trends in prevalence of short sleep duration\* among adults in urban and rural China from 2010 to 2018, by sex and geographic location

Characteristics		Prevalence, % (95% CI) <sup>†</sup>				P <sub>trend</sub>
		2010 (n = 97,741)	2013 (n = 175,749)	2015 (n = 187,777)	2018 (n = 184,153)	
<b>Urban</b>						
Male	East	16.6 (14.4, 18.7)	18.2 (16.2, 20.1)	16.0 (14.3, 17.7)	19.0 (17.1, 20.9)	0.23
	Central	17.1 (15.4, 18.9)	17.9 (16.3, 19.6)	15.4 (13.1, 17.7)	18.7 (16.3, 21.1)	0.63
	West	15.4 (12.2, 18.5)	14.5 (12.6, 16.4)	13.9 (12.3, 15.5)	16.9 (15.2, 18.7)	0.48
Female	East	16.3 (14.2, 18.4)	16.7 (14.6, 18.8)	14.6 (12.0, 17.1)	19.3 (17.4, 21.3)	0.09
	Central	15.6 (13.5, 17.7)	18.6 (16.7, 20.5)	14.9 (12.7, 17.0)	18.4 (15.5, 21.4)	0.36
	West	14.3 (11.5, 17.1)	14.9 (12.4, 17.4)	13.6 (12.1, 15.1)	17.1 (15.0, 19.1)	0.19
<b>Rural</b>						
Male	East	16.1 (13.6, 18.6)	16.7 (15.1, 18.3)	16.2 (14.9, 17.5)	19.0 (16.9, 21.0)	0.15
	Central	15.1 (12.7, 17.6)	17.8 (16.1, 19.5)	15.8 (13.5, 18.2)	18.3 (16.3, 20.3)	0.13
	West	11.3 (9.3, 13.4)	12.9 (10.8, 15.1)	13.3 (11.8, 14.7)	16.7 (14.6, 18.8)	< 0.001
Female	East	16.6 (13.4, 19.8)	17.1 (15.1, 19.0)	16.4 (14.6, 18.2)	19.5 (17.9, 21.1)	0.19
	Central	15.1 (11.7, 18.4)	16.9 (14.9, 19.0)	16.4 (14.2, 18.6)	19.5 (17.3, 21.7)	0.03
	West	12.7 (9.2, 16.3)	12.3 (9.4, 15.2)	13.5 (11.7, 15.3)	17.5 (15.0, 20.0)	0.01

**Note.** \*Short sleep duration was defined as whose total sleep duration  $\leq$  6 hours per day. <sup>†</sup>Standardized to the 2010 China census population.

**Supplementary Table S6.** Trends in prevalence of long sleep duration\* among adults in urban and rural China from 2010 to 2018, by sex and age

Characteristics		Prevalence, % (95% CI) <sup>†</sup>				P <sub>trend</sub>
		2010 (n = 97,741)	2013 (n = 175,749)	2015 (n = 187,777)	2018 (n = 184,153)	
<b>Urban</b>						
Male	18-29	6.0 (4.3, 7.8)	6.1 (4.5, 7.7)	9.3 (6.6, 12.0)	9.6 (7.1, 12.2)	0.008
	30-39	3.3 (2.5, 4.1)	4.7 (3.6, 5.8)	5.7 (4.2, 7.1)	5.3 (4.2, 6.5)	0.002
	40-49	3.5 (2.7, 4.2)	3.6 (2.8, 4.3)	5.3 (4.3, 6.3)	4.5 (3.6, 5.4)	0.02
	50-59	4.6 (3.7, 5.5)	4.8 (3.9, 5.7)	6.9 (5.5, 8.3)	5.4 (4.5, 6.3)	0.05
	60-69	5.5 (4.4, 6.6)	7.2 (6.0, 8.3)	9.9 (8.3, 11.4)	8.5 (7.1, 9.8)	< 0.001
	≥ 70	9.5 (7.2, 11.9)	9.8 (7.8, 11.8)	17.7 (14.7, 20.8)	12.2 (10.3, 14.1)	0.002
Female	18-29	7.7 (5.9, 9.5)	8.9 (7.2, 10.7)	11.3 (8.6, 14.1)	9.5 (7.5, 11.4)	0.09
	30-39	4.5 (3.5, 5.6)	5.5 (4.4, 6.5)	7.1 (5.8, 8.3)	6.8 (5.4, 8.1)	0.002
	40-49	4.3 (3.7, 4.9)	4.8 (4.0, 5.6)	6.3 (5.2, 7.4)	5.2 (4.3, 6.0)	0.02
	50-59	3.8 (3.2, 4.5)	4.2 (3.6, 4.9)	6.6 (5.4, 7.9)	5.4 (4.5, 6.3)	< 0.001
	60-69	5.4 (4.2, 6.6)	6.0 (5.0, 7.0)	7.9 (6.4, 9.4)	6.4 (5.4, 7.4)	0.04
	≥ 70	8.2 (6.0, 10.4)	8.4 (6.8, 10.1)	15.7 (11.6, 19.8)	9.7 (8.0, 11.4)	0.02
<b>Rural</b>						
Male	18-29	8.6 (7.2, 10.0)	8.8 (7.0, 10.6)	14.5 (12.2, 16.7)	11.5 (8.4, 14.6)	0.004
	30-39	6.5 (5.3, 7.8)	6.6 (5.5, 7.7)	10.2 (8.6, 11.7)	7.9 (6.5, 9.4)	0.02
	40-49	6.5 (5.3, 7.8)	5.8 (4.9, 6.6)	9.4 (8.1, 10.8)	7.1 (5.9, 8.3)	0.06
	50-59	6.9 (5.8, 8.0)	7.2 (6.1, 8.2)	10.7 (9.4, 12.1)	9.1 (7.8, 10.4)	< 0.001
	60-69	10.8 (8.1, 13.6)	8.8 (7.5, 10.1)	14.6 (12.9, 16.3)	13.1 (11.6, 14.6)	0.02
	≥ 70	14.5 (11.9, 17.1)	16.1 (13.9, 18.3)	23.8 (21.1, 26.4)	19.4 (17.5, 21.3)	< 0.001
Female	18-29	11.9 (10.3, 13.6)	15.1 (12.4, 17.9)	16.2 (14.0, 18.4)	14.5 (12.1, 16.9)	0.06
	30-39	10.1 (8.3, 12.0)	8.7 (7.5, 9.9)	12.7 (11.1, 14.4)	10.6 (9.0, 12.1)	0.16
	40-49	7.1 (5.6, 8.5)	8.1 (7.1, 9.2)	12.5 (10.7, 14.3)	10.4 (8.5, 12.3)	< 0.001
	50-59	7.0 (5.6, 8.4)	7.2 (6.1, 8.2)	11.3 (9.8, 12.7)	9.5 (7.9, 11.1)	< 0.001
	60-69	9.4 (6.9, 12.0)	8.5 (7.0, 10.0)	14.0 (12.0, 15.9)	12.2 (10.6, 13.7)	0.007
	≥ 70	14.5 (10.8, 18.2)	14.7 (11.4, 17.9)	23.2 (20.2, 26.2)	17.9 (15.1, 20.7)	0.009

**Note.** \*Long sleep duration was defined as whose total sleep duration > 9 hours per day. <sup>†</sup>Standardized to the 2010 China census population.

**Supplementary Table S7.** Trends in prevalence of long sleep duration\* among adults in urban and rural China from 2010 to 2018, by sex and education

Characteristics		Prevalence, % (95% CI) <sup>†</sup>				<i>P</i> <sub>trend</sub>
		2010 ( <i>n</i> = 97,741)	2013 ( <i>n</i> = 175,749)	2015 ( <i>n</i> = 187,777)	2018 ( <i>n</i> = 184,153)	
<b>Urban</b>						
Male	Primary or less	7.4 (6.1, 8.7)	8.1 (6.8, 9.4)	15.0 (12.9, 17.0)	12.7 (10.3, 15.2)	< 0.001
	Junior high	5.8 (4.6, 6.9)	5.6 (4.5, 6.7)	8.4 (7.3, 9.4)	8.1 (6.6, 9.7)	0.002
	Senior high	3.8 (2.9, 4.6)	5.4 (4.0, 6.8)	6.7 (4.3, 9.1)	5.5 (4.2, 6.9)	0.02
	College or above	2.3 (1.6, 3.1)	2.5 (1.8, 3.3)	3.3 (2.4, 4.2)	3.6 (2.5, 4.8)	0.03
Female	Primary or less	6.9 (5.6, 8.3)	7.8 (6.9, 8.8)	12.8 (10.7, 14.9)	9.9 (8.4, 11.4)	< 0.001
	Junior high	6.5 (5.5, 7.5)	6.8 (5.6, 8.1)	10.6 (7.2, 14.0)	7.5 (6.2, 8.8)	0.02
	Senior high	5.1 (4.1, 6.1)	5.5 (4.3, 6.7)	6.7 (4.9, 8.4)	7.0 (5.4, 8.5)	0.01
	College or above	2.7 (1.8, 3.7)	4.2 (3.1, 5.2)	4.0 (2.9, 5.1)	4.7 (3.7, 5.8)	0.02
<b>Rural</b>						
Male	Primary or less	11.0 (9.2, 12.8)	10.0 (8.8, 11.3)	15.4 (13.6, 17.2)	14.0 (12.1, 16.0)	0.001
	Junior high	7.0 (6.0, 8.0)	7.3 (6.2, 8.5)	11.4 (10.2, 12.7)	9.2 (7.9, 10.6)	< 0.001
	Senior high	4.8 (3.6, 6.1)	5.0 (3.9, 6.2)	9.9 (7.5, 12.2)	7.3 (5.5, 9.1)	< 0.001
	College or above	3.1(1.1, 5.1)	5.3 (2.4, 8.1)	9.6 (6.0, 13.2)	2.8 (1.3, 4.3)	0.91
Female	Primary or less	10.5 (8.8, 12.3)	10.4 (9.1, 11.7)	15.8 (14.1, 17.5)	13.5 (11.7, 15.4)	< 0.001
	Junior high	9.1 (7.7, 10.5)	10.9 (9.0, 12.8)	12.7 (11.3, 14.1)	11.2 (9.1, 13.4)	0.05
	Senior high	6.5 (4.7, 8.3)	8.3 (6.0, 10.6)	13.0 (10.2, 15.8)	10.2 (7.8, 12.6)	< 0.001
	College or above	6.6 (3.1, 10.2)	11.5 (6.3, 16.7)	8.7 (5.1, 12.3)	7.7 (4.4, 10.9)	0.83

**Note.** \*Long sleep duration was defined as whose total sleep duration > 9 hours per day. <sup>†</sup>Standardized to the 2010 China census population.

**Supplementary Table S8.** Trends in prevalence of long sleep duration\* among adults in urban and rural China from 2010 to 2018, by sex and occupation

Characteristics		Prevalence, % (95% CI) <sup>†</sup>				<i>P</i> <sub>trend</sub>
		2010 ( <i>n</i> = 97,741)	2013 ( <i>n</i> = 175,749)	2015 ( <i>n</i> = 187,777)	2018 ( <i>n</i> = 184,153)	
<b>Urban</b>						
Male	Agriculture-related	6.5 (5.2, 7.7)	6.4 (5.2, 7.7)	12.0 (10.0, 14.1)	10.2 (8.3, 12.0)	< 0.001
	Other manual work	3.9 (2.4, 5.4)	5.1 (3.5, 6.6)	7.2 (4.8, 9.7)	5.0 (3.0, 6.9)	0.15
	Non-manual work	3.8 (3.0, 4.6)	4.2 (3.6, 4.9)	5.3 (4.5, 6.2)	5.6 (4.3, 6.8)	0.008
	Not working	7.0 (4.8, 9.1)	9.1 (5.2, 13.0)	14.5 (9.0, 20.0)	10.5 (7.0, 14.0)	0.03
	Retired	6.1 (4.8, 7.3)	6.5 (5.1, 7.8)	9.0 (7.5, 10.4)	7.1 (6.0, 8.2)	0.05
Female	Agriculture-related	7.3 (5.6, 9.0)	8.2 (7.0, 9.4)	13.0 (10.9, 15.0)	9.7 (7.8, 11.7)	< 0.001
	Other manual work	4.4 (2.7, 6.1)	4.6 (3.1, 6.0)	6.2 (3.8, 8.7)	5.5 (2.8, 8.3)	0.25
	Non-manual work	5.1 (4.3, 5.9)	6.1 (5.3, 7.0)	8.2 (6.5, 9.9)	7.0 (6.0, 7.9)	< 0.001
	Not working	8.1 (5.9, 10.3)	8.4 (5.6, 11.2)	10.4 (6.8, 14.0)	8.3 (6.1, 10.5)	0.71
	Retired	4.2 (3.3, 5.0)	3.2 (2.4, 3.9)	4.9 (3.5, 6.3)	3.7 (3.1, 4.3)	0.92
<b>Rural</b>						
Male	Agriculture-related	8.7 (7.5, 9.8)	8.3 (7.2, 9.4)	13.1 (11.8, 14.4)	11.5 (9.8, 13.2)	< 0.001
	Other manual work	7.0 (5.1, 9.0)	5.8 (4.3, 7.2)	7.7 (5.5, 9.8)	6.7 (4.3, 9.0)	0.81
	Non-manual work	5.8 (4.7, 7.0)	6.8 (5.1, 8.5)	11.6 (9.7, 13.5)	8.2 (6.7, 9.7)	0.002
	Not working	10.6 (7.4, 13.9)	11.6 (8.0, 15.1)	19.4 (15.7, 23.2)	12.5 (8.6, 16.4)	0.22
	Retired	10.2 (5.6, 14.7)	14.9 (5.4, 24.4)	19.5 (14.7, 24.3)	12.6 (9.2, 16.0)	0.19
Female	Agriculture-related	9.2 (7.8, 10.5)	10.0 (8.7, 11.3)	14.3 (12.9, 15.7)	12.7 (11.1, 14.2)	< 0.001
	Other manual work	5.5 (2.1, 8.9)	7.0 (3.9, 10.1)	5.3 (3.7, 6.9)	4.6 (2.9, 6.2)	0.46
	Non-manual work	10.8 (8.2, 13.4)	10.7 (8.9, 12.5)	14.1 (12.4, 15.9)	11.3 (9.4, 13.3)	0.34
	Not working	10.7 (5.3, 16.0)	15.9 (9.6, 22.3)	18.8 (14.2, 23.4)	15.6 (11.8, 19.4)	0.17
	Retired	10.8 (0.0, 23.1)	7.0 (2.2, 11.8)	17.3 (4.5, 30.1)	8.1 (4.3, 12.0)	0.96

**Note.** \*Long sleep duration was defined as whose total sleep duration > 9 hours per day. <sup>†</sup>Standardized to the 2010 China census population.

**Supplementary Table S9.** Trends in prevalence of long sleep duration\* among adults in urban and rural China from 2010 to 2018, by sex and geographic location

Characteristics		Prevalence, % (95% CI) <sup>†</sup>				P <sub>trend</sub>
		2010 (n = 97,741)	2013 (n = 175,749)	2015 (n = 187,777)	2018 (n = 184,153)	
<b>Urban</b>						
Male	East	4.3 (3.3, 5.3)	4.4 (3.7, 5.2)	6.3 (4.9, 7.8)	5.3 (4.2, 6.5)	0.08
	Central	4.9 (3.9, 5.8)	6.0 (4.6, 7.5)	8.8 (6.9, 10.7)	7.1 (5.9, 8.3)	< 0.001
	West	6.1 (4.1, 8.1)	6.6 (5.1, 8.2)	10.0 (8.3, 11.7)	10.7 (8.2, 13.3)	< 0.001
Female	East	4.6 (3.6, 5.6)	5.3 (4.6, 6.1)	6.9 (4.8, 9.0)	5.9 (4.9, 6.8)	0.03
	Central	6.0 (4.3, 7.7)	6.5 (5.0, 8.1)	10.1 (6.9, 13.4)	7.8 (6.2, 9.4)	0.02
	West	7.4 (6.1, 8.6)	8.3 (6.6, 9.9)	11.2 (8.9, 13.5)	9.2 (7.3, 11.0)	0.02
<b>Rural</b>						
Male	East	7.1 (5.5, 8.7)	6.2 (5.2, 7.3)	10.0 (8.2, 11.8)	8.6 (6.1, 11.1)	0.09
	Central	7.9 (6.1, 9.6)	8.3 (6.8, 9.8)	14.4 (12.1, 16.7)	11.0 (9.0, 12.9)	< 0.001
	West	9.6 (7.8, 11.4)	9.7 (7.5, 11.8)	13.8 (11.8, 15.8)	11.2 (9.0, 13.5)	0.05
Female	East	7.2 (5.5, 9.0)	8.3 (6.3, 10.3)	12.2 (9.8, 14.6)	8.7 (6.6, 10.7)	0.07
	Central	11.3 (8.4, 14.1)	10.9 (8.9, 13.0)	15.3 (12.9, 17.7)	14.0 (11.4, 16.6)	0.02
	West	10.8 (8.8, 12.8)	12.4 (10.3, 14.5)	15.6 (13.2, 18.1)	13.9 (11.5, 16.2)	0.03

**Note.** \*Long sleep duration was defined as whose total sleep duration > 9 hours per day. <sup>†</sup>Standardized to the 2010 China census population.