

Electronic Supplementary Material

ESM 1. Results of regression models for the association between alcohol drinking status and health care utilization

The outputs of each binary logistic regression model, unadjusted and adjusted, are shown in the Tables below. The models were weighted to population-level in Germany. Drinking status was the only covariate included in the unadjusted models, while sex, age, socioeconomic status, self-perceived health, physical activity, life satisfaction, smoking status, heavy episodic drinking, chronic diseases, stroke, and injury were included as additional covariates in the adjusted models. Outcomes were primary care, specialist, and hospital visits, as well as staying overnight in hospitals in the last 12 months, respectively.

Table S1. Regression model output for primary care visits

Parameter	Unadjusted			Adjusted		
	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Intercept	4.73	4.04 – 5.56	<0.001	0.97	0.63 – 1.50	0.905
Drinking status						
Lifetime abstainers*	1.00			1.00		
Former	1.52	1.12 – 2.08	0.008	1.28	0.93 – 1.79	0.142
Non-weekly	0.99	0.83 – 1.19	0.935	1.16	0.94 – 1.43	0.175
Low-risk	0.82	0.68 – 0.97	0.026	1.02	0.82 – 1.28	0.848
Risky	0.75	0.61 – 0.91	0.004	0.87	0.68 – 1.12	0.281
Sex						
Females*				1.00		
Males				0.72	0.64 – 0.80	<0.001
Age						
70+*				1.00		
60 – 69				0.92	0.71 – 1.18	0.493
50 – 59				0.69	0.55 – 0.86	0.001
40 – 49				0.68	0.54 – 0.84	0.001
30 – 39				0.68	0.54 – 0.86	0.001
18 – 29				0.84	0.66 – 1.06	0.137
SES						
High*				1.00		
Medium				1.25	1.08 – 1.45	0.003
Low				1.12	0.94 – 1.34	0.208
Self-perceived health						
Very good*				1.00		
Good				2.05	1.79 – 2.34	<0.001
Moderate				4.43	3.66 – 5.38	<0.001
Bad				11.30	7.15 – 18.77	<0.001
Very bad				6.55	2.89 – 17.70	<0.001
Physical activity				1.08	1.05 – 1.11	<0.001
Life satisfaction				1.06	1.02 – 1.09	0.001
Smoking						
Never*				1.00		
Former				1.35	1.19 – 1.55	<0.001
Occasional				1.01	0.81 – 1.27	0.913
Daily				0.94	0.82 – 1.08	0.364
HED						
Never*				1.00		
Less than monthly				1.06	0.91 – 1.23	0.439
Monthly				1.05	0.90 – 1.22	0.566
Weekly				0.89	0.73 – 1.10	0.271
Chronic diseases						
None*				1.00		
At least one				2.45	2.12 – 2.85	<0.001

Parameter	OR	Unadjusted 95% CI	<i>p</i>	OR	Adjusted 95% CI	<i>p</i>
Stroke						
None*				1.00		
At least one				0.59	0.32 – 1.15	0.099
Injury						
None*				1.00		
At least one				1.83	1.55 – 2.16	<0.001

Notes. HED: heavy episodic drinking; OR: odds ratio; *p*: p-value; SES: socioeconomic status; 95% CI: 95% confidence intervals. * Reference category.

Table S2. Regression model output for specialist visits

Parameter	Unadjusted			Adjusted		
	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Intercept	1.75	1.54 – 1.98	< 0.001	1.06	0.75 – 1.50	0.732
Drinking status						
Lifetime abstainers*	1.00			1.00		
Former	1.86	1.46 – 2.37	< 0.001	1.93	1.50 – 2.49	< 0.001
Non-weekly	0.98	0.85 – 1.13	0.809	1.24	1.05 – 1.47	0.013
Low-risk	0.97	0.84 – 1.13	0.727	1.39	1.17 – 1.67	< 0.001
Risky	0.92	0.78 – 1.08	0.294	1.28	1.04 – 1.57	0.018
Sex						
Females*				1.00		
Males				0.53	0.48 – 0.58	< 0.001
Age						
70+*				1.00		
60 – 69				0.94	0.80 – 1.12	0.503
50 – 59				0.99	0.84 – 1.16	0.860
40 – 49				0.81	0.69 – 0.95	0.011
30 – 39				0.88	0.74 – 1.04	0.131
18 – 29				0.81	0.68 – 0.96	0.014
SES						
High*				1.00		
Medium				0.86	0.75 – 0.98	0.020
Low				0.62	0.53 – 0.72	< 0.001
Self-perceived health						
Very good*				1.00		
Good				1.50	1.32 – 1.69	< 0.001
Moderate				3.33	2.85 – 3.91	< 0.001
Bad				4.33	3.30 – 5.72	< 0.001
Very bad				2.49	1.50 – 4.24	0.001
Physical activity				1.08	1.05 – 1.10	< 0.001
Life satisfaction				1.02	0.99 – 1.05	0.136
Smoking						
Never*				1.00		
Former				1.04	0.94 – 1.16	0.434
Occasional				0.89	0.74 – 1.08	0.253
Daily				0.80	0.71 – 0.90	< 0.001
HED						
Never*				1.00		
Less than monthly				0.94	0.83 – 1.06	0.306
Monthly				0.87	0.76 – 0.98	0.026
Weekly				0.87	0.73 – 1.03	0.104
Chronic diseases						
None*				1.00		
At least one				1.44	1.29 – 1.60	< 0.001

Parameter	Unadjusted			Adjusted		
	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Stroke						
None*				1.00		
At least one				0.72	0.48 – 1.11	0.124
Injury						
None*				1.00		
At least one				1.56	1.38 – 1.77	<0.001

Notes. HED: heavy episodic drinking; OR: odds ratio; *p*: p-value; SES: socioeconomic status; 95% CI: 95% confidence intervals. * Reference category. Bold p-values indicate significance at $\alpha < 0.05$.

Table S3. Regression model output for hospital outpatient visits

Parameter	Unadjusted			Adjusted		
	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Intercept	0.13	0.11 – 0.16	<0.001	0.03	0.02 – 0.06	<0.001
Drinking status						
Lifetime abstainers*	1.00			1.00		
Former	1.14	0.82 – 1.57	0.433	1.04	0.74 – 1.46	0.816
Non-weekly	0.95	0.77 – 1.18	0.633	0.99	0.77 – 1.28	0.948
Low-risk	0.83	0.67 – 1.04	0.107	0.96	0.74 – 1.27	0.785
Risky	1.13	0.89 – 1.44	0.325	1.12	0.82 – 1.52	0.480
Sex						
Females*				1.00		
Males				1.00	0.87 – 1.15	0.998
Age						
70+*				1.00		
60 – 69				0.99	0.76 – 1.28	0.928
50 – 59				1.17	0.93 – 1.48	0.182
40 – 49				1.07	0.83 – 1.38	0.591
30 – 39				1.49	1.16 – 1.93	0.002
18 – 29				1.78	1.39 – 2.30	<0.001
SES						
High*				1.00		
Medium				1.20	0.97 – 1.49	0.109
Low				1.34	1.05 – 1.72	0.019
Self-perceived health						
Very good*				1.00		
Good				1.57	1.25 – 1.99	<0.001
Moderate				2.62	2.03 – 3.41	<0.001
Bad				2.46	1.69 – 3.55	<0.001
Very bad				4.59	2.51 – 8.22	<0.001
Physical activity				1.09	1.05 – 1.12	<0.001
Life satisfaction				0.96	0.92 – 0.99	0.010
Smoking						
Never*				1.00		
Former				1.12	0.95 – 1.31	0.170
Occasional				1.31	0.99 – 1.73	0.057
Daily				1.24	1.03 – 1.47	0.023
HED						
Never*				1.00		
Less than monthly				1.01	0.84 – 1.22	0.904
Monthly				1.14	0.94 – 1.39	0.176
Weekly				1.02	0.78 – 1.32	0.912
Chronic diseases						
None*				1.00		
At least one				1.25	1.07 – 1.46	0.004

Parameter	OR	Unadjusted 95% CI	<i>p</i>	OR	Adjusted 95% CI	<i>p</i>
Stroke						
None*				1.00		
At least one				1.18	0.69 – 1.94	0.526
Injury						
None*				1.00		
At least one				2.87	2.49 – 3.31	<0.001

Notes. HED: heavy episodic drinking; OR: odds ratio; *p*: p-value; SES: socioeconomic status; 95% CI: 95% confidence intervals. * Reference category. Bold p-values indicate significance at $\alpha < 0.05$.

Table S4. Regression model output for hospital overnight stays

Parameter	Unadjusted			Adjusted		
	OR	95% CI	<i>p</i>	OR	95% CI	<i>p</i>
Intercept	0.32	0.28 – 0.37	< 0.001	0.16	0.10 – 0.25	< 0.001
Drinking status						
Lifetime abstainers*	1.00			1.00		
Former	1.30	1.03 – 1.64	0.030	1.10	0.85 – 1.42	0.485
Non-weekly	0.56	0.47 – 0.66	< 0.001	0.76	0.62 – 0.93	0.007
Low-risk	0.46	0.39 – 0.55	< 0.001	0.66	0.53 – 0.81	< 0.001
Risky	0.52	0.43 – 0.64	< 0.001	0.65	0.51 – 0.84	0.001
Sex						
Females*				1.00		
Males				0.89	0.79 – 1.00	0.058
Age						
70+*				1.00		
60 – 69				0.74	0.61 – 0.89	0.001
50 – 59				0.66	0.55 – 0.78	< 0.001
40 – 49				0.52	0.42 – 0.64	< 0.001
30 – 39				0.56	0.45 – 0.70	< 0.001
18 – 29				0.70	0.57 – 0.87	0.001
SES						
High*				1.00		
Medium				1.19	0.98 – 1.46	0.093
Low				1.29	1.04 – 1.62	0.023
Self-perceived health						
Very good*				1.00		
Good				1.51	1.21 – 1.91	< 0.001
Moderate				2.84	2.23 – 3.64	< 0.001
Bad				4.90	3.60 – 6.69	< 0.001
Very bad				5.85	3.44 – 10.00	< 0.001
Physical activity				1.03	1.00 – 1.06	0.023
Life satisfaction				0.94	0.92 – 0.97	< 0.001
Smoking						
Never*				1.00		
Former				1.40	1.23 – 1.60	< 0.001
Occasional				0.78	0.56 – 1.07	0.133
Daily				1.19	1.01 – 1.40	0.034
HED						
Never*				1.00		
Less than monthly				0.94	0.80 – 1.11	0.486
Monthly				0.91	0.77 – 1.08	0.272
Weekly				1.12	0.89 – 1.40	0.348
Chronic diseases						
None*				1.00		
At least one				1.45	1.28 – 1.65	< 0.001

Parameter	OR	Unadjusted 95% CI	<i>p</i>	OR	Adjusted 95% CI	<i>p</i>
Stroke						
None*				1.00		
At least one				2.23	1.50 – 3.31	<0.001
Injury						
None*				1.00		
At least one				1.97	1.71 – 2.26	<0.001

Notes. HED: heavy episodic drinking; OR: odds ratio; *p*: p-value; SES: socioeconomic status; 95% CI: 95% confidence intervals. * Reference category. Bold p-values indicate significance at $\alpha < 0.05$.