Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Population-Attributable Risk Proportions (PARPs) of Physical Outcomes Associated With Mental Disorders

	Type of chronic physical conditions									
	Arthritis	**Any chronic pain**	**Heart disease**	**Stroke**	**High blood pressure**	**Diabetes**	**Asthma**	**Chronic lung disease**	**Peptic ulcer**	**Cancer**
Step 1: Odds Ratios[a]										
Any mood disorder	1.61	1.73	1.51	1.60	1.35	1.39	1.55	2.13	1.72	1.23
Any anxiety disorder	1.54	1.92	1.78	1.63	1.46	1.28	1.50	1.73	1.83	1.20
Any impulse-control disorder	1.61	2.20	1.60	1.98	1.65	2.09	1.53	2.57	1.91	1.56
Any substance-use disorder	1.59	1.47	1.70	2.20	1.61	1.37	1.67	2.41	1.63	1.38
Step 2: Risk of the physical outcome in the non-exposed group (those without mental disorder)										
Any mood disorder	0.12	0.32	0.04	0.01	0.12	0.04	0.02	0.01	0.05	0.02
Any anxiety disorder	0.12	0.30	0.04	0.01	0.12	0.03	0.02	0.01	0.04	0.02
Any impulse-control disorder	0.14	0.36	0.05	0.01	0.14	0.04	0.03	0.01	0.06	0.03
Any substance-use disorder	0.13	0.35	0.05	0.01	0.13	0.04	0.03	0.01	0.05	0.02
Step 3: Relative Risks[b]										
Any mood disorder	1.50	1.40	1.48	1.59	1.29	1.37	1.53	2.11	1.66	1.22
Any anxiety disorder	1.45	1.50	1.72	1.62	1.39	1.27	1.48	1.72	1.77	1.20
Any impulse-control disorder	1.48	1.54	1.55	1.95	1.51	2.00	1.51	2.52	1.82	1.54
Any substance-use disorder	1.47	1.26	1.65	2.17	1.49	1.35	1.64	2.37	1.58	1.37
Step 4: Proportion of those in the sample with the predictor										
Any mood disorder	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Any anxiety disorder	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Any impulse-control disorder	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Any substance-use disorder	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.09	0.09	0.09
Step 5: Population attributable risk proportion (%)[c]										
Any mood disorder	6.4%	5.2%	6.2%	7.6%	3.9%	4.9%	6.7%	13.3%	8.3%	3.0%
Any anxiety disorder	7.1%	7.9%	11.1%	9.6%	6.2%	4.4%	7.6%	11.0%	11.6%	3.2%
Any impulse-control disorder	1.5%	1.7%	1.7%	3.0%	1.6%	3.1%	1.6%	4.6%	2.6%	1.7%
Any substance-use disorder	4.0%	2.2%	5.3%	9.3%	4.1%	3.0%	5.2%	10.7%	4.8%	3.1%

[a]Odds ratios from the bivariate models in Table 3.

[b]Relative risk = Odds ratio / (1- risk from step 2 + (risk from step 2 * odds ratio)).

[c]PARP= (p from step 4)*(RR - 1)/ ([p from step 4*(RR -1)] + 1).

eTable 2. Tests for Heterogeneity of Multivariate Associations Across Countries (Survey Sites)

Type of mental disorder	Heterogeneity test	Arthritis	Any chronic pain	Heart disease	Stroke	High blood pressure	Diabetes	Asthma	Chronic lung disease	Peptic ulcer	Cancer
Any mood disorder	I^2	12.1%	61.7%	41.3%	48.8%	49.7%	0.0%	0.0%	8.1%	0.0%	29.0%
	[P-value]	[0.310]	[0.000]	[0.035]	[0.082]	[0.009]	[0.576]	[0.617]	[0.358]	[0.648]	[0.169]
Any anxiety disorder	I^2	0.0%	23.6%	49.2%	61.1%	14.0%	13.7%	9.6%	10.2%	37.5%	44.7%
	[P-value]	[0.455]	[0.175]	[0.010]	[0.012]	[0.286]	[0.289]	[0.340]	[0.332]	[0.055]	[0.036]
Any impulse-control disorder	I^2	0.0%	0.0%	0.0%	51.7%	45.3%	16.5%	36.6%	72.6%	0.0%	57.9%
	[P-value]	[0.803]	[0.687]	[0.991]	[0.150]	[0.044]	[0.309]	[0.061]	[0.026]	[0.738]	[0.123]
Any substance-use disorder	I^2	32.1%	1.5%	24.2%	0.0%	64.1%	23.0%	37.9%	49.0%	38.7%	14.6%
	[P-value]	[0.100]	[0.436]	[0.175]	[0.689]	[0.000]	[0.238]	[0.063]	[0.067]	[0.076]	[0.321]

I^2 = percentage of total variation across sites that is due to heterogeneity rather than chance.

eTable 3. Significance of Interactions of *DSM-IV* Mental Disorder Classes With Survey Sites in Association With Physical Condition Onsets

Interaction between mental disorder and survey sites	Type of chronic physical condition									
	Arthritis	Any chronic pain	Heart disease	Stroke	High blood pressure	Diabetes	Asthma	Chronic lung disease	Peptic ulcer	Cancer
	P-values for each interaction term									
Any mood disorder										
Colombia	NS	NS	NS	-	NS	NS	NS	-	NS	NS
PRC Shen Zhen	NS	<.001**	NS	-	NS	NS	-	-	0.030*	-
Iraq	NS	NS	NS	-	NS	NS	-	-	NS	-
Mexico	NS	0.029*	0.020*	-	NS	NS	-	-	NS	-
Romania	NS	NS	NS	-	NS	NS	NS	-	NS	-
Peru	NS	NS	NS	-	NS	NS	NS	NS	NS	-
Belgium	NS	NS	0.048*	-	0.032*	NS	NS	NS	NS	NS
Italy	NS	NS	NS	-	NS	NS	NS	NS	NS	NS
Netherlands	NS	NS	NS	NS	NS	0.021*	NS	NS	NS	NS
Spain	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Japan	NS	NS	NS	-	NS	NS	-	-	NS	-
New Zealand	NS	<.001**	NS	0.010*	NS	NS	NS	NS	NS	NS
Northern Ireland	NS	NS	NS	NS	NS	NS	NS	-	NS	0.049*
Portugal	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Poland	0.031*	NS	NS	-	NS	NS	NS	NS	NS	-
Murcia	NS	NS	NS	-	NS	NS	NS	NS	-	0.014*
Medellin	NS	NS	NS	-	NS	NS	-	NS	NS	NS
Any anxiety disorder										
Colombia	0.026*	NS	NS	-	NS	NS	NS	-	NS	NS
PRC Shen Zhen	NS	NS	NS	-	NS	NS	-	NS	NS	-
Iraq	NS	NS	0.003**	-	0.049*	NS	NS	-	NS	-
Mexico	NS	NS	NS	-	0.001**	NS	-	NS	NS	-
Romania	NS	NS	NS	0.014*	NS	NS	NS	-	NS	NS
Peru	NS	NS	NS	-	NS	NS	NS	NS	NS	-
Belgium	NS	NS	NS	-	NS	NS	-	NS	NS	NS
Italy	NS	NS	NS	-	NS	NS	NS	NS	NS	NS
Netherlands	NS	NS	NS	-	NS	NS	NS	-	NS	NS
Spain	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Japan	NS	NS	NS	-	NS	NS	NS	NS	NS	NS
New Zealand	NS	NS	NS	0.019*	NS	NS	NS	NS	NS	0.042*
Northern Ireland	NS	NS	NS	NS	NS	0.026*	NS	-	NS	NS
Portugal	NS	0.018*	NS	NS	NS	NS	NS	NS	NS	NS
Poland	NS	NS	0.008**	NS	NS	NS	NS	NS	NS	NS
Murcia	NS	NS	NS	-	NS	0.010*	NS	NS	NS	NS
Medellin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Any impulse control disorder										
Colombia	NS	NS	NS	-	NS	NS	-	-	NS	-
PRC Shen Zhen	NS	NS	NS	-	0.038*	-	-	-	NS	-
Iraq	NS	<.001**	-	-	NS	-	-	-	-	-
Mexico	-	NS	-	-	0.025*	-	-	-	-	-
Romania	-	NS	-	-	NS	-	-	-	-	-
Peru	NS	NS	-	-	NS	-	NS	0.012*	NS	-
Belgium	-	NS	-	-	-	-	-	-	-	-
Italy	-	NS	-	-	-	-	-	-	-	-
Netherlands	-	NS	-	-	-	-	-	-	-	-
Spain	-	-	-	-	-	-	-	-	-	-
Japan	-	NS	-	-	NS	-	-	-	-	-
New Zealand	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Northern Ireland	NS	NS	-	-	NS	-	NS	-	NS	-
Portugal	NS	NS	NS	-	NS	NS	-	-	NS	-
Poland	NS	NS	NS	-	NS	NS	-	-	-	-
Murcia	-	-	-	-	-	-	-	-	-	-
Medellin	-	-	-	-	-	-	-	-	-	-
Any substance-use disorder										

Colombia	NS	NS	NS	-	NS	-	-	-	NS	-
PRC Shen Zhen	-	-	-	-	-	-	-	-	-	-
Iraq	-	-	-	-	-	-	-	-	-	-
Mexico	NS	NS	NS	-	NS	NS	-	-	NS	-
Romania	NS	NS	<.001**	-	NS	-	-	-	-	-
Peru	NS	NS	-	-	NS	-	-	NS	NS	-
Belgium	NS	NS	NS	-	NS	-	-	-	NS	-
Italy	NS	NS	-	-	0.048*	-	-	-	-	-
Netherlands	NS	0.008**	NS	-	NS	-	NS	-	NS	-
Spain	NS	NS	-	-	NS	-	-	-	-	-
Japan	NS	NS	NS	-	0.001**	0.030*	NS	NS	NS	-
New Zealand	NS	NS	0.003**	NS	0.015*	NS	NS	NS	NS	NS
Northern Ireland	0.049*	NS	NS	NS	NS	NS	NS	-	NS	NS
Portugal	NS	NS	NS	-	0.022*	NS	NS	NS	0.011*	NS
Poland	NS	NS	0.006**	NS	NS	NS	NS	NS	NS	NS
Murcia	NS	NS	NS	-	NS	0.031*	-	-	NS	-
Medellin	NS	NS	NS	-	NS	NS	0.042*	NS	NS	-
Main effects model										
AIC	**77729.2[b]**	**184813.6**	**31561.7[b]**	**8599.7[b]**	**77343.2[b]**	**27914.4[b]**	**20849.6[b]**	**10286.8[b]**	**40618.8[b]**	**17842.3[b]**
BIC	**78126.4[b]**	**185208.4[b]**	**31961.0[b]**	**8970.9[b]**	**77741.5[b]**	**28313.9[b]**	**21248.1[b]**	**10686.2[b]**	**41018.8[b]**	**18241.9[b]**
Interaction model										
AIC	**77765.2**	**184695.2[b]**	**31596.1**	**8649.7**	**77351.3**	**27966.3**	**20923.8**	**10346.5**	**40674.4**	**17906.9**
BIC	**78994.2**	**185916.6**	**32831.4**	**9763.1**	**78583.5**	**29202.3**	**22156.7**	**11582.3**	**41911.7**	**19143.4**

**Significant at the .05 level, *Significant at the .01 level, two-sided test. NS = not significant

[a]Multivariate models included interaction terms between each mental disorder class and survey sites. Only the p-values for the interaction terms are shown in the table. All models control for mental disorder class, country, sex, person-year, smoking (current/ever/never) and respondent's education history.

[b]Model is better in terms of AIC/BIC values

"-" was inserted for countries that did not assess the disorder or where there were fewer than 5 cases in the cross classification of mental disorder and physical condition.
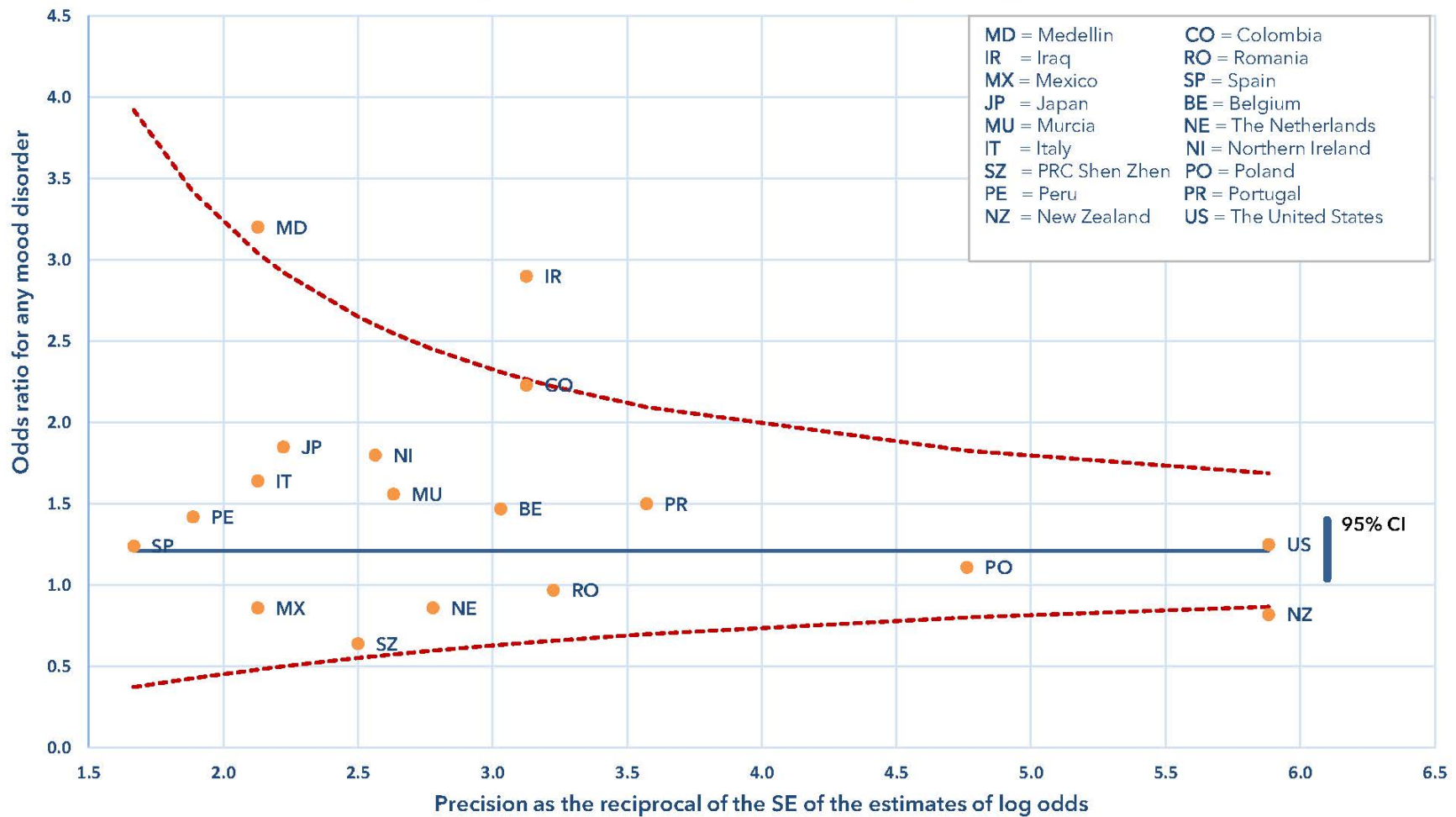
eTable 4. Odds ratios for the Interaction of *DSM-IV* Mental Disorder Classes and Person-Years in Association With Physical Condition Onsets[a]

Type of mental disorder	Type of chronic physical condition																			
	Arthritis		Any chronic pain		Heart disease		Stroke		High blood pressure		Diabetes		Asthma		Chronic lung disease		Peptic ulcer		Cancer	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Any mood disorder	0.99*	(0.98-1.00)	0.99*	(0.98-0.99)	0.99*	(0.98-1.00)	0.99	(0.97-1.01)	0.99*	(0.99-1.00)	0.99*	(0.98-1.00)	0.98*	(0.97-0.99)	0.99	(0.98-1.01)	0.98*	(0.98-0.99)	0.98*	(0.97-0.99)
Any anxiety disorder	1.00	(1.00-1.01)	0.99*	(0.98-0.99)	1.00	(0.99-1.00)	0.98*	(0.97-0.99)	1.00	(1.00-1.01)	1.00	(0.99-1.00)	1.00	(0.99-1.01)	1.01*	(1.00-1.03)	0.99	(0.98-1.00)	0.99	(0.98-1.00)
Any impulse-control disorder	1.01	(1.00-1.03)	0.99*	(0.98-1.00)	1.00	(0.98-1.02)	1.02	(1.00-1.05)	1.00	(0.99-1.02)	1.01	(0.99-1.03)	1.00	(0.98-1.02)	0.97*	(0.95-1.00)	0.98*	(0.97-1.00)	1.00*	(0.98-1.03)
Any substance-use disorder	1.00	(0.99-1.01)	0.99*	(0.99-1.00)	0.99	(0.98-1.00)	1.01	(0.99-1.03)	1.00	(0.99-1.01)	1.00	(0.99-1.01)	1.01	(0.99-1.03)	1.01	(0.98-1.03)	0.97*	(0.96-0.99)	1.02*	(1.00-1.04)

*Significant at the .05 level, two-sided test.

[a]Multivariate models included interaction terms between each mental disorder class and person-years. Only interaction odds ratios are shown in the table. All models included mental disorder classes, person yearm age-cohorts, sex, country, smoking (current/ever/never) and respondent's education history.

eFigure 1. Multivariate Associations (Odds Ratios) of *DSM-IV* Mood Disorders With Subsequent Onset of Heart Disease, by Survey Sites.

eFigure 2. Multivariate Associations (Odds Ratios) of *DSM-IV* Anxiety Disorders With Subsequent Onset of Heart Disease, by Survey Sites