

**Perceived stress and smoking across 41 countries: A global perspective across Europe, Africa, Asia  
and the Americas**

*Running title: stress and smoking*

Submission to Scientific Reports

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## Appendix 1 of ethical approval committees for the World health survey

### Ethical approval

Ethical approval was obtained from each of the following committees in the respective countries for the World Health Survey:

Country	Ethical committee approving the study
Bangladesh	Mitra and Associates
Bosnia Herzegovina	The Federal Public Health Institute
Brazil	Fundacao Oswaldo Cruz
Burkina Faso	Institut de Recherche en Sciences de la Santé
Chad	Faculté des Sciences de la Santé, Univ N'Djamena
China	Centre for Health Statistics Information
Comoros	Bureau Comorien de Conseil
Congo	Unité de recherche sur les systèmes de santé
Ivory Coast	Ministère de la Santé
Croatia	The Croatian National Institute of Public Health
Czech Republic	Institute of Health Information and Statistics
Dominican Republic	Centro de Estudios Sociales y Demográficos (CESDEM)
Ecuador	Fundación Ecuatoriana para la Salud y el Desarrollo (FESALUD)
Estonia	Saar Poll Ltd.
Ethiopia	Department of Community Health, Jimma University
Georgia	Georgian State Medical Academy (GSMA)
Ghana	Department of Community Health, Ghana Medical Sch
Hungary	Johan Bela National Centre for Epidemiology
India	International Institute of Population Sciences
Kazakhstan	Kazakhstan School of Public Health (KSPH)
Kenya	Central Bureau of Statistics
Laos	National Institute of Public Health, Ministry of Health
Latvia	The Health Promotion Center
Malawi	Centre for Social Research (CSR)
Malaysia	Public Health Institute, Ministry of Health
Mali	Cellule de Planification et de Statistique, (CPS)
Mauritania	Office Nationale de la Statistique (ONS)
Mauritius	Mauritius Institute of Health
Mexico	Instituto Nacional de Salud Pública
Morocco	Ministère de la Santé
Myanmar	Department of Medical Research, Ministry of Health
Namibia	Ministry of Health
Nepal	ORG-MARG Nepal PVT.Ltd
Pakistan	Ministry of Health
Paraguay	Fac.de Ciencias Veterinarias, Univ. Nacional/DGEEC
Philippines	College of Medicine, University of the Philippines
Russia	Semashko Institute for Research on Social Hygiene,
Senegal	Direction Etudes, Recherche et Formation (DERF)
Slovakia	Environment,s.c., Centre of Biostatistics and Envi
South Africa	Community Agency for Social Enquiry (CASE)
Sri Lanka	Ministry of Health
Swaziland	Faculty of Health Sciences, Univ Swaziland
Tunisia	Institut National de la Santé Publique
Ukraine	Odessa State Medical University
Uruguay	Centro de Estudios de Economia y Salud (CEES)
Vietnam	Ministry of Health
Zambia	School of Humanities & Social Sciences, University of Zambia
Zimbabwe	Community Health, University of Zimbabwe

**Appendix 2** Sample size by country

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<b>Africa</b>	N	<b>Asia</b>
Burkina Faso	4,948	Bangladesh
Chad	4,870	China
Comoros	1,836	India
Ethiopia	5,089	Kazakhstan
Ghana	4,165	Laos
Ivory Coast	3,251	Malaysia
Kenya	4,640	Myanmar
Malawi	5,551	Nepal
Mauritania	3,902	Pakistan
Mauritius	3,968	Philippines
Morocco	5,000	Sri Lanka
Namibia	4,379	United Arab Emirates
Senegal	3,461	Vietnam
South Africa	2,629	
Tunisia	5,202	<b>Europe</b>
Zambia	4,165	Bosnia and Herzegovina
		Croatia
<b>Americas</b>	N	Czech Republic
Dominican Republic	5,027	Estonia
Mexico	38,746	Latvia
Paraguay	5,288	Russia
Uruguay	2,996	Spain
		Ukraine

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**Appendix 3** Association between perceived stress and smoking (outcome) by country-income level estimated by multivariable logistic regression

	Low-income countries			Middle-income countries		
	OR	95%CI	P-value	OR	95%CI	P-value
<b>Perceived stress<sup>a</sup></b>	1.06	(1.04-1.08)	<0.0001	1.02	(1.00-1.04)	0.0130
<b>Age (years)</b>						
18-34	1.00			1.00		
35-59	2.74	(2.54-2.96)	<0.0001	1.24	(1.17-1.32)	<0.0001
≥60	2.85	(2.50-3.23)	<0.0001	0.65	(0.59-0.72)	<0.0001
<b>Sex</b>						
Female	1.00			1.00		
Male	6.78	(6.20-7.42)	<0.0001	7.17	(6.68-7.69)	<0.0001
<b>Wealth</b>						
Poorest	1.00			1.00		
Poorer	0.82	(0.73-0.91)	0.0002	0.88	(0.81-0.96)	0.0032
Middle	0.70	(0.62-0.79)	<0.0001	0.91	(0.83-1.00)	0.0489
Richer	0.59	(0.51-0.67)	<0.0001	0.85	(0.77-0.93)	0.0005
Richest	0.37	(0.32-0.42)	<0.0001	0.79	(0.71-0.87)	<0.0001
<b>Setting</b>						
Rural	1.00			1.00		
Urban	0.95	(0.83-1.07)	0.3891	1.20	(1.11-1.30)	<0.0001

Abbreviation: OR odds ratio; CI confidence interval

<sup>a</sup>The perceived stress score ranged from 2-10 with higher scores corresponding to higher levels of perceived stress.

Models are adjusted for age, sex, wealth, setting, and country.

Country-income level was based on the World Bank classification in 2003.

Low-income countries include Burkina Faso, Bangladesh, Ivory Coast, Comoros, Ethiopia, Ghana, India, Kenya, Laos, Myanmar, Mauritania, Malawi, Nepal, Pakistan, Senegal, Chad, Vietnam, Zambia.

Middle-income countries include Bosnia and Herzegovina, China, Czech Republic, Dominican Republic, Estonia, Croatia, Kazakhstan, Sri Lanka, Latvia, Morocco, Mexico, Mauritius, Malaysia, Namibia, Philippines, Paraguay, Russia, Tunisia, Ukraine, Uruguay, South Africa.