Supplementary Materials

Title: Association of holidays and the day-of-the week with suicide risk: multicountry, two stage, time series study

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Data Collection Details

See the full list of cities included for each country in Table S1 if further information is needed. All data described below have been collected within the MCC (Multi-City Multi-Country) Collaborative Research Network (https://mccstudy.lshtm.ac.uk/) under a data sharing agreement and cannot be made publicly available.

Canada (26 cities, 1986-2015)

We collected data from 26 cities from 1 January 1986 to 31 December 2015. Daily suicide counts were obtained from Statistics Canada. Daily mean temperature (°C) was obtained from Environment Canada.

United States (134 cities, 2001-2006)

We collected data from 135 cities from 1 January 2001 to 31 December 2006 and excluded Honolulu with no suicide in the study period. A total of 134 cities were included in our study. Daily suicide counts were obtained from the National Center for Health Statistics. Daily mean temperature (°C) was obtained from the National Climate Data Center (NCDC) of the National Oceanic and Atmospheric Administration (NOAA).

Costa Rica (1 city, 2000-2017)

We collected data from 1 city (San Jose) from 1 January 2000 to 31 December 2017. Daily suicide counts were provided from the Instituto Nacional de Estadística y Censo [Open Access]. Daily mean temperature (°C) was obtained from WMO-NOAA (Surface Data Hourly Global, DS3505).

Guatemala (1 city, 2009-2018)

We collected data from 1 city (Guatemala) from 1 January 2009 to 31 December 2018. Daily suicide counts were provided from the Instituto Nacional de Estadística, Unidad de Estadística de Salud. Daily mean temperature (°C) was obtained from the Instituto Nacional de Sismología, Vulancología, Meteorología y Hidrología.

Mexico (10 cities, 1998-2014)

We collected data from 10 cities from 1 January 1998 to 31 December 2014. Daily suicide counts were provided from the National Institute of Statistics, Geography and Informatics. Daily mean temperature (°C) was obtained from the Servicio Meteorológico Nacional (SMN) and the Instituto Nacional de Ecología y Cambio Climático (INECC).

Brazil (15 cities, 2000-2019)

We collected data from 15 cities from 1 January 2000 to 31 December 2019. Daily suicide counts were obtained from the Ministry of Health, Brazil. Daily mean temperature (°C) was obtained from the National Institute of Meteorology of Brazil.

Chile (1 city, 2008-2014)

We collected data from 1 city (Santiago) from 1 January 2008 to 31 December 2014. Daily suicide counts were obtained from Departamento de Estadísticas e Información en Salud. Daily mean temperature (°C) was obtained from Sistema Informático de Calidad del Aire.

Ecuador (2 cities, 2013-2019)

We collected data from 2 cities (Guayaquil and Quito) from 1 January 2013 to 31 December 2019. Daily suicide counts were derived from Instituto Nacional de Estadística y Censo [Open Access]. Daily mean temperature (°C) was obtained from WMO-NOAA (Surface Data Hourly Global, DS3505).

Paraguay (1 city, 2004-2019)

We collected data from 1 city (Asuncion) from 1 January 2004 to 31 December 2019. Daily suicide counts were provided from the Ministerio de Salud Pública y Bienestar Social, Dirección General de Información Estratégica

en Salud, Subsistema de Información de Estadísticas Vitales. Daily mean temperature (°C) was obtained from the Global Historical Climatology Network (NOAA/WMO).

Australia (5 cities, 2009-2018)

We collected data from 5 cities from 1 January 2009 to 31 December 2018. Daily suicide counts were obtained from the Australian Bureau of Statistics. Daily mean temperature was obtained from the Australian Bureau of Meteorology.

South Africa (52 districts, 1997-2013)

We collected data from 52 districts from 1 January 1997 to 31 December 2013. Daily suicide counts were kindly supplied by Statistics South Africa, who had no role in the data analysis or interpretation. It is likely that the suicide data was underreported. Daily mean temperature was obtained from the Agricultural Research Council of South Africa and the National Oceanographic and Atmospheric Association (NOAA) of the United States; the latter was also the source of the daily total of sunshine duration.

China (1 city, 2015-2019)

We collected data from 1 city (Suzhou) from 1 January 2015 to 31 December 2019. Daily suicide counts were provided from Suzhou Center for Disease Control and Prevention. Daily mean temperature (°C) was obtained from Suzhou Bureau of Meteorology.

Japan (47 prefectures, 1973-2019)

We collected data from 47 prefectures from 1 January 1973 to 31 December 2019. Daily suicide counts were obtained from the Ministry of Health, Labour and Welfare, Japan. Daily mean temperature and the daily total of sunshine duration were obtained from the Japan Meteorological Agency.

South Korea (36 cities, 1997-2019)

We collected data from 36 cities from 1 January 1997 to 31 December 2019. Daily suicide counts were obtained from the Microdata Integrated Service (MDIS), administered by Statistics Korea in South Korea. Daily mean temperature and relative humidity and the daily total of sunshine duration were obtained from the Korea Meteorological Administration.

Philippines (8 cities, 2006-2019)

We collected data from 8 cities from 1 January 2006 to 31 December 2019. Daily suicide counts were provided from the Philippine Statistics Agency. Daily mean temperature (°C) was obtained from the Philippine Atmospheric, Geophysical and Astronomical Services Administration.

Taiwan (3 cities, 1994-2014)

We collected data from 3 cities from 1 January 1994 to 31 December 2014. Daily suicide counts were obtained from the Department of Statistics, Ministry of Health and Welfare in Taiwan. Daily mean temperature, relative humidity, and the daily total of sunshine duration were obtained from the Taiwan Environmental Protection Administration.

Vietnam (1 city, 2010-2013)

We collected data from 1 city (Ho Chi Minh) from 1 January 2010 to 31 December 2013. Daily suicide counts were obtained from national mortality system collected at community namely A6. Daily mean temperature (°C) was obtained from the Tan Son Nhat airport weather station, Ho Chi Minh City.

Czech Republic (3 cities, 2003-2019)

We collected data from 3 cities (Brno, Ostrava, and Prague) from 1 January 2003 to 31 December 2019. Daily suicide counts were provided from the Czech Statistical Office and the Institute of Health Information and Statistics. Daily mean temperature (°C) was obtained from the Czech Hydrometeorological Institute.

Estonia (5 cities, 2005-2015)

We collected data from 5 cities (Kohtla-Järve linn, Narva linn, Pärnu linn, Tallinn, and Tartu linn) from 1 January 2005 to 31 December 2015. Daily suicide counts were obtained from the Estonian Causes of Death Registry. Daily mean temperature (°C) was computed as the 24-h average of hourly measurements collected from Estonian Environment Agency. A single weather station located nearby the urban area was selected for each city.

Finland (310 municipalities, 1971-2018)

We collected data from 310 municipalities (Kunta) from 1 January 1971 to 31 December 2018. The full list of cities is presented in Table S1. Daily suicide counts were provided from Statistics Finland. Daily mean temperature (°C) was obtained from the Finnish Meteorological Institute (FMI).

Germany (1 city, 1990-2006)

We collected data from 1 city (Munich) from 1 January 1990 to 31 December 2006. Daily suicide counts were obtained from the Bavarian State Office for Statistics and Data Processing. Daily mean temperature (°C) was obtained from German Weather Service (DWD).

Italy (1 city, 2006-2015)

We collected data from 1 city (Rome) from 1 January 2006 to 31 December 2015. Daily suicide counts were obtained from Lazio regional mortality registry (ReNCaM). Daily mean temperature (°C) was obtained from Ciampino airport were obtained from the Italian Air Force Meteorological and Climatological Service (CNMCA).

Romania (8 cities, 1999-2016)

We collected data from 8 cities from 1 January 1999 to 31 December 2016. Daily suicide data were provided by the National Institute for Statistics (NIS). Daily mean temperature was obtained from Romanian National Meteorological Administration (RNMA) and the daily total of sunshine duration were obtained from ROCADA 10 km resolution gridded dataset.

Spain (50 cities, 1990-2013)

We collected data from 52 provincial capital cities from 1 January 1990 to 31 December 2013 and excluded two cities (Palencia with no temperature data since 1991 and Ceuta with no temperature data before 2003). A total of 50 cities were included in our study. Daily suicide counts were obtained from Spain National Institute of Statistics. Daily mean temperature and the daily total of sunshine duration were obtained from Spain National Meteorology Agency.

Switzerland (8 cantons, 1978-2016)

We collected data from 8 regions (cantons) from 1 January 1978 to 31 December 2016. Daily suicide counts were obtained from the Federal Office of Statistics. The suicide data includes in part assisted suicide from 1978 to 2008. Daily mean temperature, relative humidity, and the daily total of sunshine duration were collected from the IDAWEB web database (a service provided by MeteoSwiss, the Swiss Federal Office of Meteorology and Climatology, MeteoSwiss). A single weather station within each canton was selected (Basel-Stadt: Basel/Binningen; Berne: Berne/Zollikofen; Geneva: Genève/Cointrin; Ticino: Lugano; Lucerne: Lucerne; Vaud: Pully; St. Gallen: St. Gallen; Zurich: Zurich/Fluntern).

United Kingdom (10 regions, 2001-2014)

We collected data from 10 regions in England and Wales from 1 January 2001 to 31 December 2014. Daily suicide counts were obtained from the Office of National Statistics. Daily mean temperature and the daily total of sunshine duration were obtained from the British Atmospheric Data Centre.

Figure. Time-series scatter plots. Black dots show the actual suicide data points, and the red lines indicate the seasonality and long-term pattern captured by natural cubic spline functions (the detailed information on the modelling is described in the Method section)

Australia

Finland

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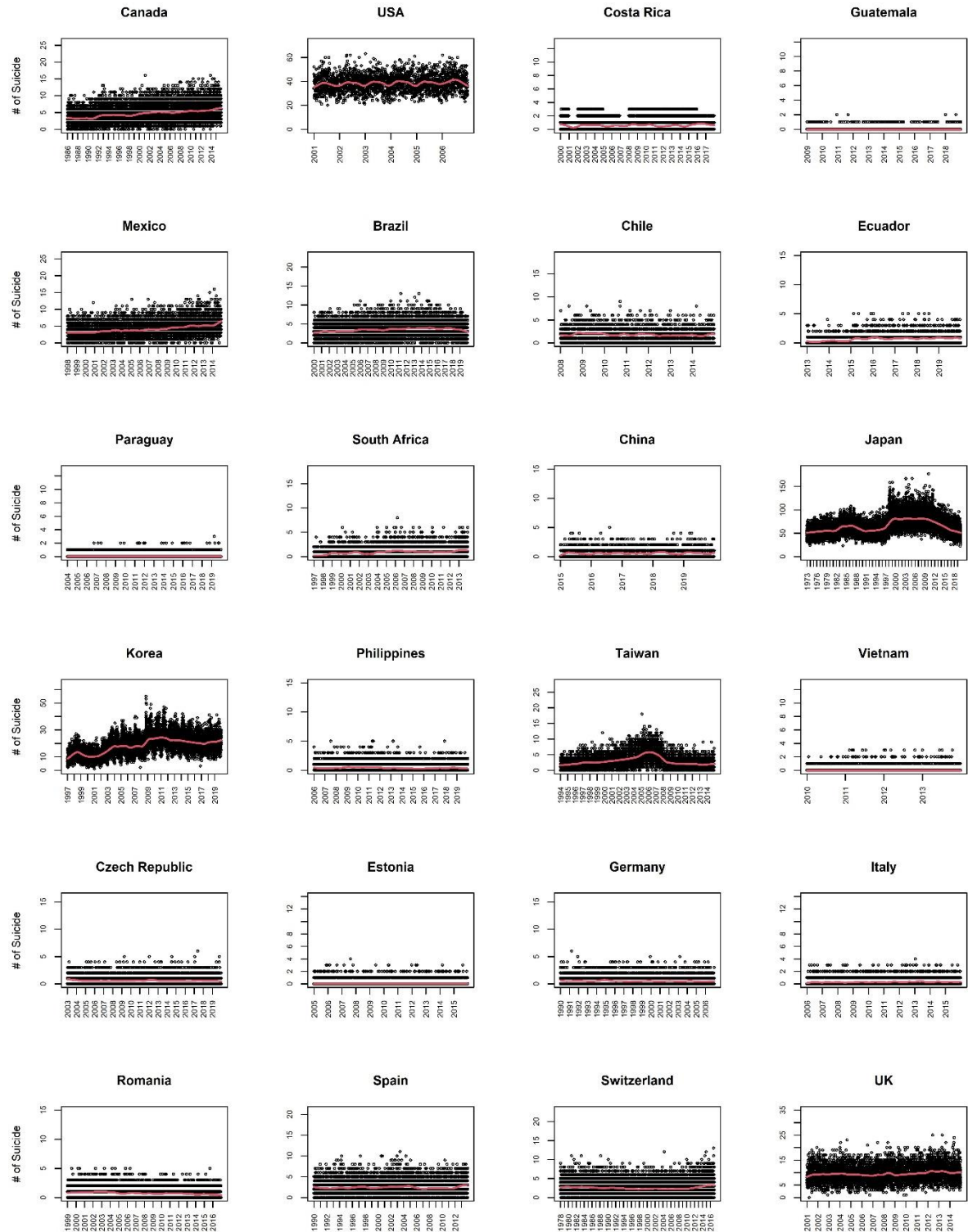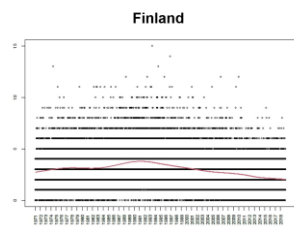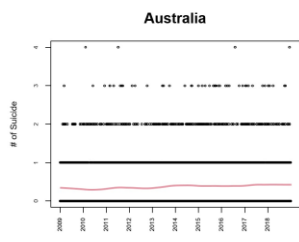
Details on Statistical Analysis

This study adopted a standardized two-stage analytic approach incorporating a time-series analysis and meta-regression. In the first stage, we fitted a generalized linear model with Poisson distribution (for count response variable) to estimate the impacts of the day-of-the-week and national holidays on suicide risk, concurrently. As predictors, we added an indicator variable for the day-of-the-week with Wed as a reference point, and indicator variables for national holidays and their neighboring days (before two to after two days) for each type of holiday: New Year's Day, Christmas, and all other national holidays. For example, we did one-hot encoding (1 and 0) for two-day before New Year's Day, one day before New Year's Day, New Year's Day, one-day after New Year's Day, and two-day after New Year's Day, respectively, and did the same procedures for other two types of holidays (Christmas and other national holidays, individually). This approach is statistically equivalent to an unconstrained distributed lag model.[1] And we put these one-hot encoding indicator variables and the day-of-the-week indicator variable concurrently in the regression model to estimate conditional estimates (i.e. adjust each other).

Further, in order to control the confounding effect from ambient temperatures, we adjusted the for the suicide count-weighted (to address spatial heterogeneity and different suicide population sizes of different locations in a certain country) daily mean temperature using a cross-basis function with a quadratic B-spline, with three internal knots placed at the 25th, 50th, and 75th percentiles of the country-specific temperature distribution. For the lag-response association for temperature, we used dummy parameterization-defining intervals with lag 0 and lag 1-2. The modeling choices for temperature were based on the previous MCC study for the ambient temperature-suicide association that conducted relevant statistical tests with various lag days and modeling specifications.[2]

Also, in order to control the seasonality and long-term trend, which can confound the associations for suicide with the day-of-the-week and holidays, a natural cubic spline of time (date) with four degrees of freedom per year. The selection of degrees of freedom (df) was also selected based on statistical tests (df with the lowest AIC).[2]

Therefore, the final regression model at the first-stage analysis included indicator variables for the day-of-the-week and holidays, a cross-basis function of weighted temperature (temperature impacts adjusted), and a natural cubic spline of time (seasonality and long-term trend adjusted). We performed the regression model for each country and collected the estimates (i.e. regression coefficients) for the-day-of-the-week (reference: Wed) and estimates for each type of holiday (reference: the days other than the 5-day period for each holiday type) with the corresponding variance-covariance matrix.

In the second stage, we did a meta-regression to pool the estimates from the first-stage regression. We pooled the estimates for the day-of-the-week, the estimates for Christmas and neighboring days (-2 to 2 days), the estimates for New Year's Day and neighboring days, and the estimates for other national holidays and their neighboring days with the corresponding 95% confidence intervals, using a separate meta-regression with a "region" indicator (North America, Central America, South America, Europe, Africa & Oceania, and Asia) to reduce the heterogeneities of the first-stage estimates (see Table S5). The pooled results are the results on the "total" population in Figure 2-5. Then, we calculated BLUP (Best Linear Unbiased Predictions) from each meta-regression to compute country-specific estimates and their 95% confidence intervals. The estimates are displayed in Figure 2-5 as "country-specific" relative risks.

Finally, in order to examine the difference between males and females, and the difference between people aged less than 64 and people aged 65 or older, we repeated the aforementioned analytic procedures for each sub-population (males, females, people aged less than 64, and people aged 65 or older, individually). However, due to the convergence problem in a generalized linear model (i.e. due to the small counts), we could not get estimates on holidays for people aged 65 or older in the first-stage analysis in many locations. Therefore, we were not able to provide the pooled estimates for the elderly population.

Supplementary results

Table S1. Summary statistics for the number of suicides for 740 locations in 26 countries.

Location	Country	Study period	Total number of suicides	Total number of male suicides (%)	Total number of non-elderly suicides (%)
Vancouver	Canada	1986-2015	5405	74.4	84.1
Victoria	Canada	1986-2015	1094	73.2	78.6
Abbotsford	Canada	1986-2015	710	78.3	84.9
Edmonton	Canada	1986-2015	4530	74.5	91.0
Calgary	Canada	1986-2015	3767	76.4	90.8
Saskatoon	Canada	1986-2015	943	76.7	90.7
Regina	Canada	1986-2015	847	77.8	90.0
Winnipeg	Canada	1986-2015	2693	71.1	88.0
Kitchener - Waterloo	Canada	1986-2015	1069	75.5	86.4
Toronto	Canada	1986-2015	10437	71.8	84.7
Thunder bay	Canada	1986-2015	666	78.5	86.6
Sudbury	Canada	1986-2015	768	79.9	84.8
Windsor	Canada	1986-2015	990	78.0	85.8
London	Canada	1986-2015	1186	73.9	86.9
Kingston	Canada	1986-2015	649	80.9	86.7
Hamilton	Canada	1986-2015	1212	75.7	86.4
Ottawa	Canada	1986-2015	2297	74.2	88.0
Montreal	Canada	1986-2015	6134	72.8	88.3
Saint_john_NB	Canada	1986-2015	579	81.0	86.9
Halifax	Canada	1986-2015	1146	78.8	88.2
St_john_NFL	Canada	1986-2015	629	81.2	88.6
Oakville	Canada	1986-2015	899	72.5	85.3
Oshawa	Canada	1986-2015	1134	77.2	88.4
Sault_Ste_Marie	Canada	1986-2015	433	78.1	82.2
Sarnia	Canada	1986-2015	392	81.1	84.9
Niagara	Canada	1986-2015	1258	77.1	83.5
Akron, OH	United States	2001-2006	367	76.3	83.7
Albuquerque, NM	United States	2001-2006	620	79.5	84.7
Allentown-Bethlehem, PA	United States	2001-2006	227	81.5	85.9
Atlanta, GA	United States	2001-2006	1603	78.5	88.0
Atlantic City, NJ	United States	2001-2006	134	78.4	83.6
Austin, TX	United States	2001-2006	605	73.1	87.4
Bakersfield, CA	United States	2001-2006	419	79.2	82.1

Baltimore, MD	United States	2001-2006	731	81.5	83.7
Barnstable-Yarmouth, MA	United States	2001-2006	120	77.5	82.5
Bergen-Passaic, NJ	United States	2001-2006	474	76.8	77.8
Birmingham, AL	United States	2001-2006	649	80.7	82.0
Boston, MA	United States	2001-2006	957	74.8	86.1
Baton Rouge, LA	United States	2001-2006	221	81.0	86.4
Brownsville, TX	United States	2001-2006	116	79.3	67.2
Buffalo, NY	United States	2001-2006	381	88.5	84.3
Canton-Massillon, OH	United States	2001-2006	213	80.3	79.8
Charleston, WV	United States	2001-2006	173	79.2	85.0
Charlotte, NC	United States	2001-2006	420	78.1	86.4
Chattanooga, TN	United States	2001-2006	206	77.7	85.4
Chicago, IL	United States	2001-2006	2886	78.3	85.2
Cincinnati, OH	United States	2001-2006	513	76.2	82.7
Cleveland, OH	United States	2001-2006	1197	79.2	82.0
Columbia, SC	United States	2001-2006	326	77.9	85.9
Columbus, OH	United States	2001-2006	658	79.0	89.1
Dallas, TX	United States	2001-2006	1263	76.7	87.3
Daytona Beach, FL	United States	2001-2006	537	74.9	69.8
Dayton, OH	United States	2001-2006	395	77.2	84.3
Denver, CO	United States	2001-2006	1419	74.9	87.9
Des Moines, IA	United States	2001-2006	263	78.3	87.5
Detroit, MI	United States	2001-2006	2386	79.2	86.8
Dutchess County, NY	United States	2001-2006	96	83.3	86.5
El Paso, TX	United States	2001-2006	291	81.8	81.1
Erie, PA	United States	2001-2006	158	86.7	84.8
Flint, MI	United States	2001-2006	287	78.0	84.7
Fresno, CA	United States	2001-2006	436	82.8	85.1
Ft. Lauderdale, FL	United States	2001-2006	1267	73.8	81.7
Fort Myers-Cape Coral, FL	United States	2001-2006	494	76.3	74.7
Fort Pierce-Port St. Lucie, FL	United States	2001-2006	327	79.2	73.4
Fort Worth-Arlington, TX	United States	2001-2006	917	77.8	89.4
Galveston, TX	United States	2001-2006	208	79.3	87.5
Gary, IN	United States	2001-2006	274	82.5	88.0
Grand Rapids, MI	United States	2001-2006	292	78.4	89.4
Greensboro, NC	United States	2001-2006	269	72.9	85.1
Greenville, SC	United States	2001-2006	303	74.9	88.4
Hamilton, OH	United States	2001-2006	227	78.0	85.9
Harrisburg-Carlisle, PA	United States	2001-2006	140	81.4	86.4

Hartford, CT	United States	2001-2006	393	79.1	84.2
Houston, TX	United States	2001-2006	2072	76.5	87.5
Indianapolis, IN	United States	2001-2006	618	79.3	89.5
Jacksonville, FL	United States	2001-2006	674	77.2	85.6
Jersey City, NJ	United States	2001-2006	162	82.7	82.1
Kansas City, MO-KS	United States	2001-2006	1077	79.0	84.9
Knoxville, TN	United States	2001-2006	410	80.5	80.5
Lakeland-Winter Haven, FL	United States	2001-2006	389	76.6	79.2
Lancaster, PA	United States	2001-2006	250	85.2	87.6
Lansing, MI	United States	2001-2006	145	74.5	89.7
Las Vegas, NV-AZ	United States	2001-2006	1891	79.0	79.3
Los Angeles, CA	United States	2001-2006	4167	77.8	80.9
Louisville, KY	United States	2001-2006	525	78.7	85.5
Little Rock, AR	United States	2001-2006	272	80.9	90.8
Lubbock, TX	United States	2001-2006	172	77.3	84.3
Madison, WI	United States	2001-2006	300	76.7	89.0
McAllen-Edinburg-Mission, TX	United States	2001-2006	176	86.4	80.1
Melbourne-Titusville-Palm Bay, FL	United States	2001-2006	542	75.3	76.2
Memphis, TN	United States	2001-2006	519	80.9	83.0
Miami, FL	United States	2001-2006	1207	81.2	71.2
Middlesex, NJ	United States	2001-2006	244	74.6	87.7
Milwaukee, WI	United States	2001-2006	784	77.7	86.6
Minneapolis-St. Paul, MN	United States	2001-2006	887	77.7	86.2
Mobile, AL	United States	2001-2006	233	79.8	88.4
Monmouth-Ocean, NJ	United States	2001-2006	515	80.8	80.0
Myrtle Beach, SC	United States	2001-2006	186	79.0	83.9
Naples, FL	United States	2001-2006	210	82.9	72.4
Nashua, NH	United States	2001-2006	237	75.9	93.2
Nashville, TN	United States	2001-2006	458	77.7	85.8
Nassau-Suffolk, NY	United States	2001-2006	827	82.5	84.3
Newark, NJ	United States	2001-2006	393	81.4	78.4
Newburgh, NY	United States	2001-2006	125	84.0	81.6
New Haven-Meriden, CT	United States	2001-2006	398	78.4	85.2
New London, CT	United States	2001-2006	151	76.2	86.8
New York, NY	United States	2001-2006	2642	74.0	82.5
Oakland, CA	United States	2001-2006	1184	74.7	78.8
Ocala, FL	United States	2001-2006	302	75.8	69.2
Oklahoma City, OK	United States	2001-2006	570	77.4	87.5
Omaha, NE	United States	2001-2006	277	81.6	85.9

Orange County, CA	United States	2001-2006	1376	74.3	81.2
Orlando, FL	United States	2001-2006	851	76.1	85.2
Pensacola, FL	United States	2001-2006	239	77.0	82.0
Philadelphia, PA-NJ	United States	2001-2006	2580	78.6	85.8
Phoenix, AZ	United States	2001-2006	2744	79.4	83.2
Pittsburgh, PA	United States	2001-2006	868	80.3	83.1
Portland, ME	United States	2001-2006	165	78.2	88.5
Portland, OR	United States	2001-2006	1132	77.0	86.6
Providence-Fall River, RI-MA	United States	2001-2006	116	81.0	83.6
Punta Gorda, FL	United States	2001-2006	160	76.3	71.3
Raleigh, NC	United States	2001-2006	337	73.0	85.2
Reading, PA	United States	2001-2006	271	82.7	80.4
Riverside-San Bernardino, CA	United States	2001-2006	2037	79.7	80.5
Rochester, NY	United States	2001-2006	277	81.2	83.4
Rockford, IL	United States	2001-2006	173	77.5	86.1
Sacramento, CA	United States	2001-2006	917	76.8	84.5
Saginaw, MI	United States	2001-2006	125	83.2	85.6
Salinas, CA	United States	2001-2006	201	74.1	79.6
Salt Lake City, UT	United States	2001-2006	805	80.5	90.7
San Antonio, TX	United States	2001-2006	870	78.9	86.8
Sarasota-Bradenton, FL	United States	2001-2006	594	75.4	72.7
Scranton--Wilkes-Barre--Hazleton, PA	United States	2001-2006	435	81.8	87.6
San Diego, CA	United States	2001-2006	1758	77.0	78.7
Seattle, WA	United States	2001-2006	1189	78.0	83.8
San Francisco, CA	United States	2001-2006	897	77.0	78.9
Shreveport, LA	United States	2001-2006	166	75.3	79.5
San Jose, CA	United States	2001-2006	737	74.8	82.5
Spokane, WA	United States	2001-2006	396	77.3	83.6
Springfield, MA	United States	2001-2006	212	79.7	81.6
Stamford-Norwalk, CT	United States	2001-2006	337	79.5	82.2
St. Louis, MO-IL	United States	2001-2006	1027	76.1	83.2
Stockton-Lodi, CA	United States	2001-2006	300	82.0	84.7
Syracuse, NY	United States	2001-2006	201	82.6	86.6
Tacoma, WA	United States	2001-2006	549	81.6	85.4
Tampa-St. Petersburg-Clearwater, FL	United States	2001-2006	811	76.7	80.9
Toledo, OH	United States	2001-2006	316	77.8	83.9
Trenton, NJ	United States	2001-2006	108	82.4	89.8
Tucson, AZ	United States	2001-2006	867	76.5	77.6
Tulsa, OK	United States	2001-2006	507	81.1	85.2

Utica-Rome, NY	United States	2001-2006	122	84.4	88.5
Ventura County, CA	United States	2001-2006	445	77.8	80.4
Virginia Beach, VA	United States	2001-2006	766	76.1	82.4
Washington, DC-MD-VA	United States	2001-2006	244	80.3	84.0
Wichita, KS	United States	2001-2006	334	80.8	87.4
Wilmington, DE	United States	2001-2006	311	77.8	89.1
Worcester, MA	United States	2001-2006	319	83.4	85.0
West Palm Beach-Boca Raton, FL	United States	2001-2006	921	73.3	74.5
York, PA	United States	2001-2006	264	85.2	80.3
Youngstown-Warren, OH	United States	2001-2006	258	84.5	82.6
SanJose	Costa Rica	2000-2017	4345	NA	NA
Guatemala	Guatemala	2009-2018	145	NA	NA
Guadalajara	Mexico	1998-2014	3910	81.7	94.3
Ciudad Juarez	Mexico	1998-2014	1200	85.2	93.8
Comarca Lagunera	Mexico	1998-2014	858	85.8	91.1
Leon	Mexico	1998-2014	1315	83.4	96.1
Monterrey	Mexico	1998-2014	2936	84.2	91.7
Puebla-Tlaxcala	Mexico	1998-2014	1831	76.8	93.7
San Luis Potosi	Mexico	1998-2014	910	82.5	94.5
Tijuana	Mexico	1998-2014	985	87.5	95.4
Toluca de Lerdo	Mexico	1998-2014	726	75.1	95.2
Valley of Mexico	Mexico	1998-2014	11658	79.1	93.1
Belo Horizonte	Brazil	2000-2019	2828	70.6	92.1
Brasilia	Brazil	2000-2019	2385	74.4	93.1
Curitiba	Brazil	2000-2019	1821	73.0	91.3
Caratinga	Brazil	2000-2019	105	78.1	95.2
Fortaleza	Brazil	2000-2019	2993	77.3	91.8
Juiz de Fora	Brazil	2000-2019	518	66.6	93.4
Londrina	Brazil	2000-2019	607	78.3	89.5
Maceio	Brazil	2000-2019	685	75.5	92.8
Palmas	Brazil	2000-2019	259	74.5	94.6
Porto Alegre	Brazil	2000-2019	2161	76.6	87.6
Rio Branco	Brazil	2000-2019	412	77.4	94.4
Sao Luis	Brazil	2000-2019	749	78.8	93.1
Salvador	Brazil	2000-2019	1039	71.6	88.6
Sao Paulo	Brazil	2000-2019	9166	76.0	90.6
Vitoria	Brazil	2000-2019	417	67.6	90.2
Santiago	Chile	2008-2014	4876	78.3	90.3
Guayaquil	Ecuador	2013-2019	778	81.5	88.3

Quito	Ecuador	2013-2019	1160	76.3	92.7
Asuncion	Paraguay	2004-2019	549	NA	NA
Adelaide	Australia	2009-2018	36	72.2	88.9
Brisbane	Australia	2009-2018	1311	74.6	88.7
Melbourne	Australia	2009-2018	68	70.6	91.2
Perth	Australia	2009-2018	53	69.8	75.5
Sydney	Australia	2009-2018	343	68.5	83.1
Alfred Nzo	South Africa	1997-2013	101	80.2	93.1
Amajuba	South Africa	1997-2013	41	65.9	97.6
Amathole	South Africa	1997-2013	241	81.3	95.0
Buffalo City	South Africa	1997-2013	42	61.9	100.0
Bojanala	South Africa	1997-2013	108	79.6	96.3
Cacadu	South Africa	1997-2013	26	65.4	96.2
Chris Hani	South Africa	1997-2013	64	65.6	85.9
Central Karoo	South Africa	1997-2013	27	77.8	96.3
City of Cape Town	South Africa	1997-2013	453	81.7	93.6
Capricorn	South Africa	1997-2013	33	57.6	90.9
Cape Winelands	South Africa	1997-2013	93	76.3	96.8
City of Johannesburg	South Africa	1997-2013	79	59.5	88.6
City of Tshwane	South Africa	1997-2013	131	81.7	94.7
Dr Kenneth Kaunda	South Africa	1997-2013	64	75.0	89.1
Dr Ruth Segomotsi Mompati	South Africa	1997-2013	42	73.8	95.2
Eden	South Africa	1997-2013	180	76.7	92.2
Ehlanzeni	South Africa	1997-2013	286	80.4	90.2
Ekurhuleni	South Africa	1997-2013	60	71.7	91.7
eThekwini	South Africa	1997-2013	109	68.8	95.4
Frances Baard	South Africa	1997-2013	171	73.7	96.5
Fezile Dabi	South Africa	1997-2013	19	52.6	100.0
Gert Sibande	South Africa	1997-2013	209	83.7	95.2
Greater Sekhukhune	South Africa	1997-2013	33	72.7	90.9
iLembe	South Africa	1997-2013	26	69.2	100.0
Joe Gqabi	South Africa	1997-2013	47	74.5	89.4
John Taolo Gaetsewe	South Africa	1997-2013	42	83.3	97.6
Lejweleputswa	South Africa	1997-2013	162	80.2	91.4
Mangaung	South Africa	1997-2013	119	83.2	96.6
Mopani	South Africa	1997-2013	315	77.5	85.4
Ngaka Modiri Molema	South Africa	1997-2013	260	86.2	93.1
Nkangala	South Africa	1997-2013	81	81.5	91.4
Nelson Mandela Bay	South Africa	1997-2013	192	77.6	95.8

Namakwa	South Africa	1997-2013	47	91.5	100.0
O.R.Tambo	South Africa	1997-2013	64	60.9	89.1
Overberg	South Africa	1997-2013	76	86.8	97.4
Pixley ka Seme	South Africa	1997-2013	77	80.5	96.1
Sedibeng	South Africa	1997-2013	30	56.7	96.7
Sisonke	South Africa	1997-2013	355	80.3	94.9
Siyanda	South Africa	1997-2013	320	72.5	96.3
Thabo Mofutsanyane	South Africa	1997-2013	52	80.8	92.3
Ugu	South Africa	1997-2013	116	67.2	96.6
uMgungundlovu	South Africa	1997-2013	196	82.7	96.9
uMkhanyakude	South Africa	1997-2013	96	68.8	91.7
uMzinyathi	South Africa	1997-2013	222	76.1	95.5
uThukela	South Africa	1997-2013	59	74.6	89.8
uThungulu	South Africa	1997-2013	287	76.3	94.1
Vhembe	South Africa	1997-2013	88	71.6	84.1
West Coast	South Africa	1997-2013	38	81.6	97.4
West Rand	South Africa	1997-2013	37	67.6	100.0
Waterberg	South Africa	1997-2013	25	68.0	92.0
Xhariep	South Africa	1997-2013	28	92.9	96.4
Zululand	South Africa	1997-2013	35	71.4	91.4
Suzhou	China	2015-2019	1247	60.4	66.2
Hokkaido	Japan	1973-2019	54250	68.4	74.7
Aomori	Japan	1973-2019	16687	71.2	71.7
Iwate	Japan	1973-2019	18066	66.8	65.7
Miyagi	Japan	1973-2019	20206	68.3	75.3
Akita	Japan	1973-2019	16705	65.9	64.2
Yamagata	Japan	1973-2019	13216	66.1	65.6
Fukushima	Japan	1973-2019	20190	67.7	70.4
Ibaraki	Japan	1973-2019	25336	68.1	74.5
Tochigi	Japan	1973-2019	19113	66.4	71.2
Gunma	Japan	1973-2019	20007	65.3	69.0
Saitama	Japan	1973-2019	53992	66.6	75.8
Chiba	Japan	1973-2019	45227	68.2	76.1
Tokyo	Japan	1973-2019	102322	65.9	78.4
Kanagawa	Japan	1973-2019	62695	68.1	78.0
Niigata	Japan	1973-2019	30406	64.0	62.5
Toyama	Japan	1973-2019	11748	65.3	67.3
Ishikawa	Japan	1973-2019	9996	68.2	72.9
Fukui	Japan	1973-2019	7160	67.5	66.4

Yamanashi	Japan	1973-2019	8222	68.5	72.6
Nagano	Japan	1973-2019	20321	64.8	68.4
Gifu	Japan	1973-2019	19044	64.0	67.1
Shizuoka	Japan	1973-2019	30062	69.6	73.0
Aichi	Japan	1973-2019	54903	65.5	73.4
Mie	Japan	1973-2019	15103	65.5	70.0
Shiga	Japan	1973-2019	10620	65.6	70.8
Kyoto	Japan	1973-2019	22119	64.7	73.2
Osaka	Japan	1973-2019	79081	67.0	76.6
Hyogo	Japan	1973-2019	49010	65.8	73.8
Nara	Japan	1973-2019	10563	64.5	71.8
Wakayama	Japan	1973-2019	11277	65.3	67.9
Tottori	Japan	1973-2019	5817	68.9	70.4
Shimane	Japan	1973-2019	9207	68.3	65.0
Okayama	Japan	1973-2019	15917	67.8	72.4
Hiroshima	Japan	1973-2019	25130	67.3	72.2
Yamaguchi	Japan	1973-2019	15655	67.6	69.5
Tokushima	Japan	1973-2019	7220	64.9	69.8
Kagawa	Japan	1973-2019	8892	66.2	72.0
Ehime	Japan	1973-2019	14630	67.2	72.3
Kochi	Japan	1973-2019	8940	69.3	69.3
Fukuoka	Japan	1973-2019	45985	70.3	76.3
Saga	Japan	1973-2019	7902	71.1	74.3
Nagasaki	Japan	1973-2019	14248	71.0	73.9
Kumamoto	Japan	1973-2019	17302	68.3	71.5
Oita	Japan	1973-2019	11592	67.9	71.1
Miyazaki	Japan	1973-2019	13413	68.9	68.6
Kagoshima	Japan	1973-2019	18817	68.8	69.6
Okinawa	Japan	1973-2019	11905	76.9	84.1
Seoul	Korea (South)	1997-2019	45389	67.1	77.3
Busan	Korea (South)	1997-2019	20301	69.8	76.9
Daegu	Korea (South)	1997-2019	12724	67.4	78.4
Incheon	Korea (South)	1997-2019	15096	69.3	76.0
Gwangju	Korea (South)	1997-2019	6554	67.8	80.7
Daejeon	Korea (South)	1997-2019	7654	66.2	76.3
Ulsan	Korea (South)	1997-2019	5333	70.1	81.5
Suwon	Korea (South)	1997-2019	5096	65.1	78.0
Icheon	Korea (South)	1997-2019	1245	67.2	68.8
Gangneung	Korea (South)	1997-2019	1571	69.3	69.1

Donghae	Korea (South)	1997-2019	687	66.7	67.2
Sokcho	Korea (South)	1997-2019	648	70.2	72.2
Wonju	Korea (South)	1997-2019	2086	70.9	71.6
Chuncheon	Korea (South)	1997-2019	1659	69.6	66.8
Taebaek	Korea (South)	1997-2019	373	75.9	80.7
Jecheon	Korea (South)	1997-2019	1086	70.6	68.6
Chungju	Korea (South)	1997-2019	1562	70.0	67.4
Boryeong	Korea (South)	1997-2019	1019	71.9	62.2
Seosan	Korea (South)	1997-2019	1369	67.7	65.4
Cheonan	Korea (South)	1997-2019	3207	68.1	77.1
Namwon	Korea (South)	1997-2019	608	71.7	63.8
Jeongeup	Korea (South)	1997-2019	828	72.7	67.6
Mokpo	Korea (South)	1997-2019	1291	67.9	79.6
Yeosu	Korea (South)	1997-2019	1422	72.8	76.2
Gumi	Korea (South)	1997-2019	1972	68.2	81.9
Mungyeong	Korea (South)	1997-2019	554	67.9	62.3
Andong	Korea (South)	1997-2019	1228	68.2	66.9
Yeongju	Korea (South)	1997-2019	826	68.4	66.0
Yoengcheon	Korea (South)	1997-2019	774	69.5	63.2
Pohang	Korea (South)	1997-2019	2592	67.8	78.2
Geojae	Korea (South)	1997-2019	1171	71.2	83.1
Milyang	Korea (South)	1997-2019	798	71.1	66.4
Jinju	Korea (South)	1997-2019	1843	69.1	71.8
Tongyeong	Korea (South)	1997-2019	901	70.6	76.5
Seogyupo	Korea (South)	1997-2019	887	72.5	75.4
Jeju	Korea (South)	1997-2019	2111	70.3	80.4
Caloocan	Philippines	2006-2019	382	76.2	96.9
Las Pinas	Philippines	2006-2019	194	84.5	95.9
Makati	Philippines	2006-2019	181	32.0	97.8
Manila	Philippines	2006-2019	1040	72.5	96.8
Muntinlupa	Philippines	2006-2019	196	77.6	98.0
Pasig	Philippines	2006-2019	306	42.5	97.7
Taguig	Philippines	2006-2019	159	78.6	97.5
Valenzuela	Philippines	2006-2019	214	46.5	98.6
Taipei	Taiwan	1994-2014	11724	65.6	78.5
Taichung	Taiwan	1994-2014	4682	66.3	81.5
Kaohsiung	Taiwan	1994-2014	6999	67.2	78.2
Ho Chi Minh	Vietnam	2010-2013	460	73.0	93.9
Brno	Czech Republic	2003-2019	779	80.5	68.0

Ostrava	Czech Republic	2003-2019	780	84.0	74.2
Prague	Czech Republic	2003-2019	2758	75.5	65.3
Kohtla-Jarve linn	Estonia	2005-2015	84	75.0	84.5
Narva linn	Estonia	2005-2015	141	77.3	71.6
Parnu linn	Estonia	2005-2015	89	76.4	68.5
Tallinn	Estonia	2005-2015	606	72.8	70.6
Tartu linn	Estonia	2005-2015	176	71.6	74.4
Alajärvi	Finland	1971-2018	63	81.0	88.9
Alavieska	Finland	1971-2018	32	87.5	78.1
Alavus	Finland	1971-2018	134	84.3	85.1
Asikkala	Finland	1971-2018	114	85.1	79.8
Askola	Finland	1971-2018	49	81.6	83.7
Aura	Finland	1971-2018	23	87.0	73.9
Akaa	Finland	1971-2018	151	83.4	76.8
Brändö	Finland	1971-2018	4	75.0	75.0
Eckerö	Finland	1971-2018	9	66.7	66.7
Enonkoski	Finland	1971-2018	22	81.8	86.4
Enontekiö	Finland	1971-2018	23	100.0	91.3
Espoo	Finland	1971-2018	1409	69.6	89.3
Eura	Finland	1971-2018	126	83.3	76.2
Eurajoki	Finland	1971-2018	94	80.9	77.7
Evijärvi	Finland	1971-2018	26	84.6	84.6
Finström	Finland	1971-2018	16	93.8	56.3
Forssa	Finland	1971-2018	227	80.2	81.5
Föglö	Finland	1971-2018	6	83.3	50.0
Geta	Finland	1971-2018	6	100.0	50.0
Haapajärvi	Finland	1971-2018	93	82.8	91.4
Haapavesi	Finland	1971-2018	100	82.0	89.0
Hailuoto	Finland	1971-2018	16	93.8	93.8
Halsua	Finland	1971-2018	11	90.9	81.8
Hamina	Finland	1971-2018	260	80.8	83.1
Hammarland	Finland	1971-2018	17	70.6	64.7
Hankasalmi	Finland	1971-2018	97	82.5	83.5
Hanko	Finland	1971-2018	99	80.8	80.8
Harjavalta	Finland	1971-2018	92	77.2	79.3
Hartola	Finland	1971-2018	73	87.7	82.2
Hattula	Finland	1971-2018	81	84.0	84.0
Hausjärvi	Finland	1971-2018	89	80.9	76.4

Heinävesi	Finland	1971-2018	68	86.8	86.8
Helsinki	Finland	1971-2018	6352	69.0	85.9
Vantaa	Finland	1971-2018	1446	71.7	90.7
Hirvensalmi	Finland	1971-2018	50	84.0	74.0
Hollola	Finland	1971-2018	207	82.6	80.2
Honkajoki	Finland	1971-2018	18	66.7	77.8
Huittinen	Finland	1971-2018	112	88.4	82.1
Humppila	Finland	1971-2018	29	93.1	82.8
Hyrynsalmi	Finland	1971-2018	47	83.0	83.0
Hyvinkää	Finland	1971-2018	467	77.7	87.4
Hämeenkyrö	Finland	1971-2018	97	78.4	68.0
Hämeenlinna	Finland	1971-2018	703	76.7	82.5
Heinola	Finland	1971-2018	290	80.0	79.7
Ii	Finland	1971-2018	104	80.8	86.5
Iisalmi	Finland	1971-2018	310	78.4	88.7
Iitti	Finland	1971-2018	95	84.2	85.3
Ikaalinen	Finland	1971-2018	68	82.4	83.8
Ilmajoki	Finland	1971-2018	96	81.3	79.2
Ilomantsi	Finland	1971-2018	111	91.0	84.7
Inari	Finland	1971-2018	98	86.7	92.9
Inkoo	Finland	1971-2018	28	85.7	85.7
Isojoki	Finland	1971-2018	40	87.5	82.5
Isokyrö	Finland	1971-2018	43	81.4	76.7
Imatra	Finland	1971-2018	434	79.3	84.6
Janakkala	Finland	1971-2018	159	86.8	76.7
Joensuu	Finland	1971-2018	757	79.3	90.1
Jokioinen	Finland	1971-2018	48	91.7	83.3
Jomala	Finland	1971-2018	19	63.2	68.4
Joroinen	Finland	1971-2018	83	86.7	83.1
Joutsa	Finland	1971-2018	110	85.5	80.0
Juuka	Finland	1971-2018	133	85.0	89.5
Juupajoki	Finland	1971-2018	31	83.9	83.9
Juva	Finland	1971-2018	120	88.3	82.5
Jyväskylä	Finland	1971-2018	1109	72.6	86.7
Jämijärvi	Finland	1971-2018	28	89.3	92.9
Jämsä	Finland	1971-2018	321	84.7	79.8
Järvenpää	Finland	1971-2018	347	73.8	92.8

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Kaarina	Finland	1971-2018	171	71.3	81.3
Kaavi	Finland	1971-2018	80	82.5	86.3
Kajaani	Finland	1971-2018	526	82.1	90.3
Kalajoki	Finland	1971-2018	75	81.3	78.7
Kangasala	Finland	1971-2018	242	78.1	81.0
Kangasniemi	Finland	1971-2018	120	78.3	82.5
Kankaanpää	Finland	1971-2018	127	81.9	85.0
Kannonkoski	Finland	1971-2018	23	82.6	91.3
Kannus	Finland	1971-2018	46	87.0	89.1
Karijoki	Finland	1971-2018	15	93.3	66.7
Karkkila	Finland	1971-2018	139	82.7	79.1
Karstula	Finland	1971-2018	46	87.0	82.6
Karvia	Finland	1971-2018	40	87.5	90.0
Kaskinen	Finland	1971-2018	17	88.2	76.5
Kauhajoki	Finland	1971-2018	164	79.9	82.9
Kauhava	Finland	1971-2018	154	89.0	84.4
Kauniainen	Finland	1971-2018	59	52.5	88.1
Kaustinen	Finland	1971-2018	28	78.6	96.4
Keitele	Finland	1971-2018	51	84.3	86.3
Kemi	Finland	1971-2018	371	80.3	87.9
Keminmaa	Finland	1971-2018	107	85.0	82.2
Kerava	Finland	1971-2018	78	82.1	94.9
Kerava	Finland	1971-2018	280	72.9	90.7
Keuruu	Finland	1971-2018	135	75.6	77.8
Kihniö	Finland	1971-2018	18	88.9	83.3
Kinnula	Finland	1971-2018	25	84.0	92.0
Kirkkonummi	Finland	1971-2018	191	72.3	86.9
Kitee	Finland	1971-2018	136	80.1	80.1
Kittilä	Finland	1971-2018	119	89.1	89.1
Kiuruvesi	Finland	1971-2018	148	79.1	83.8
Kivijärvi	Finland	1971-2018	12	75.0	66.7
Kokemäki	Finland	1971-2018	115	87.0	80.0
Kokkola	Finland	1971-2018	323	74.6	84.5
Kolari	Finland	1971-2018	77	85.7	93.5
Konnevesi	Finland	1971-2018	32	78.1	81.3
Kontiolahti	Finland	1971-2018	67	85.1	95.5
Korsnäs	Finland	1971-2018	17	88.2	64.7

Koski Tl	Finland	1971-2018	43	83.7	76.7
Kotka	Finland	1971-2018	737	77.1	86.2
Kouvola	Finland	1971-2018	1140	80.9	84.4
Kristiinankaupunki	Finland	1971-2018	60	83.3	76.7
Kruunupyy	Finland	1971-2018	19	73.7	68.4
Kuhmo	Finland	1971-2018	174	87.4	83.9
Kuhmoinen	Finland	1971-2018	48	91.7	72.9
Kumlinge	Finland	1971-2018	3	100.0	66.7
Kuopio	Finland	1971-2018	1274	76.2	89.4
Kuortane	Finland	1971-2018	41	82.9	73.2
Kurikka	Finland	1971-2018	279	82.4	80.6
Kustavi	Finland	1971-2018	13	84.6	69.2
Kuusamo	Finland	1971-2018	220	81.4	89.1
Outokumpu	Finland	1971-2018	118	76.3	87.3
Kyyjärvi	Finland	1971-2018	13	76.9	76.9
Kärkölä	Finland	1971-2018	83	86.7	80.7
Kärsämäki	Finland	1971-2018	47	85.1	87.2
Kökar	Finland	1971-2018	1	100.0	100.0
Kemijärvi	Finland	1971-2018	175	84.6	80.6
kemiönsaari	Finland	1971-2018	91	74.7	76.9
Lahti	Finland	1971-2018	1379	74.3	86.2
Laihia	Finland	1971-2018	78	83.3	76.9
Laitila	Finland	1971-2018	92	85.9	80.4
Lapinlahti	Finland	1971-2018	178	84.3	87.6
Lappajärvi	Finland	1971-2018	26	100.0	96.2
Lappeenranta	Finland	1971-2018	781	80.7	85.9
Lapinjärvi	Finland	1971-2018	52	88.5	73.1
Lapua	Finland	1971-2018	133	83.5	83.5
Laukaa	Finland	1971-2018	176	81.8	86.9
Lemi	Finland	1971-2018	25	76.0	84.0
Lemland	Finland	1971-2018	9	88.9	77.8
Lempäälä	Finland	1971-2018	134	79.1	83.6
Leppävirta	Finland	1971-2018	152	90.1	89.5
Lestijärvi	Finland	1971-2018	9	88.9	88.9
Lieksa	Finland	1971-2018	267	82.8	85.4
Lieto	Finland	1971-2018	102	75.5	81.4
Liminka	Finland	1971-2018	67	89.6	80.6

Liperi	Finland	1971-2018	105	85.7	86.7
Loimaa	Finland	1971-2018	173	83.8	75.1
Loppi	Finland	1971-2018	81	84.0	85.2
Loviisa	Finland	1971-2018	189	80.4	76.2
Luhanka	Finland	1971-2018	16	87.5	62.5
Lumijoki	Finland	1971-2018	10	90.0	90.0
Lumparland	Finland	1971-2018	2	100.0	50.0
Luoto	Finland	1971-2018	11	81.8	81.8
Luumäki	Finland	1971-2018	50	90.0	80.0
Lohja	Finland	1971-2018	408	79.7	83.8
Parainen	Finland	1971-2018	141	86.5	78.0
Maalahti	Finland	1971-2018	33	81.8	66.7
Maarianhamina - Mariehamn	Finland	1971-2018	97	78.4	77.3
Marttila	Finland	1971-2018	33	78.8	81.8
Masku	Finland	1971-2018	43	81.4	93.0
Merijärvi	Finland	1971-2018	15	80.0	73.3
Merikarvia	Finland	1971-2018	48	85.4	75.0
Miehikkälä	Finland	1971-2018	39	87.2	76.9
Mikkeli	Finland	1971-2018	655	78.6	83.2
Muhos	Finland	1971-2018	90	82.2	90.0
Multia	Finland	1971-2018	38	97.4	63.2
Muonio	Finland	1971-2018	32	96.9	93.8
Mustasaari	Finland	1971-2018	62	82.3	75.8
Muurame	Finland	1971-2018	58	82.8	91.4
Mynämäki	Finland	1971-2018	48	79.2	85.4
Myrskylä	Finland	1971-2018	34	79.4	73.5
Mäntsälä	Finland	1971-2018	151	80.8	79.5
Mäntyharju	Finland	1971-2018	110	82.7	80.9
Mänttä-Vilppula	Finland	1971-2018	195	84.6	84.6
Naantali	Finland	1971-2018	99	71.7	87.9
Nakkila	Finland	1971-2018	60	85.0	91.7
Nivala	Finland	1971-2018	88	89.8	92.0
Nokia	Finland	1971-2018	267	71.9	82.4
Nousiainen	Finland	1971-2018	31	80.6	80.6
Nurmes	Finland	1971-2018	204	84.8	85.8
Nurmijärvi	Finland	1971-2018	273	76.6	83.5
Närpes	Finland	1971-2018	60	83.3	80.0

Orimattila	Finland	1971-2018	173	80.3	82.7
Oripää	Finland	1971-2018	14	71.4	78.6
Orivesi	Finland	1971-2018	95	80.0	76.8
Oulainen	Finland	1971-2018	76	76.3	92.1
Oulu	Finland	1971-2018	1615	75.7	91.0
Padasjoki	Finland	1971-2018	47	78.7	78.7
Paimio	Finland	1971-2018	83	80.7	81.9
Paltamo	Finland	1971-2018	74	85.1	86.5
Parikkala	Finland	1971-2018	114	91.2	86.0
Parkano	Finland	1971-2018	108	84.3	79.6
Pelkosenniemi	Finland	1971-2018	28	96.4	78.6
Perho	Finland	1971-2018	25	84.0	80.0
Pertunmaa	Finland	1971-2018	39	84.6	74.4
Petäjävesi	Finland	1971-2018	62	87.1	77.4
Pieksämäki	Finland	1971-2018	295	76.9	85.4
Pielavesi	Finland	1971-2018	125	87.2	80.0
Pietarsaari	Finland	1971-2018	130	74.6	85.4
Pedersöre	Finland	1971-2018	41	85.4	85.4
Pihtipudas	Finland	1971-2018	114	88.6	85.1
Pirkkala	Finland	1971-2018	78	80.8	83.3
Pomarkku	Finland	1971-2018	79	91.1	86.1
Pomarkku	Finland	1971-2018	26	69.2	76.9
Pori	Finland	1971-2018	823	73.8	82.1
Pornainen	Finland	1971-2018	22	86.4	77.3
Posio	Finland	1971-2018	65	90.8	90.8
Pudasjärvi	Finland	1971-2018	178	84.8	88.8
Pukkila	Finland	1971-2018	21	76.2	76.2
Punkalaidun	Finland	1971-2018	44	77.3	75.0
Puolanka	Finland	1971-2018	80	87.5	90.0
Puumala	Finland	1971-2018	42	85.7	73.8
Pyhtää	Finland	1971-2018	61	88.5	80.3
Pyhäjoki	Finland	1971-2018	35	94.3	85.7
Pyhäjärvi	Finland	1971-2018	144	84.7	91.0
Pyhäntä	Finland	1971-2018	20	90.0	75.0
Pyhäranta	Finland	1971-2018	24	83.3	75.0
Pälkäne	Finland	1971-2018	78	80.8	79.5
Pöytyä	Finland	1971-2018	57	77.2	82.5

Porvoo	Finland	1971-2018	410	74.9	81.2
Raahe	Finland	1971-2018	295	84.7	89.2
Raisio	Finland	1971-2018	196	78.6	87.2
Rantasalmi	Finland	1971-2018	65	86.2	83.1
Ranua	Finland	1971-2018	62	83.9	85.5
Rauma	Finland	1971-2018	391	75.2	81.6
Rautalampi	Finland	1971-2018	64	79.7	78.1
Rautavaara	Finland	1971-2018	67	73.1	86.6
Rautjärvi	Finland	1971-2018	61	78.7	70.5
Reisjärvi	Finland	1971-2018	39	94.9	82.1
Riihimäki	Finland	1971-2018	281	79.0	83.6
Ristijärvi	Finland	1971-2018	32	87.5	84.4
Rovaniemi	Finland	1971-2018	616	80.7	89.0
Ruokolahti	Finland	1971-2018	69	76.8	87.0
Ruovesi	Finland	1971-2018	68	77.9	76.5
Rusko	Finland	1971-2018	27	81.5	81.5
Rääkkylä	Finland	1971-2018	44	88.6	93.2
Raasepori	Finland	1971-2018	265	81.5	72.5
Saarijärvi	Finland	1971-2018	107	86.0	78.5
Salla	Finland	1971-2018	86	90.7	88.4
Salo	Finland	1971-2018	522	78.5	77.8
Saltvik	Finland	1971-2018	11	72.7	90.9
Sauvo	Finland	1971-2018	30	80.0	93.3
Savitaipale	Finland	1971-2018	62	87.1	77.4
Savonlinna	Finland	1971-2018	480	85.2	84.6
Savukoski	Finland	1971-2018	39	87.2	89.7
Seinäjoki	Finland	1971-2018	430	80.9	87.7
Sievi	Finland	1971-2018	36	83.3	88.9
Siikainen	Finland	1971-2018	31	83.9	90.3
Siikajoki	Finland	1971-2018	78	79.5	85.9
Siilinjärvi	Finland	1971-2018	183	75.4	89.6
Simo	Finland	1971-2018	49	89.8	89.8
Sipoo	Finland	1971-2018	106	72.6	85.8
Siuntio	Finland	1971-2018	38	76.3	89.5
Sodankylä	Finland	1971-2018	154	82.5	85.1
Soini	Finland	1971-2018	28	85.7	89.3
Somero	Finland	1971-2018	159	82.4	74.8

Sodankylä	Finland	1971-2018	90	86.7	80.0
Sotkamo	Finland	1971-2018	158	81.6	82.3
Sottunga	Finland	1971-2018	0	NA	NA
Sulkava	Finland	1971-2018	60	80.0	80.0
Sund	Finland	1971-2018	15	93.3	66.7
Suomussalmi	Finland	1971-2018	191	86.4	92.1
Suonenjoki	Finland	1971-2018	110	82.7	85.5
Sysmä	Finland	1971-2018	82	90.2	81.7
Säkylä	Finland	1971-2018	99	81.8	78.8
Vaala	Finland	1971-2018	69	92.8	89.9
Sastamala	Finland	1971-2018	247	80.6	81.4
Siikalatva	Finland	1971-2018	89	92.1	85.4
Taipalsaari	Finland	1971-2018	29	79.3	79.3
Taivalkoski	Finland	1971-2018	106	85.8	87.7
Taivassalo	Finland	1971-2018	11	72.7	63.6
Tammela	Finland	1971-2018	71	77.5	74.6
Tampere	Finland	1971-2018	2048	71.3	84.5
Tervo	Finland	1971-2018	31	90.3	77.4
Tervola	Finland	1971-2018	63	84.1	88.9
Teuva	Finland	1971-2018	69	79.7	81.2
Tohmajärvi	Finland	1971-2018	80	81.3	85.0
Toholampi	Finland	1971-2018	30	80.0	90.0
Toivakka	Finland	1971-2018	30	86.7	56.7
Tornio	Finland	1971-2018	189	80.4	86.8
Turku	Finland	1971-2018	1888	70.3	82.4
Pello	Finland	1971-2018	57	86.0	78.9
Tuusniemi	Finland	1971-2018	62	85.5	85.5
Tuusula	Finland	1971-2018	253	73.9	88.5
Tyrnävä	Finland	1971-2018	45	73.3	82.2
Ulvila	Finland	1971-2018	97	78.4	75.3
Urjala	Finland	1971-2018	74	86.5	85.1
Utajärvi	Finland	1971-2018	60	86.7	85.0
Utsjoki	Finland	1971-2018	20	90.0	80.0
Uurainen	Finland	1971-2018	43	81.4	69.8
Uusikaarlepyy	Finland	1971-2018	39	84.6	84.6
Uusikaupunki	Finland	1971-2018	185	78.4	83.2
Vaasa	Finland	1971-2018	467	77.5	85.7

Valkeakoski	Finland	1971-2018	216	76.4	83.3
Varkaus	Finland	1971-2018	285	76.8	84.6
Vehmaa	Finland	1971-2018	24	70.8	83.3
Vesanto	Finland	1971-2018	62	91.9	83.9
Vesilahti	Finland	1971-2018	40	82.5	87.5
Veteli	Finland	1971-2018	23	78.3	82.6
Vieremä	Finland	1971-2018	69	84.1	82.6
Vihti	Finland	1971-2018	207	75.4	83.6
Viitasaari	Finland	1971-2018	129	87.6	81.4
Vimpeli	Finland	1971-2018	24	70.8	91.7
Virolahti	Finland	1971-2018	43	76.7	76.7
Virrat	Finland	1971-2018	113	82.3	75.2
Vårdö	Finland	1971-2018	1	100.0	100.0
Vörå	Finland	1971-2018	51	82.4	78.4
Ylitornio	Finland	1971-2018	80	78.8	66.3
Ylivieska	Finland	1971-2018	114	82.5	91.2
Ylöjärvi	Finland	1971-2018	245	82.4	85.3
Ypäjä	Finland	1971-2018	31	90.3	83.9
Ähtäri	Finland	1971-2018	87	74.7	81.6
Äänekoski	Finland	1971-2018	309	79.3	88.3
Munich	Germany	1990-2006	3972	66.2	69.6
Rome	Italy	2006-2015	1606	71.5	66.9
Brasov	Romania	1999-2016	534	81.6	79.6
Bucuresti	Romania	1999-2016	1841	81.2	76.3
Cluj-Napoca	Romania	1999-2016	485	77.5	79.0
Constanta	Romania	1999-2016	573	77.3	78.0
Craiova	Romania	1999-2016	374	74.1	79.7
Galati	Romania	1999-2016	541	82.3	84.7
Iasi	Romania	1999-2016	556	80.0	88.1
Timisoara	Romania	1999-2016	476	76.7	75.0
Almeria	Spain	1990-2013	321	76.9	73.2
Cadiz	Spain	1990-2013	242	69.4	75.6
Cordoba	Spain	1990-2013	489	74.8	75.7
Granada	Spain	1990-2013	520	70.0	74.0
Huelva	Spain	1990-2013	186	68.3	76.3
Jaen	Spain	1990-2013	233	74.7	69.5
Malaga	Spain	1990-2013	1113	71.9	71.3
Sevilla	Spain	1990-2013	1173	71.8	72.2

Huesca	Spain	1990-2013	103	74.8	55.3
Teruel	Spain	1990-2013	67	79.1	50.7
Zaragoza	Spain	1990-2013	1076	68.6	65.3
Oviedo	Spain	1990-2013	517	66.2	58.2
Mallorca	Spain	1990-2013	553	80.1	75.9
LasPalmas	Spain	1990-2013	671	77.2	80.5
Tenerife	Spain	1990-2013	337	76.9	78.0
Santander	Spain	1990-2013	207	76.8	73.4
Albacete	Spain	1990-2013	227	72.7	74.0
CiudadReal	Spain	1990-2013	88	76.1	69.3
Cuenca	Spain	1990-2013	87	78.2	69.0
Guadalajara	Spain	1990-2013	94	68.1	69.1
Toledo	Spain	1990-2013	82	68.3	69.5
Avila	Spain	1990-2013	63	84.1	71.4
Burgos	Spain	1990-2013	308	73.7	72.7
Leon	Spain	1990-2013	223	69.1	67.7
Salamanca	Spain	1990-2013	242	67.8	73.1
Segovia	Spain	1990-2013	78	78.2	53.8
Soria	Spain	1990-2013	105	74.3	51.4
Valladolid	Spain	1990-2013	605	71.7	67.3
Zamora	Spain	1990-2013	110	71.8	55.5
Barcelona	Spain	1990-2013	2578	68.8	68.4
Girona	Spain	1990-2013	117	76.1	68.4
Lleida	Spain	1990-2013	238	72.3	67.2
Tarragona	Spain	1990-2013	226	74.3	75.2
Melilla	Spain	1990-2013	66	83.3	78.8
Badajoz	Spain	1990-2013	141	73.0	83.0
Caceres	Spain	1990-2013	99	78.8	70.7
ACoruna	Spain	1990-2013	532	67.9	69.2
Lugo	Spain	1990-2013	228	71.5	64.5
Ourense	Spain	1990-2013	233	63.5	66.1
Pontevedra	Spain	1990-2013	133	75.2	69.9
Logrono	Spain	1990-2013	296	46.3	40.2
Madrid	Spain	1990-2013	2180	73.8	71.8
Murcia	Spain	1990-2013	585	75.7	75.9
Pamplona	Spain	1990-2013	413	69.5	74.8
Bilbao	Spain	1990-2013	662	69.0	69.6
SanSebastian	Spain	1990-2013	344	66.3	65.7
Vitoria	Spain	1990-2013	447	75.8	69.6

Alicante	Spain	1990-2013	585	71.1	69.9
Castellon	Spain	1990-2013	317	68.1	59.3
Valencia	Spain	1990-2013	1458	65.9	72.6
Zurich	Switzerland	1978-2016	11135	64.2	62.5
Berne	Switzerland	1978-2016	8159	70.8	66.6
Lucerne	Switzerland	1978-2016	2372	70.7	75.1
Basel-Stadt	Switzerland	1978-2016	1916	60.6	64.9
St. Gallen	Switzerland	1978-2016	3510	71.2	72.4
Ticino	Switzerland	1978-2016	1554	68.1	68.0
Vaud	Switzerland	1978-2016	5315	66.8	65.4
Geneva	Switzerland	1978-2016	3352	59.0	67.4
East	United Kingdom	2001-2014	4841	77.3	81.9
East Midlands	United Kingdom	2001-2014	3731	79.1	84.1
London	United Kingdom	2001-2014	5358	74.3	85.9
North East	United Kingdom	2001-2014	2475	80.1	86.9
North West	United Kingdom	2001-2014	6945	79.1	86
South East	United Kingdom	2001-2014	7528	75.6	81.9
South West	United Kingdom	2001-2014	5192	75.6	81.4
Wales	United Kingdom	2001-2014	3415	80.1	84.5
West Midlands	United Kingdom	2001-2014	4892	79.3	83.9
Yorkshire & Humber	United Kingdom	2001-2014	4938	79.2	85.2

Table S2. Summary statistics of holidays (median and range of yearly counts) and holiday names including New Year's Day and Christmas in 26 countries.

Country	The annual number of holidays	Public holidays	Local holidays
Canada	9 (8-11)	Canada Day, Christmas, Good Friday, Labour Day, New Year's Day, Remembrance Day, Thanksgiving Day, Victoria Day	
United States	10.5 (10-13)	Christmas Day, Christmas Eve (2018), Columbus Day, Independence Day, Labor Day, Martin Luther King Jr. Day, Memorial Day, New Year's Day, Presidents' Day, Thanksgiving Day, Veterans Day	
Costa Rica	12 (11-13)	All Souls' Day, Annexation of Guanacaste, Battle of Rivas, Christmas Day, Day of the Cultures, Good Friday, Independence Day, Labor Day / May Day, Maundy Thursday, Mother's Day, New Year's Day, Our Lady of Los Angeles, Tropical Storm Otto (2016)	
Guatemala	14 (14-15)	All Saints' Day, Army Day Holiday, Bank Employee Day, Boxing Day, Christmas Day, Christmas Eve, Dia de la raza, Easter Saturday, Good Friday, Independence Day, Labor Day, Maundy Thursday, New Year's Day, New Year's Eve, Revolution of 1944	
Mexico	7 (7-9)	Benito Ju rez's Birthday Memorial, Christmas Day, Constitution Day, Inauguration day, Independence Day, Labor Day / May Day, Mexican general election, New Year's Day, Revolution Day Memorial	
Brazil	16 (15-16)	All Souls' Day, Carnival Tuesday, Christmas Day, Corpus Christi, Easter Sunday, Good Friday, Independence Day, Labor Day / May Day, New Year's Day, Our Lady Aparecida/Children's Day, Republic Proclamation Day, Tiradentes Day	
Chile	15 (15-16)	All Saints' Day, Army Day, Assumption of Mary, Chilean coup (1997), Christmas Day, Columbus Day, Corpus Christi, Good Friday, Holy Saturday, Inmaculate Conception Day, Labor Day / May Day, National Day, Navy Day, New Year's Day, Our Lady of Mount Carmel, Reformation Day, Saint Peter and Saint Paul	
Ecuador	12 (11-14)	All Souls' Day, Carnival, Christmas Day, Good Friday, Independence Day, Independence of Cuenca, Independence of Guayaquil, Labor Day / May Day, New Year's Day, New Year's Eve, The Battle of Pichincha	
Paraguay	12 (11-15)	Boqueron Battle Victory Day, Chaco Armistice, Christmas Day, Founding of Asuncion, Good Friday, Heroes' Day, Independence Day, Labor Day / May Day, Maundy Thursday, National Holiday, New Year's Day, Papal Visit (2015), Public Sector Half Day (2015), Virgin of Caacup Day	
Australia	8 (7-8)	ANZAC Day, Australia Day, Boxing Day, Christmas Day, Easter Monday, Good Friday, Holy Saturday, New Year's Day	
South Africa	13 (13-15)	Christmas Day, Day of Goodwill, Day of Reconciliation, Election Day (2011, 2016), Family Day, Freedom Day, Good Friday, Heritage Day, Human Rights Day, Municipal Elections (2016), National Women's Day, New Year's Day, Workers' Day, Youth Day	

China	30 (24-32)	Army Day, Children's Day, Chinese New Year, Dragon Boat Festival, International Women's Day, Labour Day, Mid-Autumn Festival, National Day, New Year's Day, Qing Ming Jie, Spring Festival, Victory Day, Youth Day
Japan	16 (13-21)	Autumn Equinox, Between Day, Children's Day, Christmas, Coming of Age Day, Constitution Memorial Day, Culture Day, Emperor's Birthday, Greenery Day, Labor Thanksgiving Day, Mountain Day, National Foundation Day, New Year's Day, Respect for the Aged Day, Sea Day, Shōwa Day, Sports Day, Spring Equinox
Korea	15 (13-18)	Arbor Day, Buddha's Birthday, Children's Day, Christmas Day, Christmas Eve (2002), Chuseok, Constitution Day, December Solstice (2002), Hangeul Proclamation Day, Independence Movement Day, Liberation Day, Local Election Day(2018), Memorial Day, National Assembly Election Day (2016), National Foundation Day, New Year's Day, New Year's Eve (2002), Presidential Election (2017), Seollal, Teacher's Day (2003)
Philippines	18 (16-22)	150th Birthday of Dr. Jose P. Rizal (2011), APEC Summit Extra Holiday (2015), All Saints' Day, Barangay Elections (2013), Bonifacio Day, Chinese Lunar New Year's Day, Christmas Day, Christmas Eve, Eid al-Adha (Feast of the Sacrifice), Eidul-Fitar, Good Friday, Holy Saturday, Independence Day, Labor Day, Maundy Thursday, National Elections (2010, 2016), National Heroes Day, New Year's Day, New Year's Eve, Ninoy Aquino Day, People Power Anniversary, Rizal Day, The Day of Valor
Taiwan	14 (13-15)	Armed Forces Day, Children's Day, Chinese New Year Holiday, Chinese New Year's Day, Chinese New Year's Eve, Dragon Boat Festival, Labor Day, Mid-Autumn Festival, National Day, Peace Memorial Day, Republic Day/New Year's Day, Tomb Sweeping Day, Victory Day
Vietnam	13 (12-13)	Independence Day, International Labor Day, International New Year's Day, Liberation Day/Reunification Day, Tet holiday, Vietnamese Kings' Commemoration Day, Vietnamese New Year, Vietnamese New Year's Eve
Czech Republic	12 (12-13)	Christmas Day, Christmas Eve, Easter Monday, Independent Czechoslovak State Day, Jan Hus Day, Labor Day / May Day, New Year's Day, Restoration of the Czech Independence Day, Saints Cyril and Methodius, St. Stephen's Day, St. Wenceslas Day, Struggle for Freedom and Democracy Day, Victory in Europe Day
Estonia	12 (12-12)	Boxing Day, Christmas Day, Christmas Eve, Easter Sunday, Good Friday, Independence Day, Independence Restoration Day, Labor Day, Midsummer Day, New Year's Day, Pentecost, Victory Day
Finland	13 (10-14)	All Saints' Day, Ascension Day, Boxing Day, Christmas Day, Christmas Eve, Easter Monday, Epiphany, Good Friday, Independence Day, May Day, Midsummer, Midsummer Eve, New Year's Day

Germany	**9 (9-11)**	Ascension Day, Boxing Day, Christmas Day, Day of German Unity, Easter Monday, Good Friday, May Day, New Year's Day, Repentance Day, Whit Monday	
Italy	**11 (11-11)**	150th Anniversary of National Unity (2011), All Saints' Day, Assumption of Mary, Christmas Day, Easter Monday, Epiphany, Feast of the Immaculate Conception, Labor Day / May Day, Liberation Day, New Year's Day, Republic Day, St. Stephen's Day	
Romania	**11 (10-15)**	Children's Day, Christmas Day, Christmas Eve (2016), Day after New Year's Day, Labor Day / May Day, National holiday, New Year's Day, New Year's Eve (2016), Orthodox Easter Day, Orthodox Easter Monday, Orthodox Good Friday (2018), Orthodox Pentecost, Orthodox Pentecost Monday, Second day of Christmas, St Andrew's Day, St Mary's Day, Unification Day	
Spain	**13.5 (12-15)**	All Saints' Day, Ash Wednesday (1996, 1997), Assumption of Mary, Christmas Day, Constitution Day, Epiphany, Good Friday, Hispanic Day, Immaculate Conception, Labor Day / May Day, New Year's Day	Easter Monday, Feast of Saint James the Apostle, Maundy Thursday, San Jose
Switzerland	**17 (16-17)**	Swiss National Day	Ascension Day, Assumption of Mary, Berchtold Day, Christmas Day, Corpus Christi, Easter Monday, Epiphany, Good Friday, Immaculate Conception, May Day, New Year's Day, Pentecost Monday, Saint Joseph's Day, St. Stephen's Day, Swiss Federal Fast
United Kingdom	**7 (6-9)**	Boxing Day, Christmas Day, Early May Bank Holiday, Golden Jubilee Bank Holiday (2002), Good Friday, New Year's Day, New Year's Eve (1999), Royal Wedding Bank Holiday (2011), Spring Bank Holiday, The Queen's Diamond Jubilee (2012)	

The holidays (year) indicate a national holiday exceptionally taken in the specific year.

Table S3. Country-specific distributions of other national holidays (national holidays except for New Year's Day and Christmas day) by day of the week. Numbers: the number of days over the study period (%)

	Period	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Canada	1986-2015	118 (57.8)	10 (4.9)	10 (4.9)	8 (3.9)	42 (20.6)	8 (3.9)	8 (3.9)
United States	2001-2006	34 (66.7)	2 (3.9)	1 (2.0)	8 (15.7)	3 (5.9)	1 (2.0)	2 (3.9)
Costa Rica	2000-2017	20 (11.5)	20 (11.5)	20 (11.5)	39 (22.4)	40 (23.0)	17 (9.8)	18 (10.3)
Guatemala	2009-2018	14 (11.6)	13 (10.7)	11 (9.1)	25 (20.7)	21 (17.4)	25 (20.7)	12 (9.9)
Mexico	1998-2014	32 (35.2)	10 (11.0)	7 (7.7)	10 (11.0)	9 (9.9)	11 (12.1)	12 (13.2)
Brazil	2000-2019	31 (11.1)	44 (15.8)	45 (16.1)	45 (16.1)	46 (16.5)	27 (9.7)	41 (14.7)
Chile	2008-2014	17 (18.3)	6 (6.5)	9 (9.7)	11 (11.8)	20 (21.5)	19 (20.4)	11 (11.8)
Ecuador	2013-2019	17 (23.6)	10 (13.9)	3 (4.2)	4 (5.6)	26 (36.1)	5 (6.9)	7 (9.7)
Paraguay	2004-2019	26 (16.6)	18 (11.5)	15 (9.6)	32 (20.4)	30 (19.1)	18 (11.5)	18 (11.5)
Australia	2009-2018	15 (28.8)	6 (11.5)	5 (9.6)	4 (7.7)	13 (25.0)	6 (11.5)	3 (5.8)
South Africa	1997-2013	56 (29.2)	20 (10.4)	21 (10.9)	19 (9.9)	37 (19.3)	19 (9.9)	20 (10.4)
China	2015-2019	23 (16.4)	16 (11.4)	15 (10.7)	19 (13.6)	21 (15.0)	23 (16.4)	23 (16.4)
Japan	1973-2019	221 (31.3)	79 (11.2)	82 (11.6)	80 (11.3)	79 (11.2)	84 (11.9)	81 (11.5)
Korea (South)	1997-2019	51 (16.9)	44 (14.6)	46 (15.2)	41 (13.6)	43 (14.2)	41 (13.6)	36 (11.9)
Philippines	2006-2019	63 (26.7)	25 (10.6)	21 (8.9)	31 (13.1)	44 (18.6)	25 (10.6)	27 (11.4)
Taiwan	1994-2014	41 (15.1)	39 (14.4)	39 (14.4)	39 (14.4)	38 (14)	39 (14.4)	36 (13.3)
Vietnam	2010-2013	10 (22.2)	6 (13.3)	5 (11.1)	5 (11.1)	7 (15.6)	6 (13.3)	6 (13.3)
Czech Republic	2003-2019	38 (21.8)	22 (12.6)	22 (12.6)	22 (12.6)	26 (14.9)	21 (12.1)	23 (13.2)
Estonia	2005-2015	11 (10.0)	11 (10.0)	11 (10)	12 (10.9)	22 (20.0)	11 (10.0)	32 (29.1)
Finland	1971-2018	83 (15.2)	32 (5.9)	33 (6.0)	60 (11.0)	125 (22.9)	183 (33.5)	30 (5.5)
Germany	1990-2006	41 (32.8)	8 (6.4)	12 (9.6)	25 (20.0)	23 (18.4)	7 (5.6)	9 (7.2)
Italy	2006-2015	19 (21.1)	12 (13.3)	11 (12.2)	11 (12.2)	13 (14.4)	14 (15.6)	10 (11.1)
Romania	1999-2016	49 (28.7)	11 (6.4)	15 (8.8)	13 (7.6)	16 (9.4)	17 (9.9)	50 (29.2)
Spain	1990-2013	53 (19.0)	29 (10.4)	32 (11.5)	54 (19.4)	54 (19.4)	29 (10.4)	28 (10.0)
Switzerland	1978-2016	129 (22.1)	49 (8.4)	51 (8.7)	126 (21.6)	90 (15.4)	52 (8.9)	87 (14.9)
United Kingdom	2001-2014	33 (50.0)	7 (10.6)	3 (4.5)	2 (3.0)	18 (27.3)	1 (1.5)	2 (3.0)

Table S4. Country-specific average suicide counts by day-of-the week. Numbers: average suicide count and standard deviation over the study period.

	Mean (SD)						
Country	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
Canada	5.2 (2.5)	4.9 (2.5)	4.7 (2.5)	4.7 (2.4)	4.6 (2.4)	4.5 (2.4)	4.6 (2.4)
United States	43.3 (7.4)	40.9 (6.9)	39.6 (6.9)	38.1 (6.1)	37.7 (6.7)	34.9 (6.1)	36.1 (6.4)
Costa Rica	0.7 (0.7)	0.6 (0.8)	0.7 (0.8)	0.7 (0.7)	0.6 (0.7)	0.7 (0.8)	0.7 (0.8)
Guatemala	0.0 (0.2)	0.1 (0.3)	0.0 (0.2)	0.0 (0.2)	0.0 (0.2)	0.0 (0.2)	0.0 (0.2)
Mexico	4.5 (2.4)	3.8 (2.1)	3.9 (2.2)	4.0 (2.2)	3.7 (2.0)	4.2 (2.2)	5.5 (2.6)
Brazil	3.8 (2.0)	3.4 (1.8)	3.4 (1.9)	3.5 (1.9)	3.5 (1.9)	3.6 (1.9)	3.8 (2.0)
Chile	2.0 (1.5)	1.8 (1.3)	1.7 (1.4)	1.6 (1.3)	1.7 (1.3)	2.2 (1.5)	2.4 (1.5)
Ecuador	0.8 (0.9)	0.7 (0.9)	0.7 (0.9)	0.7 (0.9)	0.7 (0.9)	0.8 (1.0)	0.9 (1.0)
Paraguay	0.1 (0.3)	0.1 (0.3)	0.1 (0.3)	0.1 (0.3)	0.1 (0.3)	0.1 (0.3)	0.1 (0.3)
Australia	0.5 (0.7)	0.5 (0.7)	0.5 (0.7)	0.5 (0.7)	0.5 (0.7)	0.4 (0.6)	0.5 (0.7)
South Africa	1.0 (1.1)	1.0 (1.1)	0.9 (1.1)	0.9 (1.0)	0.9 (1.0)	1.1 (1.1)	1.1 (1.1)
China	0.7 (0.9)	0.7 (0.8)	0.7 (0.8)	0.7 (0.8)	0.7 (0.8)	0.6 (0.8)	0.6 (0.9)
Japan	73.2 (19.9)	68.4 (17.9)	67.0 (17.3)	66.1 (16.9)	65.4 (16.5)	58.6 (13.5)	60.7 (15.1)
Korea (South)	20.5 (7.8)	19.7 (7.3)	19.1 (7.2)	18.8 (7.0)	18.3 (6.8)	16.6 (6.1)	17.1 (6.4)
Philippines	0.6 (0.8)	0.5 (0.7)	0.5 (0.7)	0.5 (0.8)	0.5 (0.7)	0.5 (0.8)	0.6 (0.8)
Taiwan	3.4 (2.4)	3.2 (2.3)	3.1 (2.2)	3.1 (2.3)	3.1 (2.2)	2.8 (2.0)	2.7 (1.9)
Vietnam	0.3 (0.6)	0.3 (0.6)	0.3 (0.6)	0.3 (0.6)	0.3 (0.6)	0.3 (0.6)	0.3 (0.6)
Czech Republic	0.8 (0.9)	0.7 (0.8)	0.7 (0.8)	0.7 (0.8)	0.7 (0.8)	0.6 (0.8)	0.6 (0.8)
Estonia	0.3 (0.5)	0.3 (0.5)	0.3 (0.6)	0.3 (0.5)	0.3 (0.5)	0.3 (0.5)	0.3 (0.6)
Finland	3.2 (1.9)	3.1 (1.9)	3.0 (1.8)	3.0 (1.8)	3.0 (1.9)	3.3 (2.0)	3.3 (2.0)
Germany	0.8 (0.9)	0.7 (0.9)	0.7 (0.8)	0.6 (0.8)	0.6 (0.8)	0.5 (0.7)	0.6 (0.8)
Italy	0.5 (0.7)	0.4 (0.7)	0.5 (0.7)	0.5 (0.7)	0.4 (0.6)	0.4 (0.6)	0.4 (0.6)
Romania	0.9 (1.0)	0.8 (0.9)	0.8 (0.9)	0.9 (1.0)	0.8 (0.8)	0.7 (0.8)	0.8 (0.9)
Spain	2.8 (1.7)	2.6 (1.7)	2.5 (1.7)	2.5 (1.6)	2.5 (1.6)	2.3 (1.6)	2.4 (1.6)
Switzerland	3.0 (1.8)	2.8 (1.7)	2.8 (1.7)	2.7 (1.7)	2.6 (1.7)	2.2 (1.5)	2.2 (1.5)
UK	11.0 (3.6)	9.9 (3.2)	9.9 (3.3)	9.6 (3.3)	9.4 (3.2)	8.8 (3.0)	8.9 (3.0)

Table S5. Risks of suicide by the day-of-the week (a reference day: Wednesdays) for 26 countries with the corresponding 95% confidence intervals (CI).

Region	Country	Subgroup	RR (95% CI)						
			Mon	Tue	Wed (Ref)	Thu	Fri	Sat	Sun
North America	Canada	Total	1.10 (1.04-1.16)	1.04 (1.01-1.06)	1.00 (1.00-1.00)	0.98 (0.96-1.00)	0.98 (0.95-1.02)	0.95 (0.83-1.10)	0.97 (0.82-1.14)
North America	Canada	Male	1.10 (1.05-1.15)	1.04 (1.00-1.07)	1.00 (1.00-1.00)	0.99 (0.96-1.03)	0.97 (0.94-1.01)	0.93 (0.81-1.08)	0.95 (0.84-1.08)
North America	Canada	Female	1.09 (1.02-1.17)	1.05 (0.98-1.12)	1.00 (1.00-1.00)	0.97 (0.92-1.03)	1.00 (0.93-1.06)	0.99 (0.82-1.20)	1.05 (0.84-1.31)
North America	Canada	Aged 0-64	1.09 (1.05-1.14)	1.03 (1.01-1.06)	1.00 (1.00-1.00)	0.98 (0.95-1.02)	0.98 (0.94-1.03)	0.95 (0.81-1.13)	0.97 (0.83-1.14)
North America	Canada	Aged 65 or older	1.16 (1.02-1.32)	1.07 (0.99-1.16)	1.00 (1.00-1.00)	0.99 (0.92-1.08)	0.98 (0.91-1.05)	0.95 (0.82-1.10)	0.97 (0.79-1.21)
North America	USA	Total	1.11 (1.06-1.17)	1.04 (1.01-1.06)	1.00 (1.00-1.00)	0.98 (0.96-1.00)	0.96 (0.93-1.00)	0.89 (0.77-1.03)	0.93 (0.79-1.09)
North America	USA	Male	1.12 (1.07-1.17)	1.04 (1.01-1.07)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.96 (0.93-0.99)	0.89 (0.77-1.02)	0.92 (0.81-1.04)
North America	USA	Female	1.11 (1.04-1.19)	1.04 (0.98-1.11)	1.00 (1.00-1.00)	0.96 (0.91-1.01)	0.97 (0.91-1.03)	0.92 (0.76-1.12)	0.95 (0.76-1.18)
North America	USA	Aged 0-64	1.10 (1.06-1.15)	1.03 (1.01-1.06)	1.00 (1.00-1.00)	0.97 (0.94-1.00)	0.96 (0.92-1.00)	0.88 (0.75-1.04)	0.91 (0.78-1.07)
North America	USA	Aged 65 or older	1.17 (1.04-1.33)	1.06 (0.98-1.14)	1.00 (1.00-1.00)	0.99 (0.92-1.07)	0.98 (0.92-1.05)	0.95 (0.82-1.10)	0.98 (0.80-1.21)
Central America	Costa Rica	Total	1.02 (0.95-1.10)	1.00 (0.96-1.05)	1.00 (1.00-1.00)	1.02 (0.98-1.07)	0.98 (0.92-1.03)	0.99 (0.85-1.16)	1.08 (0.91-1.29)
Central America	Guatemala	Total	1.06 (0.97-1.16)	1.00 (0.95-1.04)	1.00 (1.00-1.00)	1.01 (0.97-1.06)	0.96 (0.90-1.02)	0.95 (0.76-1.19)	1.09 (0.85-1.41)
Central America	Mexico	Total	1.14 (1.06-1.21)	0.98 (0.94-1.03)	1.00 (1.00-1.00)	1.01 (0.97-1.06)	0.95 (0.90-1.00)	1.09 (0.95-1.26)	1.41 (1.20-1.66)
Central America	Mexico	Male	1.14 (1.06-1.23)	0.97 (0.91-1.03)	1.00 (1.00-1.00)	1.00 (0.94-1.06)	0.94 (0.88-1.00)	1.07 (0.87-1.32)	1.43 (1.20-1.71)
Central America	Mexico	Female	1.16 (1.02-1.31)	1.07 (0.95-1.21)	1.00 (1.00-1.00)	1.12 (1.00-1.26)	1.03 (0.91-1.17)	1.18 (0.90-1.55)	1.42 (1.04-1.92)
Central America	Mexico	Aged 0-64	1.16 (1.08-1.24)	0.99 (0.94-1.04)	1.00 (1.00-1.00)	1.02 (0.97-1.09)	0.95 (0.88-1.02)	1.10 (0.87-1.40)	1.46 (1.17-1.82)
Central America	Mexico	Aged 65 or older	0.98 (0.76-1.26)	0.95 (0.78-1.16)	1.00 (1.00-1.00)	1.00 (0.82-1.22)	0.99 (0.82-1.20)	0.97 (0.73-1.27)	1.01 (0.71-1.43)
South America	Brazil	Total	1.12 (1.06-1.19)	1.02 (0.98-1.07)	1.00 (1.00-1.00)	1.02 (0.98-1.07)	1.02 (0.97-1.08)	1.07 (0.95-1.21)	1.13 (0.99-1.30)
South America	Brazil	Male	1.16 (1.09-1.23)	1.05 (1.00-1.11)	1.00 (1.00-1.00)	1.06 (1.01-1.12)	1.06 (1.00-1.12)	1.11 (0.97-1.26)	1.16 (1.03-1.30)
South America	Brazil	Female	1.06 (0.97-1.17)	0.96 (0.87-1.05)	1.00 (1.00-1.00)	0.95 (0.87-1.04)	0.93 (0.85-1.02)	0.99 (0.82-1.19)	1.13 (0.92-1.39)
South America	Brazil	Aged 0-64	1.14 (1.07-1.20)	1.03 (0.98-1.08)	1.00 (1.00-1.00)	1.04 (0.99-1.09)	1.04 (0.98-1.10)	1.09 (0.94-1.27)	1.17 (1.02-1.34)
South America	Brazil	Aged 65 or older	1.06 (0.87-1.28)	0.99 (0.85-1.15)	1.00 (1.00-1.00)	1.01 (0.86-1.17)	0.94 (0.81-1.08)	0.88 (0.72-1.08)	0.95 (0.73-1.23)
South America	Chile	Total	1.17 (1.09-1.25)	1.01 (0.97-1.06)	1.00 (1.00-1.00)	1.02 (0.98-1.06)	1.02 (0.96-1.07)	1.25 (1.10-1.43)	1.43 (1.24-1.66)

South America	Chile	Male	1.15 (1.08-1.23)	1.02 (0.97-1.08)	1.00 (1.00-1.00)	1.03 (0.97-1.09)	1.06 (1.00-1.12)	1.30 (1.13-1.50)	1.35 (1.19-1.53)
South America	Chile	Female	1.09 (0.98-1.21)	0.94 (0.85-1.05)	1.00 (1.00-1.00)	0.96 (0.87-1.05)	0.96 (0.87-1.06)	1.15 (0.92-1.43)	1.44 (1.13-1.83)
South America	Chile	Aged 0-64	1.17 (1.10-1.25)	1.02 (0.98-1.07)	1.00 (1.00-1.00)	1.00 (0.95-1.06)	1.02 (0.96-1.09)	1.34 (1.14-1.56)	1.47 (1.27-1.70)
South America	Chile	Aged 65 or older	1.02 (0.83-1.26)	0.97 (0.83-1.13)	1.00 (1.00-1.00)	0.99 (0.84-1.15)	0.92 (0.79-1.07)	0.84 (0.67-1.05)	0.86 (0.64-1.17)
South America	Ecuador	Total	1.14 (1.06-1.23)	1.02 (0.98-1.06)	1.00 (1.00-1.00)	1.02 (0.98-1.07)	1.02 (0.97-1.08)	1.17 (1.01-1.35)	1.28 (1.08-1.51)
South America	Ecuador	Male	1.14 (1.07-1.23)	1.03 (0.98-1.09)	1.00 (1.00-1.00)	1.04 (0.98-1.11)	1.06 (1.00-1.12)	1.25 (1.06-1.46)	1.29 (1.13-1.48)
South America	Ecuador	Female	1.07 (0.96-1.18)	0.95 (0.86-1.05)	1.00 (1.00-1.00)	0.95 (0.87-1.04)	0.93 (0.84-1.03)	0.99 (0.78-1.26)	1.17 (0.89-1.53)
South America	Ecuador	Aged 0-64	1.16 (1.08-1.23)	1.03 (0.98-1.07)	1.00 (1.00-1.00)	1.02 (0.96-1.07)	1.02 (0.96-1.10)	1.22 (1.02-1.45)	1.32 (1.12-1.56)
South America	Ecuador	Aged 65 or older	1.02 (0.82-1.26)	0.97 (0.83-1.14)	1.00 (1.00-1.00)	0.99 (0.84-1.15)	0.92 (0.79-1.07)	0.84 (0.66-1.08)	0.86 (0.62-1.20)
South America	Paraguay	Total	1.15 (1.06-1.25)	1.02 (0.97-1.07)	1.00 (1.00-1.00)	1.02 (0.98-1.06)	1.01 (0.96-1.07)	1.08 (0.90-1.29)	1.18 (0.97-1.45)
Africa & Oceania	Australia	Total	1.09 (0.98-1.21)	1.05 (0.97-1.15)	1.00 (1.00-1.00)	0.96 (0.88-1.04)	0.96 (0.87-1.05)	0.85 (0.70-1.03)	0.89 (0.72-1.10)
Africa & Oceania	Australia	Male	1.13 (1.02-1.26)	1.05 (0.95-1.16)	1.00 (1.00-1.00)	0.97 (0.87-1.07)	0.98 (0.89-1.08)	0.85 (0.70-1.04)	0.93 (0.78-1.11)
Africa & Oceania	Australia	Female	1.08 (0.90-1.30)	1.10 (0.92-1.32)	1.00 (1.00-1.00)	0.99 (0.82-1.18)	0.89 (0.74-1.07)	0.93 (0.70-1.25)	0.98 (0.71-1.35)
Africa & Oceania	Australia	Aged 0-64	1.10 (1.00-1.21)	1.04 (0.95-1.13)	1.00 (1.00-1.00)	0.98 (0.89-1.07)	0.97 (0.88-1.07)	0.85 (0.69-1.05)	0.95 (0.78-1.16)
Africa & Oceania	Australia	Aged 65 or older	1.05 (0.75-1.47)	1.10 (0.81-1.49)	1.00 (1.00-1.00)	0.91 (0.67-1.25)	0.82 (0.60-1.13)	1.04 (0.73-1.48)	0.70 (0.45-1.08)
Africa & Oceania	South Africa	Total	1.10 (0.99-1.22)	1.05 (0.96-1.14)	1.00 (1.00-1.00)	0.96 (0.88-1.05)	0.98 (0.90-1.08)	1.13 (0.95-1.35)	1.23 (1.01-1.49)
Africa & Oceania	South Africa	Male	1.08 (0.97-1.20)	1.02 (0.93-1.13)	1.00 (1.00-1.00)	0.95 (0.86-1.05)	1.00 (0.90-1.10)	1.10 (0.92-1.33)	1.17 (0.99-1.37)
Africa & Oceania	South Africa	Female	1.11 (0.93-1.33)	1.10 (0.92-1.32)	1.00 (1.00-1.00)	1.00 (0.84-1.20)	0.93 (0.77-1.12)	1.18 (0.90-1.55)	1.34 (1.00-1.80)
Africa & Oceania	South Africa	Aged 0-64	1.10 (1.00-1.21)	1.04 (0.95-1.13)	1.00 (1.00-1.00)	0.96 (0.88-1.06)	0.99 (0.90-1.10)	1.11 (0.91-1.36)	1.23 (1.02-1.48)
Africa & Oceania	South Africa	Aged 65 or older	1.05 (0.75-1.46)	1.11 (0.82-1.50)	1.00 (1.00-1.00)	0.91 (0.67-1.25)	0.83 (0.60-1.14)	1.28 (0.90-1.82)	0.92 (0.60-1.41)
Asia	China	Total	1.07 (1.00-1.14)	1.02 (1.01-1.04)	1.00 (1.00-1.00)	0.99 (0.98-1.00)	0.98 (0.94-1.02)	0.93 (0.81-1.07)	0.94 (0.80-1.11)
Asia	China	Male	1.08 (1.03-1.14)	1.03 (1.00-1.06)	1.00 (1.00-1.00)	0.99 (0.96-1.03)	0.96 (0.93-1.00)	0.88 (0.76-1.04)	0.91 (0.80-1.04)
Asia	China	Female	1.06 (1.00-1.13)	1.03 (0.98-1.09)	1.00 (1.00-1.00)	0.99 (0.96-1.02)	1.01 (0.97-1.06)	1.01 (0.83-1.23)	1.00 (0.80-1.26)
Asia	China	Aged 0-64	1.08 (1.03-1.13)	1.02 (1.01-1.04)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.97 (0.93-1.02)	0.94 (0.80-1.12)	0.96 (0.82-1.12)
Asia	China	Aged 65 or older	1.05 (0.90-1.21)	1.01 (0.94-1.09)	1.00 (1.00-1.00)	0.99 (0.92-1.06)	0.98 (0.92-1.03)	0.89 (0.75-1.05)	0.91 (0.71-1.17)
Asia	Japan	Total	1.10 (1.06-1.14)	1.02 (1.01-1.03)	1.00 (1.00-1.00)	0.99 (0.98-1.00)	0.98 (0.95-1.00)	0.88 (0.80-0.96)	0.91 (0.82-1.01)

Asia	Japan	Male	1.12 (1.08-1.15)	1.02 (1.01-1.04)	1.00 (1.00-1.00)	0.98 (0.96-1.00)	0.96 (0.94-0.98)	0.85 (0.78-0.93)	0.89 (0.82-0.96)
Asia	Japan	Female	1.07 (1.03-1.10)	1.01 (0.98-1.04)	1.00 (1.00-1.00)	0.99 (0.97-1.01)	1.00 (0.97-1.03)	0.93 (0.82-1.06)	0.94 (0.81-1.10)
Asia	Japan	Aged 0-64	1.11 (1.08-1.14)	1.02 (1.01-1.03)	1.00 (1.00-1.00)	0.98 (0.97-1.00)	0.97 (0.94-1.00)	0.86 (0.78-0.95)	0.89 (0.81-0.98)
Asia	Japan	Aged 65 or older	1.07 (0.99-1.17)	1.01 (0.97-1.06)	1.00 (1.00-1.00)	0.99 (0.95-1.03)	0.99 (0.96-1.02)	0.92 (0.83-1.02)	0.96 (0.83-1.11)
Asia	Korea	Total	1.07 (1.03-1.11)	1.03 (1.02-1.04)	1.00 (1.00-1.00)	0.98 (0.97-0.99)	0.96 (0.94-0.98)	0.87 (0.80-0.96)	0.89 (0.81-0.99)
Asia	Korea	Male	1.08 (1.05-1.11)	1.04 (1.02-1.06)	1.00 (1.00-1.00)	0.99 (0.97-1.01)	0.95 (0.93-0.97)	0.86 (0.78-0.94)	0.89 (0.82-0.96)
Asia	Korea	Female	1.05 (1.01-1.10)	1.01 (0.97-1.05)	1.00 (1.00-1.00)	0.98 (0.96-1.01)	0.99 (0.96-1.03)	0.90 (0.78-1.05)	0.91 (0.77-1.08)
Asia	Korea	Aged 0-64	1.07 (1.04-1.10)	1.03 (1.02-1.04)	1.00 (1.00-1.00)	0.98 (0.96-1.00)	0.95 (0.92-0.98)	0.86 (0.77-0.95)	0.87 (0.79-0.96)
Asia	Korea	Aged 65 or older	1.08 (0.99-1.17)	1.04 (0.99-1.09)	1.00 (1.00-1.00)	1.01 (0.96-1.05)	0.99 (0.96-1.02)	0.92 (0.83-1.02)	0.98 (0.84-1.14)
Asia	Philippines	Total	1.10 (1.04-1.17)	1.02 (1.00-1.03)	1.00 (1.00-1.00)	0.99 (0.97-1.00)	0.98 (0.95-1.01)	1.03 (0.91-1.16)	1.10 (0.96-1.26)
Asia	Philippines	Male	1.07 (1.02-1.12)	1.01 (0.99-1.04)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.97 (0.94-1.00)	1.00 (0.87-1.14)	1.01 (0.90-1.14)
Asia	Philippines	Female	1.12 (1.02-1.22)	1.03 (0.94-1.13)	1.00 (1.00-1.00)	0.98 (0.91-1.06)	1.02 (0.94-1.11)	1.10 (0.88-1.36)	1.10 (0.86-1.41)
Asia	Philippines	Aged 0-64	1.09 (1.04-1.14)	1.02 (1.01-1.03)	1.00 (1.00-1.00)	0.97 (0.94-1.00)	0.98 (0.94-1.03)	1.05 (0.91-1.20)	1.06 (0.94-1.21)
Asia	Philippines	Aged 65 or older	1.07 (0.92-1.25)	1.03 (0.95-1.11)	1.00 (1.00-1.00)	1.00 (0.92-1.08)	0.99 (0.93-1.05)	0.95 (0.79-1.15)	1.01 (0.76-1.34)
Asia	Taiwan	Total	1.06 (1.02-1.11)	1.03 (1.01-1.04)	1.00 (1.00-1.00)	0.99 (0.98-1.00)	0.98 (0.95-1.01)	0.89 (0.81-0.98)	0.89 (0.79-0.99)
Asia	Taiwan	Male	1.07 (1.04-1.11)	1.03 (1.01-1.05)	1.00 (1.00-1.00)	1.00 (0.97-1.03)	0.97 (0.94-1.00)	0.89 (0.81-0.98)	0.91 (0.84-0.99)
Asia	Taiwan	Female	1.08 (1.01-1.15)	1.02 (0.96-1.08)	1.00 (1.00-1.00)	0.98 (0.93-1.03)	0.98 (0.93-1.04)	0.89 (0.77-1.03)	0.87 (0.74-1.03)
Asia	Taiwan	Aged 0-64	1.07 (1.04-1.11)	1.03 (1.01-1.04)	1.00 (1.00-1.00)	0.99 (0.97-1.01)	0.98 (0.94-1.02)	0.88 (0.79-0.98)	0.89 (0.80-0.98)
Asia	Taiwan	Aged 65 or older	1.06 (0.95-1.19)	1.03 (0.97-1.09)	1.00 (1.00-1.00)	1.00 (0.94-1.06)	0.98 (0.94-1.02)	0.91 (0.81-1.01)	0.95 (0.80-1.12)
Asia	Vietnam	Total	1.08 (1.00-1.15)	1.02 (1.01-1.04)	1.00 (1.00-1.00)	0.99 (0.97-1.00)	0.98 (0.94-1.02)	0.94 (0.79-1.12)	0.96 (0.79-1.17)
Asia	Vietnam	Male	1.08 (1.03-1.14)	1.02 (1.00-1.05)	1.00 (1.00-1.00)	0.99 (0.95-1.02)	0.97 (0.93-1.00)	0.91 (0.76-1.09)	0.94 (0.81-1.09)
Asia	Vietnam	Female	1.09 (0.99-1.20)	1.04 (0.95-1.15)	1.00 (1.00-1.00)	0.98 (0.91-1.06)	1.01 (0.92-1.11)	1.04 (0.79-1.37)	1.01 (0.74-1.38)
Asia	Vietnam	Aged 0-64	1.08 (1.03-1.13)	1.02 (1.01-1.04)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.98 (0.93-1.03)	0.97 (0.80-1.17)	0.98 (0.82-1.17)
Asia	Vietnam	Aged 65 or older	1.07 (0.91-1.25)	1.02 (0.95-1.11)	1.00 (1.00-1.00)	1.00 (0.92-1.08)	0.98 (0.93-1.04)	0.89 (0.73-1.10)	0.93 (0.69-1.26)
Europe	Czech	Total	1.11 (1.06-1.17)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.98 (0.96-1.00)	0.96 (0.93-0.99)	0.88 (0.80-0.97)	0.90 (0.81-1.01)
Europe	Czech	Male	1.12 (1.07-1.17)	1.03 (1.00-1.06)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.95 (0.92-0.99)	0.86 (0.77-0.95)	0.87 (0.80-0.95)

Europe	Czech	Female	1.10 (1.03-1.17)	0.99 (0.93-1.05)	1.00 (1.00-1.00)	0.99 (0.95-1.04)	0.99 (0.94-1.04)	0.95 (0.81-1.12)	1.00 (0.84-1.21)
Europe	Czech	Aged 0-64	1.10 (1.05-1.16)	1.01 (0.99-1.04)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.95 (0.90-1.00)	0.90 (0.70-1.15)	0.91 (0.72-1.15)
Europe	Czech	Aged 65 or older	1.12 (0.99-1.27)	1.04 (0.97-1.11)	1.00 (1.00-1.00)	0.99 (0.93-1.06)	0.99 (0.93-1.04)	0.83 (0.74-0.94)	0.88 (0.74-1.06)
Europe	Estonia	Total	1.11 (1.04-1.18)	1.01 (0.99-1.04)	1.00 (1.00-1.00)	0.98 (0.96-1.00)	0.96 (0.93-1.00)	0.96 (0.84-1.10)	0.99 (0.85-1.15)
Europe	Estonia	Male	1.09 (1.04-1.14)	1.02 (0.99-1.05)	1.00 (1.00-1.00)	0.97 (0.94-1.01)	0.96 (0.93-1.00)	0.96 (0.84-1.11)	0.96 (0.85-1.09)
Europe	Estonia	Female	1.10 (1.02-1.18)	0.97 (0.91-1.05)	1.00 (1.00-1.00)	0.99 (0.94-1.04)	0.98 (0.92-1.05)	0.89 (0.72-1.11)	0.96 (0.75-1.24)
Europe	Estonia	Aged 0-64	1.10 (1.05-1.15)	1.01 (0.99-1.04)	1.00 (1.00-1.00)	0.97 (0.94-1.01)	0.96 (0.92-1.01)	1.01 (0.87-1.19)	1.02 (0.88-1.18)
Europe	Estonia	Aged 65 or older	1.12 (0.97-1.30)	1.04 (0.97-1.12)	1.00 (1.00-1.00)	0.99 (0.92-1.08)	0.99 (0.93-1.05)	0.84 (0.72-0.99)	0.90 (0.71-1.14)
Europe	Finland	Total	1.06 (1.02-1.09)	1.02 (1.00-1.04)	1.00 (1.00-1.00)	0.98 (0.97-1.00)	0.99 (0.96-1.01)	1.09 (1.01-1.17)	1.07 (0.98-1.16)
Europe	Finland	Male	1.05 (1.02-1.09)	1.02 (0.99-1.04)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.98 (0.95-1.00)	1.08 (1.00-1.17)	1.05 (0.99-1.13)
Europe	Finland	Female	1.09 (1.04-1.15)	1.04 (0.99-1.10)	1.00 (1.00-1.00)	1.01 (0.96-1.05)	1.02 (0.97-1.07)	1.11 (0.99-1.26)	1.11 (0.96-1.27)
Europe	Finland	Aged 0-64	1.07 (1.03-1.10)	1.02 (1.00-1.04)	1.00 (1.00-1.00)	0.99 (0.96-1.01)	0.99 (0.96-1.03)	1.12 (1.02-1.22)	1.08 (1.00-1.18)
Europe	Finland	Aged 65 or older	1.02 (0.93-1.12)	1.01 (0.95-1.07)	1.00 (1.00-1.00)	0.95 (0.90-1.01)	0.96 (0.92-1.01)	0.93 (0.85-1.01)	0.96 (0.84-1.09)
Europe	Germany	Total	1.13 (1.07-1.19)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.97 (0.95-0.99)	0.94 (0.91-0.97)	0.78 (0.70-0.87)	0.82 (0.73-0.92)
Europe	Germany	Male	1.14 (1.09-1.19)	1.04 (1.01-1.07)	1.00 (1.00-1.00)	0.98 (0.95-1.02)	0.94 (0.91-0.98)	0.77 (0.69-0.86)	0.80 (0.73-0.88)
Europe	Germany	Female	1.10 (1.03-1.16)	0.97 (0.91-1.03)	1.00 (1.00-1.00)	0.98 (0.94-1.02)	0.96 (0.91-1.01)	0.82 (0.70-0.96)	0.87 (0.73-1.03)
Europe	Germany	Aged 0-64	1.12 (1.07-1.17)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.93 (0.89-0.97)	0.75 (0.67-0.85)	0.78 (0.69-0.87)
Europe	Germany	Aged 65 or older	1.19 (1.05-1.35)	1.07 (1.00-1.15)	1.00 (1.00-1.00)	1.02 (0.95-1.10)	1.01 (0.95-1.07)	0.87 (0.76-0.98)	0.96 (0.80-1.16)
Europe	Italy	Total	1.10 (1.03-1.17)	1.02 (0.99-1.04)	1.00 (1.00-1.00)	0.98 (0.96-1.00)	0.96 (0.93-1.00)	0.89 (0.79-1.01)	0.90 (0.78-1.03)
Europe	Italy	Male	1.10 (1.05-1.15)	1.04 (1.01-1.07)	1.00 (1.00-1.00)	0.99 (0.95-1.02)	0.96 (0.93-0.99)	0.87 (0.76-0.99)	0.88 (0.78-0.98)
Europe	Italy	Female	1.13 (1.06-1.20)	0.99 (0.93-1.05)	1.00 (1.00-1.00)	0.98 (0.94-1.03)	0.98 (0.93-1.04)	0.96 (0.79-1.16)	1.01 (0.81-1.26)
Europe	Italy	Aged 0-64	1.10 (1.05-1.15)	1.01 (0.99-1.04)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.95 (0.90-1.00)	0.86 (0.74-1.00)	0.87 (0.76-1.01)
Europe	Italy	Aged 65 or older	1.12 (0.98-1.29)	1.04 (0.97-1.12)	1.00 (1.00-1.00)	0.99 (0.92-1.07)	0.99 (0.93-1.05)	0.89 (0.77-1.03)	0.96 (0.77-1.20)
Europe	Romania	Total	1.13 (1.08-1.19)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.97 (0.96-0.99)	0.94 (0.91-0.98)	0.84 (0.77-0.93)	0.89 (0.80-0.99)
Europe	Romania	Male	1.11 (1.07-1.16)	1.03 (1.01-1.06)	1.00 (1.00-1.00)	0.98 (0.95-1.02)	0.96 (0.93-0.99)	0.86 (0.78-0.94)	0.87 (0.80-0.95)
Europe	Romania	Female	1.10 (1.04-1.17)	0.97 (0.92-1.03)	1.00 (1.00-1.00)	0.98 (0.94-1.02)	0.96 (0.92-1.01)	0.84 (0.72-0.99)	0.89 (0.74-1.06)

Europe	Romania	Aged 0-64	1.12 (1.07-1.17)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.94 (0.90-0.98)	0.85 (0.76-0.95)	0.87 (0.78-0.97)
Europe	Romania	Aged 65 or older	1.13 (1.00-1.29)	1.05 (0.97-1.12)	1.00 (1.00-1.00)	1.00 (0.93-1.07)	0.99 (0.94-1.05)	0.85 (0.74-0.96)	0.90 (0.75-1.09)
Europe	Spain	Total	1.10 (1.06-1.15)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.98 (0.96-1.00)	0.97 (0.94-1.00)	0.92 (0.85-1.00)	0.94 (0.86-1.02)
Europe	Spain	Male	1.09 (1.05-1.13)	1.03 (1.00-1.06)	1.00 (1.00-1.00)	0.99 (0.96-1.02)	0.97 (0.94-1.00)	0.92 (0.85-1.00)	0.92 (0.86-0.99)
Europe	Spain	Female	1.14 (1.08-1.20)	0.97 (0.92-1.02)	1.00 (1.00-1.00)	0.98 (0.93-1.02)	0.97 (0.92-1.02)	0.90 (0.79-1.03)	0.98 (0.84-1.13)
Europe	Spain	Aged 0-64	1.11 (1.07-1.15)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.98 (0.96-1.01)	0.96 (0.93-1.00)	0.92 (0.84-1.02)	0.93 (0.85-1.02)
Europe	Spain	Aged 65 or older	1.07 (0.97-1.17)	1.01 (0.96-1.08)	1.00 (1.00-1.00)	0.96 (0.91-1.02)	0.97 (0.93-1.02)	0.89 (0.81-0.97)	0.93 (0.81-1.06)
Europe	Switzerland	Total	1.10 (1.06-1.14)	1.02 (1.00-1.04)	1.00 (1.00-1.00)	0.97 (0.96-0.99)	0.95 (0.92-0.97)	0.78 (0.72-0.84)	0.78 (0.72-0.85)
Europe	Switzerland	Male	1.13 (1.09-1.17)	1.04 (1.01-1.06)	1.00 (1.00-1.00)	0.98 (0.95-1.01)	0.95 (0.92-0.98)	0.81 (0.75-0.87)	0.83 (0.78-0.89)
Europe	Switzerland	Female	1.04 (0.99-1.09)	0.99 (0.94-1.04)	1.00 (1.00-1.00)	0.98 (0.94-1.02)	0.94 (0.90-0.99)	0.73 (0.65-0.82)	0.71 (0.62-0.80)
Europe	Switzerland	Aged 0-64	1.12 (1.08-1.16)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.97 (0.95-1.00)	0.94 (0.90-0.97)	0.84 (0.77-0.92)	0.86 (0.79-0.94)
Europe	Switzerland	Aged 65 or older	1.03 (0.95-1.12)	0.99 (0.93-1.04)	1.00 (1.00-1.00)	0.95 (0.90-1.00)	0.95 (0.90-0.99)	0.66 (0.61-0.72)	0.62 (0.55-0.70)
Europe	UK	Total	1.12 (1.08-1.16)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.98 (0.96-1.00)	0.96 (0.93-0.98)	0.89 (0.82-0.96)	0.92 (0.84-1.00)
Europe	UK	Male	1.12 (1.08-1.16)	1.02 (1.00-1.04)	1.00 (1.00-1.00)	0.97 (0.94-0.99)	0.95 (0.93-0.98)	0.90 (0.84-0.98)	0.92 (0.86-0.98)
Europe	UK	Female	1.11 (1.06-1.16)	0.96 (0.92-1.01)	1.00 (1.00-1.00)	0.98 (0.94-1.02)	0.96 (0.92-1.00)	0.83 (0.74-0.93)	0.89 (0.79-1.01)
Europe	UK	Aged 0-64	1.11 (1.07-1.15)	1.01 (0.99-1.03)	1.00 (1.00-1.00)	0.97 (0.95-1.00)	0.95 (0.91-0.98)	0.90 (0.82-0.99)	0.92 (0.84-1.00)
Europe	UK	Aged 65 or older	1.26 (1.15-1.38)	1.09 (1.03-1.15)	1.00 (1.00-1.00)	1.05 (0.99-1.11)	1.03 (0.98-1.08)	0.85 (0.78-0.93)	0.97 (0.86-1.11)

Table S6. Risks of suicide during Christmas season (reference days: non-holidays which are not included in New Year's Day, Christmas, and other national holidays that this study addressed) for 26 countries with the corresponding 95% confidence intervals (vertical lines)

Region	Country	Subgroup	RR (95% CI)				
			Day -2	Day -1	Day 0	Day +1	Day +2
North America	Canada	Total	0.94 (0.80-1.09)	0.95 (0.77-1.17)	0.79 (0.52-1.22)	0.78 (0.61-0.98)	0.87 (0.70-1.08)
North America	Canada	Male	0.94 (0.81-1.08)	0.97 (0.81-1.16)	0.74 (0.51-1.05)	0.74 (0.57-0.95)	0.82 (0.65-1.04)
North America	Canada	Female	0.82 (0.60-1.11)	0.80 (0.56-1.13)	1.01 (0.56-1.82)	0.94 (0.61-1.45)	0.93 (0.62-1.37)
North America	Canada	Aged 0-64	0.93 (0.78-1.12)	0.93 (0.76-1.15)	0.76 (0.51-1.12)	0.78 (0.62-0.97)	0.89 (0.74-1.06)
North America	United States	Total	0.84 (0.73-0.98)	0.93 (0.76-1.14)	0.75 (0.49-1.13)	0.95 (0.76-1.18)	0.97 (0.78-1.19)
North America	United States	Male	0.86 (0.75-0.99)	0.92 (0.78-1.10)	0.70 (0.50-0.99)	0.97 (0.76-1.23)	0.99 (0.80-1.23)
North America	United States	Female	0.86 (0.65-1.15)	1.04 (0.76-1.43)	0.88 (0.50-1.56)	0.86 (0.58-1.29)	0.92 (0.63-1.34)
North America	United States	Aged 0-64	0.84 (0.70-1.00)	0.98 (0.81-1.20)	0.80 (0.55-1.16)	0.92 (0.75-1.13)	0.95 (0.80-1.13)
Central America	Costa Rica	Total	0.84 (0.64-1.10)	0.98 (0.72-1.34)	1.24 (0.69-2.20)	1.21 (0.87-1.68)	1.19 (0.87-1.64)
Central America	Guatemala	Total	0.85 (0.64-1.12)	1.02 (0.73-1.44)	1.41 (0.71-2.81)	1.20 (0.85-1.71)	1.17 (0.84-1.64)
Central America	Mexico	Total	0.87 (0.67-1.13)	1.06 (0.80-1.41)	1.61 (0.99-2.60)	1.20 (0.88-1.62)	1.16 (0.86-1.55)
Central America	Mexico	Male	0.97 (0.73-1.29)	1.03 (0.76-1.41)	1.91 (1.21-3.03)	1.20 (0.82-1.74)	1.19 (0.84-1.69)
Central America	Mexico	Female	0.58 (0.29-1.19)	0.68 (0.34-1.38)	0.68 (0.26-1.76)	1.12 (0.58-2.17)	1.18 (0.63-2.20)
Central America	Mexico	Aged 0-64	0.91 (0.67-1.24)	0.99 (0.71-1.38)	1.69 (1.01-2.82)	1.16 (0.84-1.60)	1.25 (0.94-1.65)
South America	Brazil	Total	0.89 (0.69-1.15)	0.92 (0.70-1.23)	1.19 (0.77-1.84)	0.94 (0.68-1.29)	1.16 (0.87-1.54)
South America	Brazil	Male	0.79 (0.59-1.06)	1.05 (0.79-1.38)	1.35 (0.92-1.97)	0.92 (0.63-1.32)	1.26 (0.94-1.70)
South America	Brazil	Female	1.10 (0.70-1.74)	0.63 (0.35-1.13)	0.94 (0.46-1.92)	0.99 (0.58-1.70)	0.87 (0.50-1.51)

South America	Brazil	Aged 0-64	0.95 (0.72-1.26)	0.94 (0.71-1.27)	1.26 (0.84-1.89)	0.89 (0.65-1.22)	1.23 (0.96-1.57)
South America	Chile	Total	0.97 (0.75-1.27)	1.03 (0.76-1.39)	1.81 (1.11-2.95)	0.85 (0.60-1.22)	1.05 (0.77-1.43)
South America	Chile	Male	0.83 (0.62-1.11)	1.13 (0.85-1.50)	1.74 (1.13-2.67)	0.82 (0.55-1.21)	1.12 (0.81-1.55)
South America	Chile	Female	1.06 (0.65-1.71)	0.55 (0.30-1.02)	1.32 (0.60-2.94)	1.22 (0.67-2.20)	1.00 (0.55-1.83)
South America	Chile	Aged 0-64	1.02 (0.76-1.36)	1.06 (0.78-1.44)	1.88 (1.19-2.97)	0.87 (0.63-1.21)	1.23 (0.95-1.58)
South America	Ecuador	Total	0.94 (0.72-1.23)	0.88 (0.64-1.21)	1.18 (0.66-2.11)	0.83 (0.57-1.18)	1.03 (0.75-1.42)
South America	Ecuador	Male	0.82 (0.61-1.10)	1.05 (0.79-1.41)	1.40 (0.87-2.24)	0.82 (0.55-1.22)	1.14 (0.82-1.58)
South America	Ecuador	Female	1.08 (0.68-1.71)	0.61 (0.34-1.10)	1.13 (0.48-2.64)	1.11 (0.61-2.01)	0.95 (0.51-1.74)
South America	Ecuador	Aged 0-64	1.00 (0.74-1.35)	0.93 (0.67-1.28)	1.31 (0.78-2.22)	0.85 (0.61-1.19)	1.18 (0.91-1.54)
South America	Paraguay	Total	0.94 (0.71-1.23)	0.92 (0.66-1.28)	1.28 (0.68-2.42)	0.85 (0.59-1.23)	1.06 (0.77-1.47)
Africa & Oceania	Australia	Total	1.73 (1.24-2.41)	1.19 (0.75-1.89)	1.37 (0.67-2.79)	1.40 (0.89-2.21)	1.31 (0.81-2.10)
Africa & Oceania	Australia	Male	1.71 (1.19-2.47)	1.56 (0.98-2.46)	1.80 (0.97-3.32)	1.29 (0.77-2.17)	1.42 (0.86-2.36)
Africa & Oceania	Australia	Female	1.91 (1.02-3.56)	0.72 (0.27-1.88)	1.16 (0.38-3.49)	2.04 (0.91-4.57)	1.10 (0.39-3.05)
Africa & Oceania	Australia	Aged 0-64	1.64 (1.13-2.37)	1.36 (0.86-2.14)	1.69 (0.88-3.22)	1.45 (0.93-2.24)	1.31 (0.85-2.04)
Africa & Oceania	South Africa	Total	1.81 (1.31-2.52)	1.33 (0.85-2.08)	1.89 (1.01-3.56)	1.38 (0.89-2.15)	1.28 (0.81-2.04)
Africa & Oceania	South Africa	Male	1.75 (1.21-2.52)	1.66 (1.05-2.61)	2.17 (1.21-3.86)	1.25 (0.75-2.07)	1.37 (0.83-2.25)
Africa & Oceania	South Africa	Female	1.87 (1.01-3.47)	0.61 (0.24-1.60)	1.13 (0.39-3.23)	2.03 (0.93-4.42)	1.05 (0.38-2.87)
Africa & Oceania	South Africa	Aged 0-64	1.69 (1.18-2.44)	1.44 (0.92-2.24)	2.09 (1.16-3.77)	1.43 (0.93-2.20)	1.31 (0.85-2.03)
Asia	China	Total	0.97 (0.85-1.11)	1.07 (0.86-1.33)	1.34 (0.80-2.23)	1.01 (0.78-1.30)	1.01 (0.79-1.28)
Asia	China	Male	0.96 (0.87-1.06)	0.92 (0.79-1.09)	1.05 (0.69-1.59)	0.99 (0.75-1.30)	0.98 (0.77-1.25)

Asia	China	Female	0.94 (0.81-1.08)	1.13 (0.90-1.43)	1.21 (0.66-2.23)	1.04 (0.72-1.51)	1.09 (0.78-1.54)
Asia	China	Aged 0-64	0.93 (0.78-1.10)	0.99 (0.80-1.22)	1.11 (0.69-1.78)	0.98 (0.79-1.22)	0.99 (0.84-1.17)
Asia	Japan	Total	0.97 (0.90-1.06)	0.89 (0.78-1.01)	0.93 (0.71-1.24)	0.90 (0.78-1.04)	0.89 (0.77-1.02)
Asia	Japan	Male	0.98 (0.91-1.05)	0.88 (0.79-0.97)	0.94 (0.74-1.18)	0.88 (0.75-1.04)	0.88 (0.76-1.02)
Asia	Japan	Female	0.97 (0.88-1.07)	0.92 (0.79-1.07)	0.93 (0.65-1.34)	0.93 (0.75-1.17)	0.91 (0.74-1.12)
Asia	Japan	Aged 0-64	0.98 (0.88-1.08)	0.88 (0.77-0.99)	0.95 (0.74-1.23)	0.93 (0.82-1.07)	0.91 (0.82-1.01)
Asia	Korea (South)	Total	0.94 (0.86-1.03)	0.92 (0.80-1.06)	0.86 (0.64-1.16)	0.96 (0.82-1.14)	1.01 (0.86-1.18)
Asia	Korea (South)	Male	0.95 (0.88-1.03)	0.89 (0.79-1.00)	0.86 (0.66-1.11)	1.00 (0.84-1.20)	1.04 (0.88-1.22)
Asia	Korea (South)	Female	0.93 (0.82-1.05)	0.92 (0.76-1.12)	0.90 (0.59-1.38)	0.89 (0.68-1.16)	0.91 (0.71-1.15)
Asia	Korea (South)	Aged 0-64	0.91 (0.80-1.02)	0.95 (0.82-1.09)	0.91 (0.69-1.20)	0.97 (0.83-1.13)	1.00 (0.89-1.13)
Asia	Philippines	Total	0.99 (0.87-1.12)	1.02 (0.83-1.26)	1.25 (0.77-2.02)	0.95 (0.74-1.23)	0.96 (0.76-1.22)
Asia	Philippines	Male	0.97 (0.88-1.06)	0.93 (0.79-1.09)	1.07 (0.72-1.61)	0.96 (0.73-1.26)	0.96 (0.76-1.22)
Asia	Philippines	Female	1.00 (0.66-1.52)	1.60 (1.02-2.51)	1.18 (0.54-2.57)	1.01 (0.56-1.82)	1.16 (0.68-1.98)
Asia	Philippines	Aged 0-64	0.95 (0.81-1.13)	0.99 (0.81-1.21)	1.19 (0.77-1.83)	0.96 (0.78-1.19)	0.97 (0.83-1.14)
Asia	Taiwan	Total	0.94 (0.84-1.04)	1.01 (0.86-1.19)	1.01 (0.71-1.44)	1.02 (0.83-1.26)	1.09 (0.90-1.32)
Asia	Taiwan	Male	0.94 (0.86-1.03)	0.89 (0.78-1.03)	0.92 (0.66-1.28)	1.04 (0.83-1.30)	1.04 (0.86-1.28)
Asia	Taiwan	Female	0.94 (0.70-1.26)	1.45 (1.06-1.99)	1.10 (0.64-1.89)	0.95 (0.63-1.42)	1.11 (0.77-1.60)
Asia	Taiwan	Aged 0-64	0.88 (0.76-1.02)	0.99 (0.83-1.17)	0.96 (0.68-1.36)	1.01 (0.83-1.21)	1.03 (0.90-1.19)
Asia	Vietnam	Total	0.96 (0.83-1.10)	0.98 (0.77-1.24)	1.05 (0.59-1.88)	0.98 (0.75-1.27)	1.00 (0.78-1.27)
Asia	Vietnam	Male	0.95 (0.86-1.05)	0.90 (0.76-1.07)	0.97 (0.63-1.50)	0.99 (0.75-1.31)	1.00 (0.78-1.27)
Asia	Vietnam	Female	0.99 (0.65-1.52)	1.64 (1.04-2.60)	1.19 (0.51-2.80)	1.01 (0.55-1.89)	1.18 (0.67-2.08)

Asia	**Vietnam**	**Aged 0-64**	0.92 (0.78-1.09)	0.96 (0.77-1.19)	1.01 (0.62-1.67)	0.98 (0.79-1.21)	0.98 (0.83-1.16)
Europe	**Czech Republic**	**Total**	0.89 (0.77-1.04)	0.85 (0.68-1.08)	0.74 (0.44-1.24)	0.96 (0.75-1.22)	1.08 (0.86-1.36)
Europe	**Czech Republic**	**Male**	0.90 (0.79-1.04)	0.92 (0.77-1.11)	0.77 (0.51-1.15)	0.97 (0.74-1.26)	1.11 (0.88-1.40)
Europe	**Czech Republic**	**Female**	0.89 (0.70-1.13)	0.63 (0.45-0.87)	0.69 (0.36-1.35)	0.92 (0.60-1.42)	0.97 (0.65-1.44)
Europe	**Czech Republic**	**Aged 0-64**	0.90 (0.74-1.08)	0.95 (0.75-1.20)	0.84 (0.51-1.39)	0.96 (0.76-1.21)	1.12 (0.93-1.34)
Europe	**Estonia**	**Total**	0.90 (0.77-1.05)	0.91 (0.71-1.15)	0.85 (0.50-1.46)	0.97 (0.75-1.26)	1.10 (0.87-1.40)
Europe	**Estonia**	**Male**	0.91 (0.79-1.04)	0.94 (0.77-1.13)	0.79 (0.52-1.20)	0.95 (0.72-1.26)	1.10 (0.86-1.40)
Europe	**Estonia**	**Female**	0.87 (0.65-1.17)	0.58 (0.40-0.85)	0.85 (0.41-1.77)	1.04 (0.63-1.71)	1.05 (0.67-1.66)
Europe	**Estonia**	**Aged 0-64**	0.88 (0.73-1.06)	0.97 (0.77-1.23)	0.86 (0.53-1.40)	0.98 (0.78-1.23)	1.14 (0.95-1.37)
Europe	**Finland**	**Total**	0.91 (0.80-1.03)	0.88 (0.75-1.04)	0.76 (0.56-1.03)	0.93 (0.77-1.12)	1.10 (0.93-1.31)
Europe	**Finland**	**Male**	0.91 (0.80-1.03)	0.93 (0.79-1.09)	0.76 (0.58-1.01)	0.95 (0.78-1.17)	1.11 (0.93-1.33)
Europe	**Finland**	**Female**	0.93 (0.73-1.18)	0.79 (0.58-1.07)	0.76 (0.47-1.22)	0.97 (0.69-1.35)	1.06 (0.78-1.44)
Europe	**Finland**	**Aged 0-64**	0.92 (0.79-1.07)	0.90 (0.76-1.08)	0.76 (0.56-1.03)	0.91 (0.76-1.10)	1.09 (0.94-1.27)
Europe	**Germany**	**Total**	0.92 (0.79-1.07)	0.90 (0.72-1.12)	0.89 (0.55-1.42)	0.94 (0.73-1.20)	1.05 (0.83-1.32)
Europe	**Germany**	**Male**	0.92 (0.81-1.06)	0.97 (0.81-1.17)	0.90 (0.61-1.33)	0.92 (0.70-1.21)	1.05 (0.83-1.34)
Europe	**Germany**	**Female**	0.89 (0.70-1.13)	0.63 (0.46-0.87)	0.71 (0.37-1.37)	0.94 (0.62-1.43)	0.98 (0.67-1.45)
Europe	**Germany**	**Aged 0-64**	0.91 (0.76-1.10)	0.97 (0.77-1.21)	0.91 (0.59-1.42)	0.95 (0.76-1.19)	1.11 (0.93-1.33)
Europe	**Italy**	**Total**	0.91 (0.78-1.06)	0.90 (0.71-1.15)	0.86 (0.50-1.47)	0.95 (0.73-1.24)	1.08 (0.85-1.38)
Europe	**Italy**	**Male**	0.92 (0.80-1.05)	0.95 (0.79-1.15)	0.82 (0.54-1.25)	0.94 (0.71-1.24)	1.08 (0.85-1.38)
Europe	**Italy**	**Female**	0.91 (0.72-1.15)	0.82 (0.59-1.13)	0.88 (0.44-1.73)	1.04 (0.67-1.61)	1.15 (0.77-1.72)
Europe	**Italy**	**Aged 0-64**	0.89 (0.74-1.07)	0.97 (0.77-1.23)	0.87 (0.54-1.42)	0.97 (0.77-1.22)	1.14 (0.95-1.36)

Europe	Romania	Total	0.93 (0.80-1.08)	0.91 (0.74-1.13)	0.90 (0.57-1.42)	0.93 (0.72-1.18)	1.06 (0.84-1.33)
Europe	Romania	Male	0.92 (0.81-1.06)	0.96 (0.80-1.15)	0.83 (0.57-1.23)	0.91 (0.70-1.19)	1.06 (0.84-1.34)
Europe	Romania	Female	0.89 (0.71-1.11)	0.69 (0.50-0.94)	0.88 (0.48-1.63)	1.06 (0.71-1.57)	1.11 (0.77-1.60)
Europe	Romania	Aged 0-64	0.92 (0.77-1.11)	0.93 (0.74-1.15)	0.84 (0.54-1.29)	0.92 (0.74-1.15)	1.09 (0.91-1.30)
Europe	Spain	Total	0.88 (0.77-1.01)	1.05 (0.88-1.25)	1.23 (0.89-1.69)	1.13 (0.92-1.38)	1.21 (1.01-1.47)
Europe	Spain	Male	0.91 (0.80-1.03)	1.01 (0.86-1.19)	1.02 (0.75-1.38)	0.99 (0.79-1.25)	1.12 (0.91-1.37)
Europe	Spain	Female	0.91 (0.72-1.15)	0.91 (0.67-1.23)	1.45 (0.91-2.31)	1.40 (1.00-1.94)	1.50 (1.11-2.04)
Europe	Spain	Aged 0-64	0.87 (0.73-1.03)	1.08 (0.89-1.31)	1.15 (0.83-1.59)	1.04 (0.85-1.27)	1.19 (1.01-1.40)
Europe	Switzerland	Total	0.85 (0.75-0.97)	0.76 (0.64-0.90)	0.54 (0.39-0.76)	0.97 (0.80-1.18)	1.09 (0.91-1.30)
Europe	Switzerland	Male	0.90 (0.79-1.02)	0.86 (0.72-1.01)	0.61 (0.44-0.84)	0.96 (0.77-1.20)	1.12 (0.92-1.36)
Europe	Switzerland	Female	0.90 (0.71-1.13)	0.62 (0.46-0.84)	0.70 (0.44-1.12)	0.93 (0.67-1.31)	0.97 (0.72-1.32)
Europe	Switzerland	Aged 0-64	0.86 (0.73-1.01)	0.85 (0.70-1.03)	0.62 (0.44-0.88)	0.99 (0.82-1.21)	1.10 (0.94-1.29)
Europe	UK	Total	0.94 (0.82-1.07)	0.83 (0.70-0.99)	0.78 (0.57-1.07)	0.87 (0.71-1.06)	0.97 (0.81-1.17)
Europe	UK	Male	0.93 (0.81-1.05)	0.93 (0.79-1.09)	0.80 (0.60-1.07)	0.89 (0.71-1.11)	1.02 (0.84-1.25)
Europe	UK	Female	0.89 (0.71-1.11)	0.64 (0.48-0.86)	0.62 (0.38-1.01)	0.85 (0.61-1.20)	0.92 (0.68-1.26)
Europe	UK	Aged 0-64	0.94 (0.80-1.10)	0.92 (0.77-1.10)	0.83 (0.61-1.13)	0.91 (0.75-1.10)	1.08 (0.92-1.26)

Table S7. Risks of suicide during New Year's Day season (reference days: non-holidays which are not included in New Year's Day, Christmas, and other national holidays that this study addressed) for 26 countries with the corresponding 95%.

Region	Country	Subgroup	Day -2	Day -1	Day 0	Day +1	Day +2
			RR (95% CI)				
North America	Canada	Total	0.96 (0.77-1.19)	0.86 (0.71-1.04)	1.30 (0.96-1.77)	1.05 (0.87-1.27)	1.12 (0.99-1.28)
North America	Canada	Male	0.99 (0.78-1.25)	0.89 (0.71-1.12)	1.27 (0.86-1.87)	1.03 (0.81-1.33)	1.10 (0.92-1.32)
North America	Canada	Female	0.94 (0.61-1.44)	0.67 (0.47-0.97)	1.49 (1.06-2.11)	0.94 (0.70-1.26)	1.14 (0.85-1.54)
North America	Canada	Aged 0-64	0.92 (0.73-1.16)	0.83 (0.65-1.06)	1.37 (0.98-1.89)	1.00 (0.81-1.25)	1.11 (0.95-1.30)
North America	United States	Total	0.98 (0.80-1.20)	0.86 (0.72-1.04)	1.19 (0.89-1.59)	1.00 (0.83-1.19)	1.08 (0.95-1.23)
North America	United States	Male	0.98 (0.79-1.23)	0.89 (0.71-1.11)	1.17 (0.80-1.70)	1.05 (0.83-1.32)	1.07 (0.90-1.28)
North America	United States	Female	0.87 (0.59-1.29)	0.86 (0.64-1.16)	1.13 (0.81-1.57)	0.93 (0.72-1.22)	1.10 (0.84-1.44)
North America	United States	Aged 0-64	0.99 (0.80-1.24)	0.89 (0.70-1.12)	1.19 (0.87-1.63)	1.00 (0.81-1.22)	1.07 (0.92-1.24)
Central America	Costa Rica	Total	1.04 (0.75-1.44)	0.86 (0.62-1.19)	1.69 (1.11-2.58)	0.86 (0.62-1.18)	0.94 (0.72-1.22)
Central America	Guatemala	Total	1.05 (0.75-1.48)	0.89 (0.64-1.25)	1.83 (1.13-2.97)	0.86 (0.62-1.19)	0.96 (0.73-1.25)
Central America	Mexico	Total	1.01 (0.74-1.37)	0.88 (0.65-1.19)	1.78 (1.24-2.56)	0.81 (0.60-1.11)	0.94 (0.73-1.21)
Central America	Mexico	Male	0.96 (0.65-1.41)	0.97 (0.66-1.43)	1.90 (1.10-3.29)	0.79 (0.52-1.22)	0.85 (0.59-1.23)
Central America	Mexico	Female	1.04 (0.53-2.04)	0.82 (0.42-1.57)	1.20 (0.66-2.18)	0.49 (0.22-1.11)	1.41 (0.84-2.37)
Central America	Mexico	Aged 0-64	0.97 (0.67-1.42)	0.91 (0.61-1.34)	1.82 (1.14-2.90)	0.69 (0.46-1.02)	0.95 (0.69-1.29)
South America	Brazil	Total	0.66 (0.47-0.93)	1.02 (0.78-1.34)	1.27 (0.90-1.80)	1.35 (1.04-1.75)	1.11 (0.89-1.39)
South America	Brazil	Male	0.70 (0.48-1.02)	1.17 (0.85-1.61)	1.30 (0.85-2.00)	1.43 (1.03-1.98)	0.98 (0.74-1.31)
South America	Brazil	Female	0.60 (0.30-1.22)	0.80 (0.47-1.37)	1.04 (0.62-1.74)	1.20 (0.79-1.81)	1.52 (1.03-2.26)

South America	Brazil	Aged 0-64	0.64 (0.44-0.92)	1.05 (0.76-1.44)	1.28 (0.88-1.86)	1.33 (1.00-1.78)	1.15 (0.90-1.46)
South America	Chile	Total	0.78 (0.55-1.11)	1.27 (0.96-1.68)	1.93 (1.31-2.85)	1.43 (1.09-1.88)	1.25 (0.99-1.56)
South America	Chile	Male	0.80 (0.54-1.17)	1.28 (0.91-1.79)	2.08 (1.29-3.38)	1.52 (1.06-2.17)	1.17 (0.87-1.57)
South America	Chile	Female	0.67 (0.32-1.37)	0.72 (0.41-1.24)	1.11 (0.64-1.92)	1.17 (0.75-1.82)	1.66 (1.09-2.53)
South America	Chile	Aged 0-64	0.77 (0.53-1.13)	1.36 (0.97-1.91)	1.93 (1.26-2.95)	1.43 (1.05-1.95)	1.31 (1.02-1.68)
South America	Ecuador	Total	0.68 (0.47-0.98)	1.10 (0.82-1.48)	1.48 (0.96-2.29)	1.34 (1.02-1.77)	1.15 (0.91-1.45)
South America	Ecuador	Male	0.70 (0.47-1.04)	1.12 (0.78-1.59)	1.50 (0.86-2.59)	1.33 (0.92-1.94)	1.03 (0.75-1.40)
South America	Ecuador	Female	0.64 (0.32-1.31)	0.77 (0.45-1.31)	1.04 (0.61-1.76)	1.18 (0.78-1.80)	1.60 (1.07-2.39)
South America	Ecuador	Aged 0-64	0.65 (0.44-0.97)	1.12 (0.78-1.61)	1.44 (0.90-2.31)	1.32 (0.96-1.81)	1.18 (0.91-1.53)
South America	Paraguay	Total	0.72 (0.50-1.04)	1.20 (0.89-1.62)	1.77 (1.13-2.75)	1.38 (1.04-1.82)	1.21 (0.96-1.53)
Africa & Oceania	Australia	Total	1.32 (0.86-2.03)	1.09 (0.71-1.66)	1.48 (0.84-2.59)	1.11 (0.73-1.69)	1.40 (0.98-2.01)
Africa & Oceania	Australia	Male	1.20 (0.73-1.97)	1.08 (0.65-1.77)	1.43 (0.69-2.96)	1.07 (0.63-1.81)	1.27 (0.80-2.00)
Africa & Oceania	Australia	Female	1.63 (0.75-3.56)	1.90 (0.91-3.96)	1.59 (0.77-3.27)	1.21 (0.56-2.63)	1.89 (0.97-3.67)
Africa & Oceania	Australia	Aged 0-64	1.38 (0.87-2.19)	1.14 (0.71-1.84)	1.66 (0.92-2.99)	1.07 (0.67-1.69)	1.51 (1.03-2.21)
Africa & Oceania	South Africa	Total	1.35 (0.89-2.05)	1.16 (0.77-1.74)	1.69 (1.02-2.81)	1.11 (0.74-1.68)	1.45 (1.02-2.06)
Africa & Oceania	South Africa	Male	1.24 (0.76-2.00)	1.07 (0.66-1.74)	1.75 (0.93-3.32)	1.04 (0.63-1.73)	1.36 (0.88-2.10)
Africa & Oceania	South Africa	Female	1.60 (0.74-3.44)	1.76 (0.85-3.61)	1.79 (0.88-3.64)	1.18 (0.55-2.56)	1.91 (0.99-3.70)
Africa & Oceania	South Africa	Aged 0-64	1.35 (0.87-2.10)	1.18 (0.75-1.85)	1.81 (1.07-3.07)	1.03 (0.65-1.62)	1.52 (1.05-2.21)
Asia	China	Total	0.90 (0.71-1.14)	0.99 (0.81-1.21)	1.29 (0.88-1.89)	0.94 (0.77-1.14)	1.05 (0.94-1.18)
Asia	China	Male	0.94 (0.73-1.21)	0.96 (0.75-1.24)	1.65 (1.01-2.68)	0.88 (0.66-1.19)	1.15 (0.95-1.39)

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Asia	China	Female	0.87 (0.61-1.26)	0.84 (0.69-1.01)	0.87 (0.65-1.16)	1.00 (0.87-1.15)	1.06 (0.87-1.28)
Asia	China	Aged 0-64	0.99 (0.76-1.29)	1.06 (0.81-1.40)	1.48 (0.98-2.23)	0.95 (0.75-1.20)	1.07 (0.92-1.25)
Asia	Japan	Total	0.77 (0.67-0.89)	0.84 (0.75-0.95)	0.93 (0.75-1.14)	0.85 (0.75-0.96)	0.95 (0.88-1.02)
Asia	Japan	Male	0.78 (0.67-0.92)	0.85 (0.73-0.99)	0.91 (0.69-1.19)	0.80 (0.68-0.95)	0.92 (0.82-1.03)
Asia	Japan	Female	0.75 (0.61-0.94)	0.83 (0.73-0.94)	0.97 (0.81-1.16)	0.96 (0.87-1.05)	1.01 (0.90-1.14)
Asia	Japan	Aged 0-64	0.80 (0.69-0.94)	0.88 (0.75-1.02)	0.96 (0.77-1.20)	0.80 (0.70-0.93)	0.91 (0.83-1.00)
Asia	Korea (South)	Total	0.99 (0.84-1.16)	0.92 (0.81-1.05)	1.00 (0.79-1.26)	1.02 (0.89-1.18)	1.01 (0.93-1.09)
Asia	Korea (South)	Male	0.99 (0.83-1.19)	1.03 (0.87-1.22)	1.00 (0.75-1.34)	1.04 (0.87-1.26)	0.96 (0.85-1.08)
Asia	Korea (South)	Female	0.96 (0.73-1.27)	0.74 (0.63-0.87)	0.95 (0.76-1.19)	1.01 (0.90-1.13)	1.11 (0.96-1.29)
Asia	Korea (South)	Aged 0-64	1.05 (0.88-1.24)	0.98 (0.82-1.17)	1.07 (0.84-1.37)	1.03 (0.88-1.21)	1.02 (0.92-1.12)
Asia	Philippines	Total	0.85 (0.67-1.08)	0.89 (0.73-1.09)	1.01 (0.69-1.49)	0.91 (0.75-1.11)	0.99 (0.88-1.11)
Asia	Philippines	Male	0.87 (0.68-1.12)	0.91 (0.71-1.17)	1.11 (0.67-1.85)	0.86 (0.65-1.15)	0.99 (0.81-1.21)
Asia	Philippines	Female	0.82 (0.47-1.45)	1.05 (0.66-1.66)	0.67 (0.41-1.12)	1.04 (0.69-1.55)	0.98 (0.65-1.47)
Asia	Philippines	Aged 0-64	0.89 (0.69-1.15)	0.91 (0.70-1.19)	1.07 (0.71-1.62)	0.90 (0.72-1.13)	0.97 (0.84-1.13)
Asia	Taiwan	Total	0.85 (0.70-1.04)	0.91 (0.78-1.07)	1.07 (0.81-1.42)	0.91 (0.76-1.08)	1.00 (0.91-1.10)
Asia	Taiwan	Male	0.85 (0.68-1.07)	0.82 (0.66-1.02)	1.33 (0.93-1.88)	0.75 (0.59-0.97)	1.04 (0.90-1.20)
Asia	Taiwan	Female	0.89 (0.58-1.35)	0.97 (0.70-1.33)	0.70 (0.48-1.02)	1.02 (0.77-1.34)	1.05 (0.78-1.40)
Asia	Taiwan	Aged 0-64	0.88 (0.71-1.09)	0.92 (0.74-1.14)	1.15 (0.85-1.56)	0.90 (0.74-1.11)	0.99 (0.88-1.12)
Asia	Vietnam	Total	0.92 (0.73-1.17)	0.95 (0.77-1.17)	1.16 (0.78-1.72)	0.97 (0.80-1.17)	1.03 (0.92-1.16)
Asia	Vietnam	Male	0.96 (0.74-1.23)	1.03 (0.80-1.31)	1.31 (0.78-2.18)	0.98 (0.74-1.31)	1.06 (0.87-1.30)
Asia	Vietnam	Female	0.84 (0.47-1.49)	1.06 (0.66-1.68)	0.65 (0.39-1.09)	1.03 (0.69-1.56)	0.99 (0.65-1.51)

Asia	Vietnam	Aged 0-64	1.02 (0.78-1.32)	1.03 (0.78-1.35)	1.29 (0.84-1.97)	0.99 (0.79-1.25)	1.05 (0.90-1.23)
Europe	Czech Republic	Total	0.87 (0.70-1.10)	0.96 (0.79-1.16)	1.24 (0.88-1.74)	1.08 (0.90-1.31)	1.10 (0.97-1.26)
Europe	Czech Republic	Male	0.86 (0.67-1.10)	0.99 (0.78-1.26)	1.32 (0.87-2.00)	1.03 (0.79-1.35)	1.16 (0.97-1.40)
Europe	Czech Republic	Female	0.96 (0.66-1.41)	0.86 (0.66-1.11)	1.22 (0.89-1.68)	1.15 (0.93-1.44)	1.05 (0.82-1.36)
Europe	Czech Republic	Aged 0-64	0.85 (0.64-1.12)	0.97 (0.73-1.29)	1.23 (0.79-1.90)	1.07 (0.84-1.36)	1.16 (0.98-1.39)
Europe	Estonia	Total	0.84 (0.66-1.07)	0.95 (0.77-1.17)	1.24 (0.85-1.80)	1.06 (0.87-1.29)	1.10 (0.96-1.26)
Europe	Estonia	Male	0.84 (0.65-1.09)	0.96 (0.75-1.24)	1.25 (0.77-2.03)	1.00 (0.75-1.33)	1.14 (0.92-1.40)
Europe	Estonia	Female	0.94 (0.61-1.45)	0.80 (0.58-1.10)	1.38 (0.96-1.99)	1.14 (0.87-1.51)	1.05 (0.78-1.41)
Europe	Estonia	Aged 0-64	0.86 (0.66-1.13)	1.00 (0.76-1.32)	1.35 (0.90-2.03)	1.08 (0.85-1.36)	1.20 (1.01-1.42)
Europe	Finland	Total	0.86 (0.71-1.03)	1.03 (0.89-1.19)	1.50 (1.21-1.86)	1.06 (0.90-1.24)	1.15 (1.04-1.28)
Europe	Finland	Male	0.84 (0.68-1.03)	1.04 (0.87-1.25)	1.53 (1.18-1.99)	1.05 (0.86-1.27)	1.24 (1.08-1.43)
Europe	Finland	Female	0.84 (0.59-1.20)	0.95 (0.73-1.24)	1.20 (0.90-1.61)	1.21 (0.97-1.50)	0.92 (0.71-1.19)
Europe	Finland	Aged 0-64	0.89 (0.73-1.08)	1.08 (0.89-1.31)	1.51 (1.19-1.91)	1.08 (0.90-1.29)	1.23 (1.08-1.39)
Europe	Germany	Total	0.85 (0.68-1.07)	0.94 (0.77-1.14)	1.21 (0.85-1.70)	1.08 (0.89-1.31)	1.10 (0.96-1.25)
Europe	Germany	Male	0.86 (0.67-1.10)	0.98 (0.77-1.25)	1.25 (0.80-1.93)	1.03 (0.78-1.35)	1.13 (0.94-1.37)
Europe	Germany	Female	0.98 (0.67-1.43)	0.87 (0.68-1.13)	1.19 (0.87-1.62)	1.15 (0.93-1.43)	1.06 (0.83-1.36)
Europe	Germany	Aged 0-64	0.82 (0.63-1.06)	0.92 (0.70-1.20)	1.09 (0.73-1.63)	1.05 (0.84-1.33)	1.12 (0.95-1.33)
Europe	Italy	Total	0.83 (0.65-1.05)	0.91 (0.73-1.12)	1.12 (0.76-1.65)	1.05 (0.86-1.28)	1.07 (0.93-1.23)
Europe	Italy	Male	0.84 (0.64-1.08)	0.95 (0.74-1.23)	1.20 (0.73-1.96)	0.99 (0.75-1.33)	1.12 (0.91-1.38)
Europe	Italy	Female	0.93 (0.62-1.38)	0.98 (0.75-1.28)	1.05 (0.76-1.46)	1.18 (0.95-1.47)	1.00 (0.77-1.31)
Europe	Italy	Aged 0-64	0.84 (0.64-1.10)	0.95 (0.72-1.26)	1.19 (0.78-1.80)	1.06 (0.84-1.35)	1.15 (0.97-1.37)

Europe	Romania	Total	0.85 (0.67-1.06)	0.91 (0.75-1.11)	1.14 (0.81-1.61)	1.09 (0.90-1.31)	1.09 (0.95-1.24)
Europe	Romania	Male	0.86 (0.67-1.10)	1.02 (0.81-1.30)	1.17 (0.76-1.80)	1.09 (0.83-1.42)	1.12 (0.92-1.35)
Europe	Romania	Female	0.95 (0.66-1.38)	0.89 (0.69-1.13)	1.19 (0.88-1.61)	1.16 (0.95-1.42)	1.04 (0.81-1.32)
Europe	Romania	Aged 0-64	0.83 (0.64-1.08)	0.92 (0.71-1.19)	1.16 (0.80-1.69)	1.09 (0.87-1.36)	1.15 (0.98-1.36)
Europe	Spain	Total	0.81 (0.66-1.00)	0.89 (0.75-1.05)	1.10 (0.84-1.43)	1.07 (0.90-1.27)	1.07 (0.96-1.20)
Europe	Spain	Male	0.84 (0.68-1.06)	0.95 (0.77-1.18)	1.27 (0.92-1.75)	0.99 (0.79-1.25)	1.14 (0.98-1.33)
Europe	Spain	Female	0.84 (0.57-1.23)	1.03 (0.78-1.34)	1.07 (0.78-1.46)	1.15 (0.92-1.44)	0.97 (0.74-1.26)
Europe	Spain	Aged 0-64	0.87 (0.69-1.08)	0.96 (0.76-1.19)	1.23 (0.92-1.66)	1.12 (0.91-1.37)	1.18 (1.03-1.36)
Europe	Switzerland	Total	0.82 (0.68-1.00)	0.86 (0.73-1.00)	0.98 (0.76-1.25)	1.06 (0.90-1.26)	1.04 (0.93-1.16)
Europe	Switzerland	Male	0.79 (0.64-0.98)	0.91 (0.74-1.11)	0.97 (0.71-1.33)	0.96 (0.78-1.20)	1.03 (0.89-1.20)
Europe	Switzerland	Female	1.05 (0.75-1.45)	0.86 (0.67-1.10)	1.15 (0.87-1.52)	1.17 (0.94-1.44)	1.10 (0.87-1.39)
Europe	Switzerland	Aged 0-64	0.83 (0.67-1.03)	0.90 (0.72-1.11)	1.12 (0.85-1.48)	1.10 (0.91-1.34)	1.15 (1.00-1.32)
Europe	UK	Total	0.88 (0.74-1.05)	0.97 (0.84-1.12)	1.17 (0.95-1.45)	1.01 (0.87-1.18)	1.07 (0.96-1.19)
Europe	UK	Male	0.90 (0.74-1.09)	0.93 (0.78-1.11)	1.14 (0.88-1.48)	1.01 (0.83-1.22)	1.08 (0.94-1.24)
Europe	UK	Female	0.84 (0.61-1.16)	0.92 (0.72-1.16)	1.24 (0.95-1.62)	1.12 (0.92-1.37)	1.00 (0.80-1.25)
Europe	UK	Aged 0-64	0.86 (0.71-1.04)	1.03 (0.85-1.24)	1.20 (0.95-1.53)	1.02 (0.85-1.21)	1.14 (1.00-1.29)

Table S8. Risks of suicide during other national holidays (except Christmas and New Year's Day) and neighboring days (reference days: non-holidays which are not included in New Year's Day, Christmas, and other national holidays that this study addressed) for 26 countries with the corresponding 95% confidence intervals (vertical lines)

Region	Country	Subgroup	RR (95% CI)				
			Day -2	Day -1	Day 0	Day +1	Day +2
North America	Canada	Total	0.97 (0.93-1.01)	0.95 (0.91-0.99)	0.93 (0.81-1.08)	1.01 (0.95-1.08)	1.05 (0.98-1.12)
North America	Canada	Male	0.97 (0.92-1.02)	0.98 (0.93-1.03)	0.93 (0.78-1.12)	1.05 (0.96-1.14)	1.05 (1.00-1.12)
North America	Canada	Female	0.99 (0.89-1.10)	0.87 (0.77-0.98)	0.86 (0.78-0.96)	0.92 (0.83-1.02)	0.99 (0.90-1.10)
North America	Canada	Aged 0-64	0.99 (0.94-1.04)	0.97 (0.92-1.01)	0.93 (0.81-1.08)	1.00 (0.92-1.09)	1.04 (0.98-1.10)
North America	United States	Total	0.97 (0.93-1.01)	0.96 (0.92-1.00)	0.92 (0.80-1.05)	1.03 (0.97-1.10)	1.04 (0.97-1.10)
North America	United States	Male	0.97 (0.92-1.02)	0.98 (0.93-1.03)	0.93 (0.78-1.11)	1.04 (0.96-1.13)	1.05 (1.00-1.12)
North America	United States	Female	0.95 (0.86-1.05)	0.88 (0.79-0.98)	0.90 (0.82-0.99)	0.99 (0.91-1.08)	0.99 (0.90-1.09)
North America	United States	Aged 0-64	0.99 (0.94-1.04)	0.96 (0.92-1.01)	0.91 (0.80-1.04)	1.02 (0.94-1.11)	1.03 (0.98-1.09)
Central America	Costa Rica	Total	0.99 (0.90-1.08)	0.96 (0.88-1.05)	0.96 (0.79-1.17)	1.02 (0.92-1.14)	1.01 (0.91-1.13)
Central America	Guatemala	Total	0.99 (0.90-1.09)	0.96 (0.88-1.05)	1.03 (0.82-1.30)	1.02 (0.92-1.14)	1.04 (0.92-1.17)
Central America	Mexico	Total	1.00 (0.91-1.09)	0.97 (0.88-1.05)	1.09 (0.92-1.30)	1.02 (0.92-1.14)	1.06 (0.96-1.18)
Central America	Mexico	Male	0.99 (0.88-1.12)	0.91 (0.81-1.02)	1.11 (0.84-1.45)	1.02 (0.88-1.19)	1.07 (0.95-1.21)
Central America	Mexico	Female	1.04 (0.82-1.31)	0.98 (0.77-1.25)	1.04 (0.83-1.31)	1.05 (0.84-1.33)	1.32 (1.06-1.63)
Central America	Mexico	Aged 0-64	1.01 (0.90-1.13)	0.94 (0.85-1.05)	1.08 (0.88-1.34)	1.01 (0.88-1.17)	1.14 (1.02-1.28)
South America	Brazil	Total	0.97 (0.91-1.03)	0.94 (0.88-1.00)	0.98 (0.86-1.13)	1.08 (1.00-1.17)	1.02 (0.94-1.10)
South America	Brazil	Male	0.97 (0.91-1.05)	0.94 (0.88-1.01)	0.95 (0.79-1.14)	1.11 (1.00-1.22)	1.00 (0.93-1.09)
South America	Brazil	Female	0.98 (0.86-1.11)	0.92 (0.79-1.06)	1.11 (0.98-1.26)	1.02 (0.90-1.16)	1.10 (0.97-1.25)

South America	Brazil	Aged 0-64	0.99 (0.93-1.06)	0.93 (0.87-1.00)	1.00 (0.87-1.15)	1.09 (0.99-1.20)	1.01 (0.94-1.09)
South America	Chile	Total	0.99 (0.93-1.05)	0.95 (0.89-1.01)	1.14 (0.97-1.35)	1.11 (1.02-1.21)	1.07 (0.98-1.16)
South America	Chile	Male	1.00 (0.93-1.07)	0.93 (0.86-1.00)	1.12 (0.91-1.38)	1.18 (1.06-1.31)	1.03 (0.95-1.12)
South America	Chile	Female	1.01 (0.88-1.15)	0.91 (0.78-1.07)	1.08 (0.94-1.24)	0.97 (0.85-1.11)	1.10 (0.96-1.26)
South America	Chile	Aged 0-64	1.02 (0.95-1.09)	0.94 (0.88-1.01)	1.12 (0.95-1.32)	1.13 (1.02-1.26)	1.04 (0.97-1.13)
South America	Ecuador	Total	0.98 (0.92-1.04)	0.94 (0.88-1.01)	1.12 (0.92-1.36)	1.10 (1.01-1.20)	1.07 (0.97-1.17)
South America	Ecuador	Male	0.98 (0.91-1.06)	0.94 (0.87-1.01)	1.01 (0.78-1.29)	1.13 (1.01-1.26)	1.01 (0.93-1.10)
South America	Ecuador	Female	0.99 (0.87-1.12)	0.91 (0.78-1.06)	1.10 (0.97-1.25)	1.00 (0.89-1.14)	1.10 (0.97-1.25)
South America	Ecuador	Aged 0-64	1.01 (0.94-1.09)	0.94 (0.88-1.01)	1.07 (0.88-1.29)	1.12 (1.01-1.25)	1.03 (0.95-1.12)
South America	Paraguay	Total	0.98 (0.92-1.05)	0.94 (0.88-1.01)	1.15 (0.93-1.41)	1.10 (1.01-1.20)	1.08 (0.98-1.18)
Africa & Oceania	Australia	Total	0.99 (0.85-1.16)	0.88 (0.75-1.02)	1.09 (0.84-1.42)	0.94 (0.79-1.11)	1.21 (1.04-1.41)
Africa & Oceania	Australia	Male	0.88 (0.73-1.06)	0.81 (0.67-0.98)	1.03 (0.74-1.44)	0.92 (0.75-1.12)	1.27 (1.08-1.49)
Africa & Oceania	Australia	Female	1.36 (1.03-1.80)	1.07 (0.79-1.46)	1.04 (0.75-1.44)	1.02 (0.75-1.40)	1.04 (0.77-1.40)
Africa & Oceania	Australia	Aged 0-64	0.98 (0.84-1.16)	0.82 (0.69-0.97)	1.10 (0.85-1.42)	0.96 (0.79-1.16)	1.21 (1.04-1.40)
Africa & Oceania	South Africa	Total	1.00 (0.86-1.16)	0.88 (0.75-1.03)	1.10 (0.87-1.40)	0.94 (0.80-1.12)	1.22 (1.05-1.41)
Africa & Oceania	South Africa	Male	0.89 (0.75-1.07)	0.81 (0.67-0.97)	1.14 (0.85-1.52)	0.93 (0.77-1.14)	1.29 (1.11-1.51)
Africa & Oceania	South Africa	Female	1.40 (1.06-1.84)	1.07 (0.79-1.46)	1.02 (0.74-1.40)	0.99 (0.72-1.35)	1.03 (0.77-1.39)
Africa & Oceania	South Africa	Aged 0-64	0.99 (0.84-1.16)	0.82 (0.69-0.97)	1.10 (0.87-1.39)	0.96 (0.80-1.16)	1.21 (1.04-1.40)
Asia	China	Total	0.97 (0.95-0.99)	0.94 (0.92-0.95)	0.85 (0.72-0.99)	1.02 (0.96-1.09)	1.00 (0.94-1.06)
Asia	China	Male	0.97 (0.93-1.00)	0.94 (0.92-0.96)	0.84 (0.69-1.04)	1.01 (0.93-1.10)	1.01 (0.97-1.06)

Asia	China	Female	0.96 (0.91-1.02)	0.94 (0.87-1.01)	0.94 (0.90-0.99)	1.07 (1.04-1.10)	1.02 (0.97-1.07)
Asia	China	Aged 0-64	0.97 (0.93-1.00)	0.94 (0.92-0.96)	0.85 (0.72-0.99)	1.01 (0.93-1.10)	1.00 (0.95-1.04)
Asia	Japan	Total	0.98 (0.96-0.99)	0.94 (0.93-0.95)	0.87 (0.80-0.95)	1.06 (1.02-1.10)	1.00 (0.97-1.04)
Asia	Japan	Male	0.97 (0.95-0.99)	0.93 (0.91-0.95)	0.85 (0.75-0.95)	1.06 (1.01-1.11)	1.00 (0.97-1.03)
Asia	Japan	Female	1.00 (0.97-1.03)	0.97 (0.92-1.01)	0.92 (0.89-0.94)	1.05 (1.03-1.07)	1.00 (0.97-1.03)
Asia	Japan	Aged 0-64	0.97 (0.95-0.99)	0.94 (0.93-0.96)	0.85 (0.78-0.92)	1.05 (1.00-1.11)	1.00 (0.97-1.03)
Asia	Korea (South)	Total	0.98 (0.96-0.99)	0.93 (0.92-0.95)	0.92 (0.84-1.01)	1.01 (0.97-1.06)	1.03 (1.00-1.07)
Asia	Korea (South)	Male	0.98 (0.96-1.00)	0.94 (0.92-0.96)	0.92 (0.82-1.04)	1.00 (0.94-1.06)	1.03 (1.00-1.07)
Asia	Korea (South)	Female	0.97 (0.93-1.01)	0.92 (0.86-0.97)	0.94 (0.90-0.97)	1.03 (1.00-1.05)	1.03 (0.99-1.07)
Asia	Korea (South)	Aged 0-64	0.98 (0.96-1.00)	0.95 (0.94-0.97)	0.92 (0.84-1.01)	1.00 (0.94-1.05)	1.02 (0.99-1.05)
Asia	Philippines	Total	0.98 (0.96-1.00)	0.94 (0.92-0.96)	0.97 (0.83-1.13)	1.04 (0.97-1.10)	1.05 (0.99-1.11)
Asia	Philippines	Male	0.99 (0.96-1.03)	0.93 (0.91-0.95)	1.03 (0.85-1.26)	1.03 (0.95-1.12)	1.05 (1.01-1.10)
Asia	Philippines	Female	0.91 (0.80-1.03)	0.95 (0.82-1.10)	0.99 (0.87-1.13)	1.17 (1.04-1.32)	1.02 (0.91-1.15)
Asia	Philippines	Aged 0-64	0.99 (0.96-1.03)	0.96 (0.94-0.98)	0.96 (0.83-1.12)	1.03 (0.95-1.12)	1.03 (0.99-1.08)
Asia	Taiwan	Total	0.98 (0.96-0.99)	0.94 (0.92-0.95)	0.93 (0.83-1.03)	1.03 (0.97-1.08)	1.03 (0.99-1.08)
Asia	Taiwan	Male	0.97 (0.95-1.00)	0.94 (0.92-0.96)	0.90 (0.78-1.03)	1.01 (0.94-1.08)	1.03 (0.99-1.06)
Asia	Taiwan	Female	0.93 (0.85-1.01)	0.94 (0.84-1.04)	0.98 (0.89-1.07)	1.13 (1.04-1.22)	1.03 (0.94-1.12)
Asia	Taiwan	Aged 0-64	0.98 (0.96-1.01)	0.95 (0.93-0.97)	0.92 (0.83-1.02)	1.03 (0.96-1.10)	1.02 (0.99-1.05)
Asia	Vietnam	Total	0.98 (0.96-1.00)	0.94 (0.92-0.96)	0.93 (0.77-1.12)	1.04 (0.97-1.10)	1.03 (0.96-1.10)
Asia	Vietnam	Male	0.98 (0.95-1.02)	0.93 (0.91-0.96)	0.96 (0.76-1.22)	1.03 (0.95-1.12)	1.04 (0.98-1.09)
Asia	Vietnam	Female	0.91 (0.80-1.03)	0.95 (0.82-1.10)	0.99 (0.87-1.13)	1.17 (1.04-1.32)	1.02 (0.90-1.15)

Asia	Vietnam	Aged 0-64	0.99 (0.95-1.03)	0.95 (0.93-0.97)	0.93 (0.79-1.11)	1.04 (0.95-1.13)	1.03 (0.98-1.08)
Europe	Czech Republic	Total	0.94 (0.90-0.97)	0.99 (0.96-1.02)	0.86 (0.74-1.00)	1.04 (0.98-1.11)	1.01 (0.94-1.07)
Europe	Czech Republic	Male	0.91 (0.87-0.96)	1.00 (0.96-1.04)	0.79 (0.65-0.97)	1.03 (0.94-1.11)	1.03 (0.97-1.08)
Europe	Czech Republic	Female	0.98 (0.91-1.06)	0.99 (0.90-1.09)	0.93 (0.86-1.01)	1.00 (0.93-1.06)	0.99 (0.92-1.06)
Europe	Czech Republic	Aged 0-64	0.92 (0.88-0.98)	0.99 (0.95-1.03)	0.92 (0.77-1.11)	1.02 (0.93-1.12)	1.02 (0.96-1.08)
Europe	Estonia	Total	0.94 (0.91-0.98)	0.99 (0.96-1.02)	0.89 (0.75-1.07)	1.04 (0.98-1.11)	1.02 (0.95-1.09)
Europe	Estonia	Male	0.92 (0.88-0.97)	1.00 (0.96-1.04)	0.85 (0.67-1.07)	1.05 (0.96-1.14)	1.04 (0.98-1.10)
Europe	Estonia	Female	0.99 (0.90-1.09)	0.98 (0.88-1.09)	0.92 (0.84-1.01)	0.97 (0.89-1.05)	0.99 (0.91-1.08)
Europe	Estonia	Aged 0-64	0.92 (0.88-0.97)	0.99 (0.95-1.03)	0.92 (0.77-1.09)	1.02 (0.93-1.11)	1.02 (0.96-1.08)
Europe	Finland	Total	0.96 (0.93-0.99)	1.00 (0.97-1.03)	1.06 (0.97-1.16)	1.07 (1.01-1.13)	1.08 (1.04-1.13)
Europe	Finland	Male	0.96 (0.92-1.00)	0.99 (0.95-1.03)	1.08 (0.97-1.22)	1.08 (1.02-1.16)	1.09 (1.05-1.14)
Europe	Finland	Female	0.95 (0.88-1.02)	1.00 (0.92-1.10)	0.96 (0.89-1.04)	1.06 (0.99-1.13)	0.98 (0.92-1.06)
Europe	Finland	Aged 0-64	0.96 (0.92-1.00)	1.01 (0.97-1.05)	1.08 (0.98-1.18)	1.06 (1.00-1.14)	1.06 (1.02-1.11)
Europe	Germany	Total	0.94 (0.91-0.97)	0.99 (0.96-1.02)	0.90 (0.76-1.06)	1.04 (0.98-1.11)	1.02 (0.96-1.09)
Europe	Germany	Male	0.92 (0.88-0.97)	1.00 (0.96-1.04)	0.84 (0.68-1.04)	1.03 (0.95-1.13)	1.04 (0.98-1.10)
Europe	Germany	Female	0.98 (0.90-1.06)	0.99 (0.90-1.08)	0.94 (0.87-1.01)	1.00 (0.93-1.06)	0.99 (0.92-1.06)
Europe	Germany	Aged 0-64	0.92 (0.87-0.97)	0.99 (0.95-1.03)	0.89 (0.76-1.06)	1.01 (0.93-1.10)	1.01 (0.95-1.07)
Europe	Italy	Total	0.93 (0.90-0.97)	0.99 (0.96-1.02)	0.84 (0.71-1.01)	1.04 (0.97-1.10)	1.00 (0.93-1.07)
Europe	Italy	Male	0.92 (0.87-0.96)	1.00 (0.96-1.04)	0.81 (0.64-1.02)	1.04 (0.95-1.13)	1.03 (0.97-1.09)
Europe	Italy	Female	0.94 (0.87-1.02)	0.99 (0.90-1.09)	0.96 (0.89-1.04)	1.05 (0.98-1.12)	0.99 (0.92-1.07)
Europe	Italy	Aged 0-64	0.91 (0.87-0.96)	0.99 (0.95-1.03)	0.88 (0.73-1.05)	1.00 (0.91-1.09)	1.00 (0.95-1.06)

Europe	Romania	Total	0.94 (0.91-0.98)	0.99 (0.96-1.02)	0.93 (0.80-1.07)	1.04 (0.98-1.11)	1.03 (0.97-1.10)
Europe	Romania	Male	0.93 (0.89-0.97)	1.00 (0.96-1.04)	0.89 (0.74-1.07)	1.05 (0.97-1.14)	1.05 (1.00-1.11)
Europe	Romania	Female	0.97 (0.90-1.05)	0.99 (0.90-1.08)	0.94 (0.88-1.01)	1.01 (0.95-1.07)	0.99 (0.92-1.06)
Europe	Romania	Aged 0-64	0.92 (0.88-0.97)	0.99 (0.95-1.03)	0.92 (0.80-1.07)	1.02 (0.94-1.11)	1.02 (0.97-1.07)
Europe	Spain	Total	0.95 (0.92-0.98)	0.99 (0.96-1.03)	0.95 (0.85-1.05)	1.06 (1.00-1.12)	1.04 (0.99-1.09)
Europe	Spain	Male	0.93 (0.90-0.97)	0.99 (0.95-1.03)	0.91 (0.80-1.03)	1.07 (1.00-1.15)	1.05 (1.00-1.10)
Europe	Spain	Female	0.93 (0.86-1.01)	0.98 (0.89-1.07)	0.97 (0.90-1.05)	1.05 (0.98-1.12)	1.00 (0.93-1.07)
Europe	Spain	Aged 0-64	0.93 (0.89-0.97)	0.99 (0.96-1.03)	0.95 (0.85-1.06)	1.05 (0.98-1.13)	1.03 (0.98-1.07)
Europe	Switzerland	Total	0.94 (0.91-0.97)	0.99 (0.96-1.02)	0.91 (0.83-1.00)	1.03 (0.97-1.08)	1.03 (0.99-1.08)
Europe	Switzerland	Male	0.94 (0.90-0.98)	1.00 (0.96-1.04)	0.94 (0.84-1.06)	1.04 (0.98-1.12)	1.07 (1.02-1.11)
Europe	Switzerland	Female	0.99 (0.92-1.07)	1.00 (0.92-1.09)	0.93 (0.86-1.00)	1.00 (0.94-1.07)	0.98 (0.91-1.05)
Europe	Switzerland	Aged 0-64	0.93 (0.89-0.97)	1.00 (0.96-1.04)	0.95 (0.86-1.05)	1.01 (0.94-1.09)	1.03 (0.98-1.07)
Europe	UK	Total	0.93 (0.90-0.96)	0.99 (0.95-1.02)	0.80 (0.71-0.89)	1.03 (0.97-1.09)	0.98 (0.93-1.03)
Europe	UK	Male	0.91 (0.87-0.95)	1.00 (0.96-1.04)	0.76 (0.66-0.87)	1.03 (0.95-1.11)	1.02 (0.97-1.06)
Europe	UK	Female	0.97 (0.90-1.05)	0.98 (0.90-1.08)	0.94 (0.87-1.01)	1.00 (0.94-1.07)	0.99 (0.92-1.06)
Europe	UK	Aged 0-64	0.90 (0.86-0.94)	0.98 (0.94-1.02)	0.82 (0.73-0.92)	0.98 (0.91-1.06)	0.99 (0.94-1.03)

Table S9. Meta-regression results on spatial heterogeneities of suicide risks by the day-of-the-week and holiday type. Cochran Q tests for heterogeneity (p-value), and I^2 statistics (%) in random-effects meta-regression models.

Holiday type	Population	Intercept-only			Region indicator included		
		Q	p-value	I^2	Q	p-value	I^2
The day-of-the-week	Total	1951.7	<0.0001	92.3	787.1	<0.0001	84.8
	Male	1651.1	<0.0001	92.0	489.1	<0.0001	79.1
	Female	569.3	<0.0001	76.8	327.3	<0.0001	70.7
	Aged 0-64	2007.2	<0.0001	93.4	535.6	<0.0001	81.0
	Aged 65 or older	435.4	<0.0001	69.7	293.9	<0.0001	65.3
Christmas	Total	273.4	<0.0001	54.3	146.3	0.0018	31.7
	Male	245.1	<0.0001	55.1	97.5	0.1665	12.8
	Female	114.6	0.3626	4.0	74.5	0.6529	1.0
	Aged 0-64	223.9	<0.0001	50.9	101.2	0.1114	16.0
New Year's Day	Total	350.6	<0.0001	64.3	150.9	0.0008	33.7
	Male	327.6	<0.0001	66.4	146.6	<0.0001	42.0
	Female	118.0	0.2832	6.8	62.5	0.9256	1.0
	Aged 0-64	325.9	<0.0001	66.2	136.0	0.0004	37.5
Other national holidays	Total	277.9	<0.0001	55.0	170.0	<0.0001	41.2
	Male	288.2	<0.0001	61.8	160.5	<0.0001	47.0
	Female	131.6	0.0787	16.4	86.0	0.3029	7.0
	Aged 0-64	279.9	<0.0001	60.7	143.0	0.0001	40.5

Table S10. Multivariate meta-regression results on spatial heterogeneities of suicide risks by the day-of-the-week. The tau (τ) for heterogeneity and the correlation matrix in random-effects meta-regression models.

			Multivariate meta-regression model											
			Intercept-only								Region indicator included				
Population	tau (τ)		Correlation matrix					tau (τ)		Correlation matrix				
			Tue	Thu	Fri	Sat	Sun			Tue	Thu	Fri	Sat	Sun
Total	0.0222	Mon						0.0319	Mon					
	0.0097	Tue	-0.8688					0.0069	Tue	-0.8910				
	0.0130	Tur	0.2287	-0.6698				0.0047	Tur	-0.5519	0.1140			
	0.0190	Fri	-0.3634	-0.0754	0.5685			0.0178	Fri	-0.5226	0.0786	0.9985		
	0.1238	Sat	0.0402	-0.4459	0.7710	0.6779		0.1018	Sat	-0.0737	-0.2282	0.5405	0.5833	
	0.1587	Sun	0.3337	-0.6943	0.8692	0.4602	0.9312	0.1168	Sun	0.3044	-0.5124	0.2336	0.2864	0.9213
Male	0.0203	Mon						0.0255	Mon					
	0.0159	Tue	-0.7560					0.013	Tue	0.1700				
	0.0147	Tur	-0.0722	-0.3225				0.0146	Tur	-0.1853	0.6950			
	0.0247	Fri	-0.2766	-0.0753	0.7253			0.0144	Fri	-0.4957	-0.3453	0.4340		
	0.1324	Sat	-0.0319	-0.5823	0.6879	0.7269		0.1008	Sat	-0.7651	-0.7637	-0.3101	0.5777	
	0.1642	Sun	0.2796	-0.8256	0.6795	0.4760	0.9152	0.0859	Sun	-0.6939	-0.8274	-0.4112	0.5232	0.9934
Female	0.0272	Mon						0.0276	Mon					
	0.0248	Tue	-0.0101					0.0249	Tue	-0.6511				
	0.0146	Tur	0.3406	0.3630				0.013	Tur	-0.3006	0.8241			
	0.0237	Fri	-0.1349	0.6496	0.8405			0.0252	Fri	0.1789	0.6032	0.8556		
	0.1321	Sat	0.5809	0.6663	0.8417	0.7014		0.1217	Sat	0.3072	0.5223	0.6958	0.9574	
	0.1754	Sun	0.7578	0.4737	0.8159	0.5399	0.9660	0.1422	Sun	0.6008	0.2154	0.4727	0.8606	0.9451
Aged 0-64	0.0230	Mon						0.0211	Mon					
	0.0097	Tue	-0.8206					0.0037	Tue	-0.9999				
	0.0189	Tur	0.6019	-0.2248				0.0132	Tur	-0.3932	0.3900			
	0.0265	Fri	0.0016	0.1899	0.6528			0.0232	Fri	-0.3695	0.3555	0.6206		

Group													
	0.1387	Sat	0.3378	-0.3419	0.7523	0.6984		0.1176	Sat	-0.2572	0.2442	-0.2176	0.6124	
	0.1810	Sun	0.6124	-0.5365	0.8425	0.5080	0.9354	0.1099	Sun	-0.0985	0.0857	-0.3424	0.5207	0.9851
Aged 65 or older	0.0656	Mon						0.07	Mon					
	0.0286	Tue	0.8970					0.0335	Tue	0.8491				
	0.0234	Tur	0.9396	0.9374				0.0347	Tur	0.9599	0.9568			
	0.0174	Fri	0.8350	0.7464	0.9303			0.0256	Fri	0.9781	0.8549	0.9348		
	0.0989	Sat	0.0974	0.3066	0.4281	0.5531		0.0945	Sat	0.1776	0.3305	0.1869	0.3768	
	0.1297	Sun	0.2978	0.4760	0.6025	0.7022	0.9791	0.139	Sun	0.4770	0.5938	0.4887	0.6460	0.9478

Table S11. Multivariate meta-regression results on spatial heterogeneities of suicide risks by the Christmas. The tau for heterogeneity and the correlation matrix in random-effects meta-regression models.

Population	tau (τ)		Day -1	Day 0	Day +1	Day +2	tau (τ)		Day -1	Day 0	Day +1	Day +2
			Intercept-only — Correlation matrix						**Region indicator included** — Correlation matrix			
Total	0.1030	**Day -2**					0.0571	**Day -2**				
	0.1078	**Day -1**	0.8482				0.1077	**Day -1**	0.2323			
	0.3464	**Day 0**	0.8897	0.9504			0.2683	**Day 0**	0.4104	0.8832		
	0.1096	**Day +1**	0.3763	0.7593	0.7517		0.1137	**Day +1**	-0.8156	0.3511	0.1829	
	0.1123	**Day +2**	0.0819	0.5972	0.4470	0.8679	0.1050	**Day +2**	-0.6316	0.4738	0.0731	0.7989
Male	0.0928	**Day -2**					0.0353	**Day -2**				
	0.1159	**Day -1**	0.8793				0.0684	**Day -1**	0.4496			
	0.3840	**Day 0**	0.9395	0.9111			0.1914	**Day 0**	0.3126	0.8612		
	0.1047	**Day +1**	0.4185	0.6553	0.6994		0.1186	**Day +1**	-0.9564	-0.1731	-0.0926	
	0.1232	**Day +2**	0.3358	0.7076	0.5786	0.9148	0.1032	**Day +2**	-0.8145	-0.0708	-0.2268	0.8984
Female	0.0468	**Day -2**					0.0431	**Day -2**				
	0.2562	**Day -1**	-0.1957				0.0951	**Day -1**	-0.8722			
	0.2297	**Day 0**	0.3155	0.7131			0.3009	**Day 0**	-0.1811	0.6387		
	0.1547	**Day +1**	0.5700	-0.0876	0.6308		0.1762	**Day +1**	0.0429	0.4508	0.9748	
	0.1516	**Day +2**	0.3243	0.0811	0.7099	0.9558	0.1613	**Day +2**	-0.3300	0.7493	0.9881	0.9289
Aged 0-64	0.1075	**Day -2**					0.0705	**Day -2**				
	0.0916	**Day -1**	0.7062				0.0953	**Day -1**	-0.2900			
	0.3522	**Day 0**	0.9673	0.8628			0.2247	**Day 0**	0.1929	0.7881		
	0.0966	**Day +1**	0.9047	0.9405	0.9832		0.0915	**Day +1**	-0.8644	0.3475	0.1343	
	0.1197	**Day +2**	0.5837	0.9871	0.7707	0.8740	0.0678	**Day +2**	-0.7938	0.7639	0.2343	0.6231

Table S12. Multivariate meta-regression results on spatial heterogeneities of suicide risks by the New Year's Day. The tau for heterogeneity and the correlation matrix in random-effects meta-regression models.

Population	tau (τ)		Day -1	Day 0	Day +1	Day +2	tau (τ)		Day -1	Day 0	Day +1	Day +2
			Intercept-only Correlation matrix						Region indicator included Correlation matrix			
Total	0.1281	**Day -2**					0.1021	**Day -2**				
	0.0727	**Day -1**	0.1899				0.0920	**Day -1**	0.6408			
	0.2377	**Day 0**	0.5077	0.7937			0.1834	**Day 0**	0.3618	0.8928		
	0.1519	**Day +1**	-0.1200	0.7751	0.2382		0.0809	**Day +1**	0.6493	0.1366	0.1601	
	0.0776	**Day +2**	0.317	0.9913	0.8408	0.7252	0.0517	**Day +2**	0.4784	0.7687	0.9199	0.5184
Male	0.1023	**Day -2**					0.1086	**Day -2**				
	0.1185	**Day -1**	-0.0621				0.1097	**Day -1**	0.5227			
	0.2475	**Day 0**	0.3269	0.3387			0.2402	**Day 0**	0.3483	0.2875		
	0.1818	**Day +1**	0.1544	0.9700	0.3048		0.1264	**Day +1**	0.6763	0.9335	0.0573	
	0.0944	**Day +2**	0.3231	0.5900	0.9569	0.5682	0.0913	**Day +2**	0.3023	0.4146	0.9829	0.1539
Female	0.1293	**Day -2**					0.1507	**Day -2**				
	0.0577	**Day -1**	0.1550				0.0681	**Day -1**	-0.4991			
	0.1411	**Day 0**	0.5708	0.8996			0.1151	**Day 0**	-0.5477	-0.4517		
	0.0489	**Day +1**	0.9355	0.4942	0.8242		0.0449	**Day +1**	0.6657	-0.9789	0.2597	
	0.0648	**Day +2**	0.9901	0.2925	0.6807	0.9759	0.0738	**Day +2**	0.8392	0.0524	-0.9146	0.1529
Aged 0-64	0.1234	**Day -2**					0.1166	**Day -2**				
	0.0693	**Day -1**	-0.0188				0.1225	**Day -1**	0.7514			
	0.2307	**Day 0**	0.4109	0.5833			0.1979	**Day 0**	0.4691	0.7287		
	0.1795	**Day +1**	-0.2111	0.8460	0.0667		0.1001	**Day +1**	0.7608	0.2092	0.2768	
	0.1139	**Day +2**	0.1149	0.9817	0.7233	0.7369	0.0689	**Day +2**	0.7141	0.6219	0.8728	0.7099

Table S13. Multivariate meta-regression results on spatial heterogeneities of suicide risks by other national holidays. The tau for heterogeneity and the correlation matrix in random-effects meta-regression models.

					Multivariate meta-regression model								
			Intercept-only						Region indicator included				
Population	tau (τ)		Correlation matrix				tau (τ)		Correlation matrix				
			Day -1	Day 0	Day +1	Day +2			Day -1	Day 0	Day +1	Day +2
Total	0.0047	Day -2					0.0098	Day -2				
	0.0161	Day -1	0.1862				0.0057	Day -1	0.7854			
	0.0912	Day 0	0.0484	0.9904			0.0900	Day 0	0.9385	0.5234		
	0.0239	Day +1	0.9264	0.5426	0.4211		0.0265	Day +1	0.6032	0.9675	0.2907	
	0.0332	Day +2	-0.1391	0.9471	0.9824	0.2442	0.0329	Day +2	0.8562	0.3526	0.9819	0.1044
Male	0.0010	Day -2					0.0175	Day -2				
	0.0157	Day -1	0.6338				0.0078	Day -1	-0.4939			
	0.1058	Day 0	0.9015	0.9036			0.1182	Day 0	0.9999	-0.4815		
	0.0343	Day +1	0.8605	0.1749	0.5792		0.0377	Day +1	0.4248	-0.9970	0.4119	
	0.0337	Day +2	0.7874	0.9757	0.9755	0.3855	0.0246	Day +2	0.9417	-0.1725	0.9464	0.0954
Female	0.0171	Day -2					0.0274	Day -2				
	0.0282	Day -1	0.9999				0.0305	Day -1	0.8887			
	0.0604	Day 0	0.1294	0.1421			0.0256	Day 0	-0.9984	-0.8612		
	0.0144	Day +1	1.0000	0.9998	0.1210		0.0496	Day +1	-0.6935	-0.2860	0.7334	
	0.0394	Day +2	-0.0050	0.0078	0.9909	-0.0134	0.0189	Day +2	-0.1509	-0.5873	0.0944	-0.6076
Aged 0-64	0.0057	Day -2					0.0186	Day -2				
	0.0135	Day -1	0.6803				0.0093	Day -1	0.8952			
	0.0917	Day 0	0.8622	0.9578			0.085	Day 0	0.9737	0.9732		
	0.0331	Day +1	0.8439	0.1809	0.4559		0.0384	Day +1	0.6182	0.2032	0.4229	
	0.0272	Day +2	0.8650	0.9562	1.000	0.4608	0.0240	Day +2	0.9859	0.9572	0.9981	0.4778

Figure S1. Temporal variation in suicide risk by day-of-week and subgroup results by sexes.
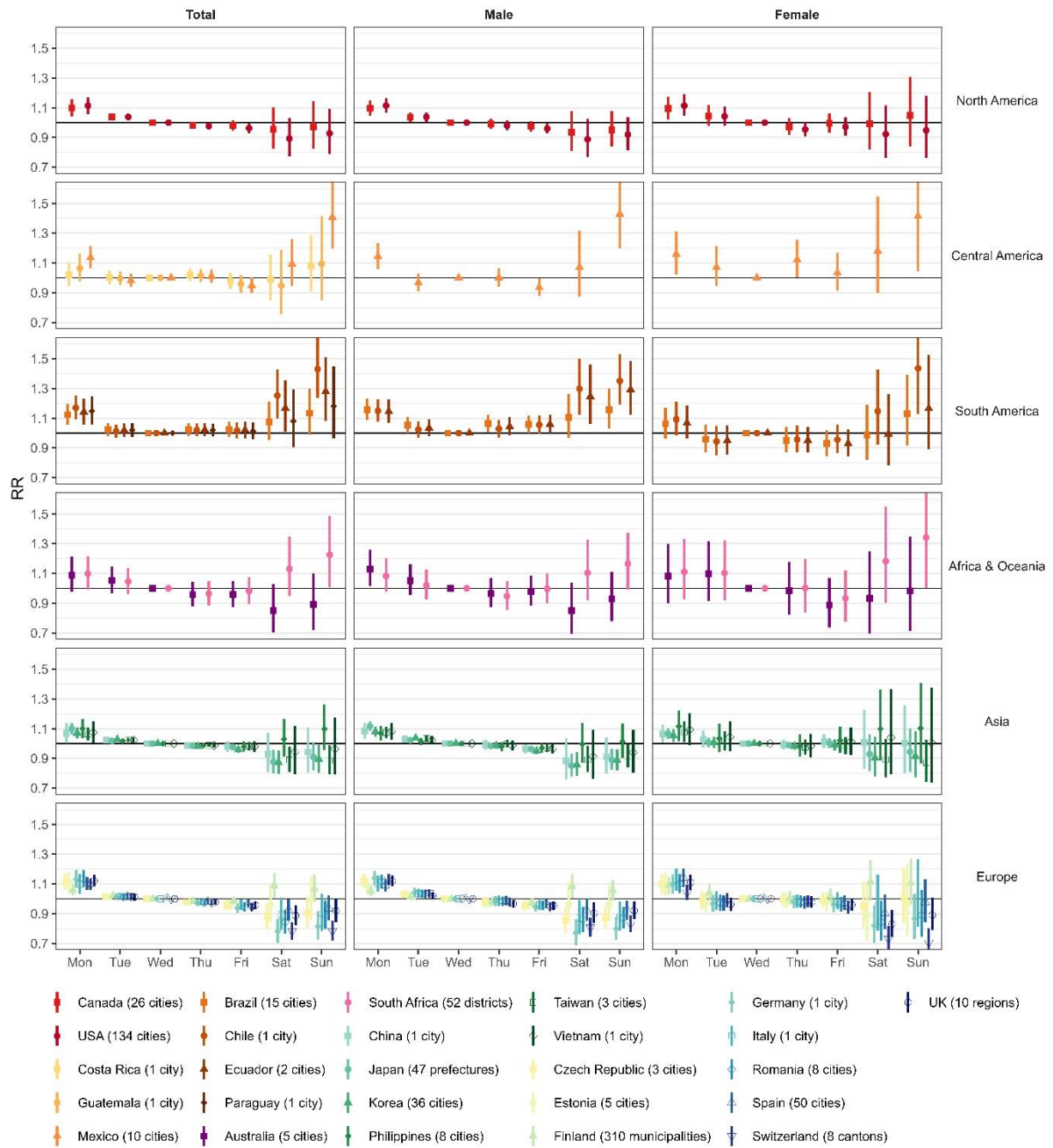
Figure S2. Temporal variation in suicide risk by day-of-week and subgroup results by age groups.
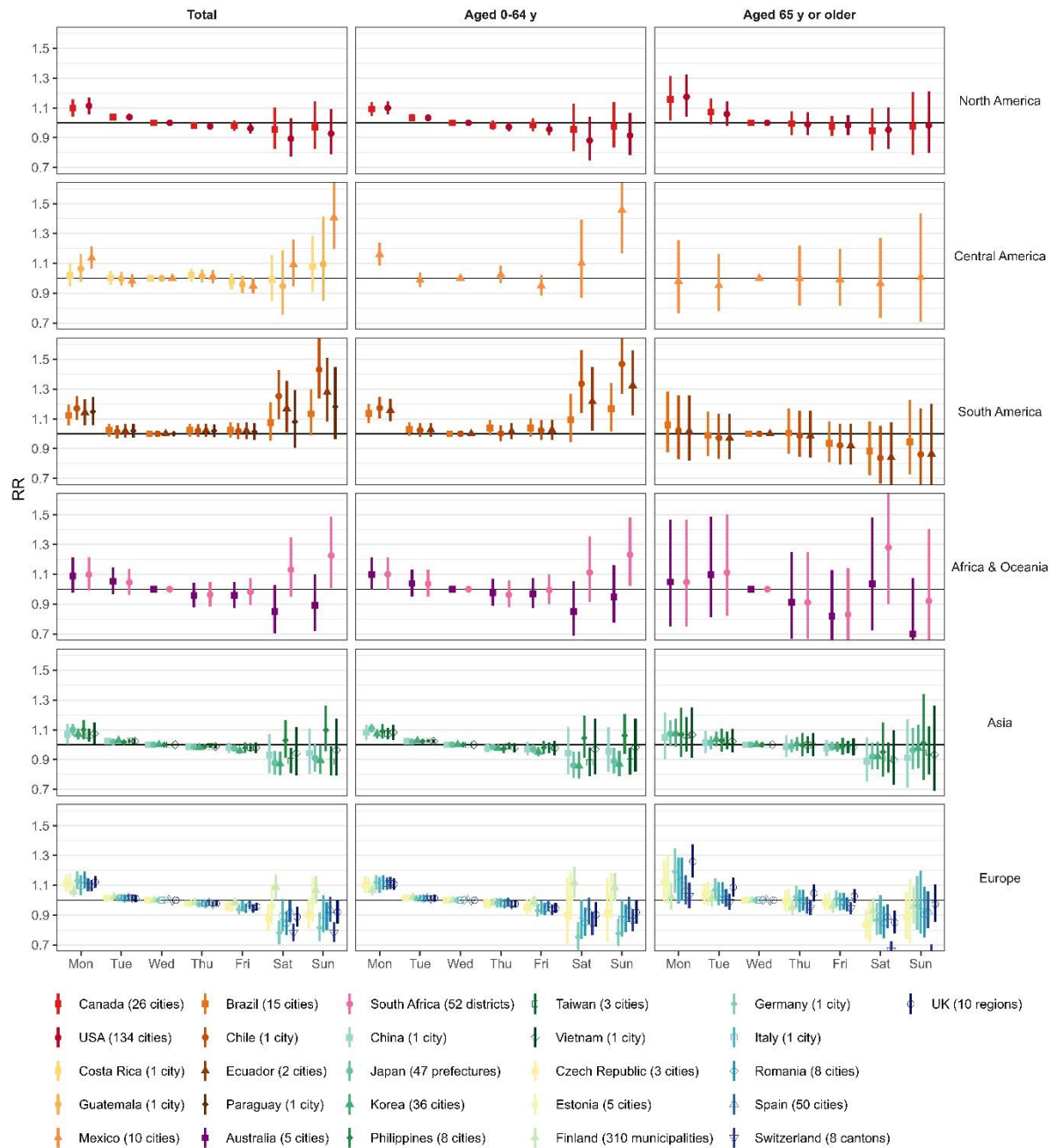
Figure S3. Temporal variation in suicide risk during the Christmas holidays in the population aged 0-64 years and sexes.
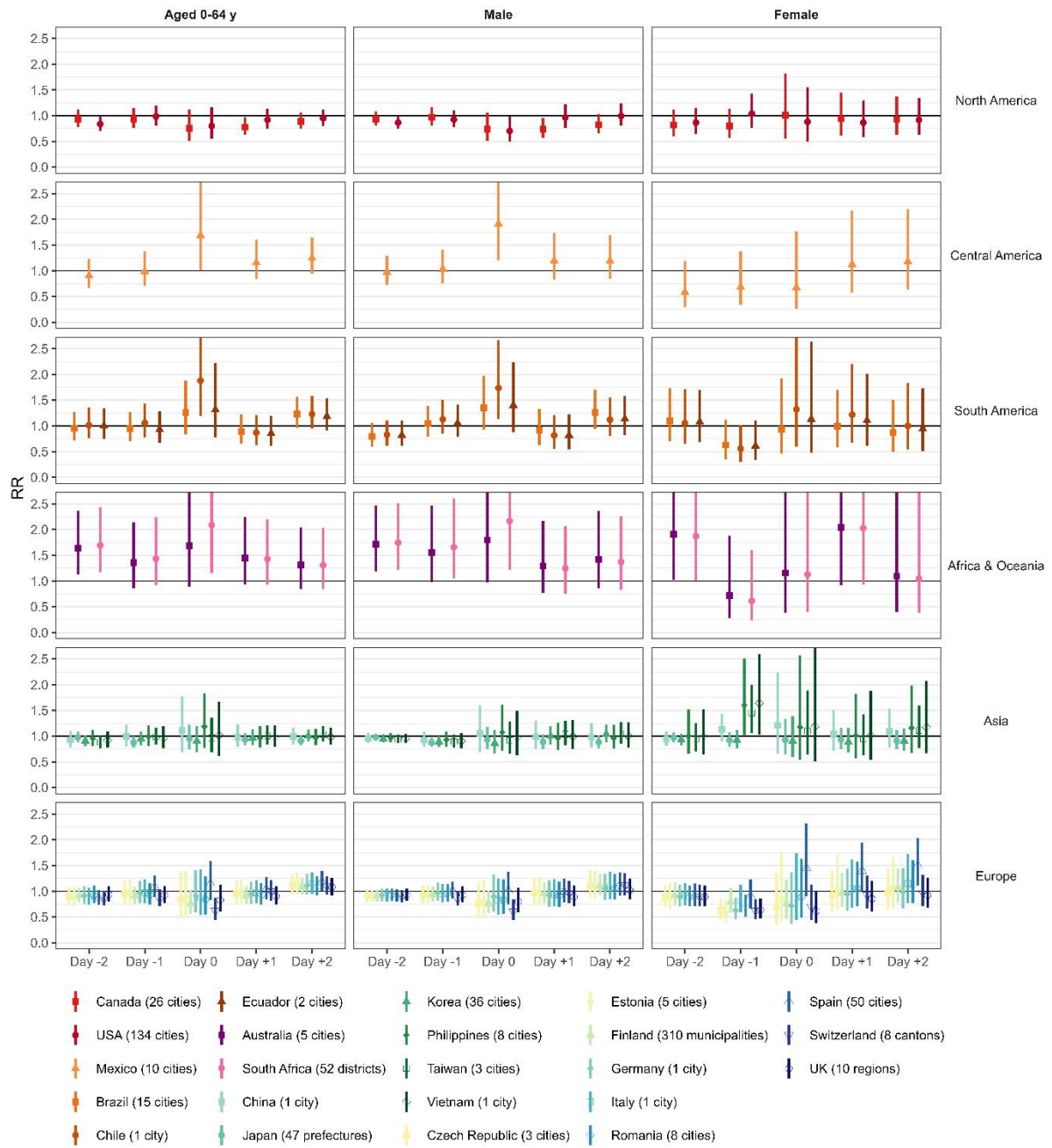
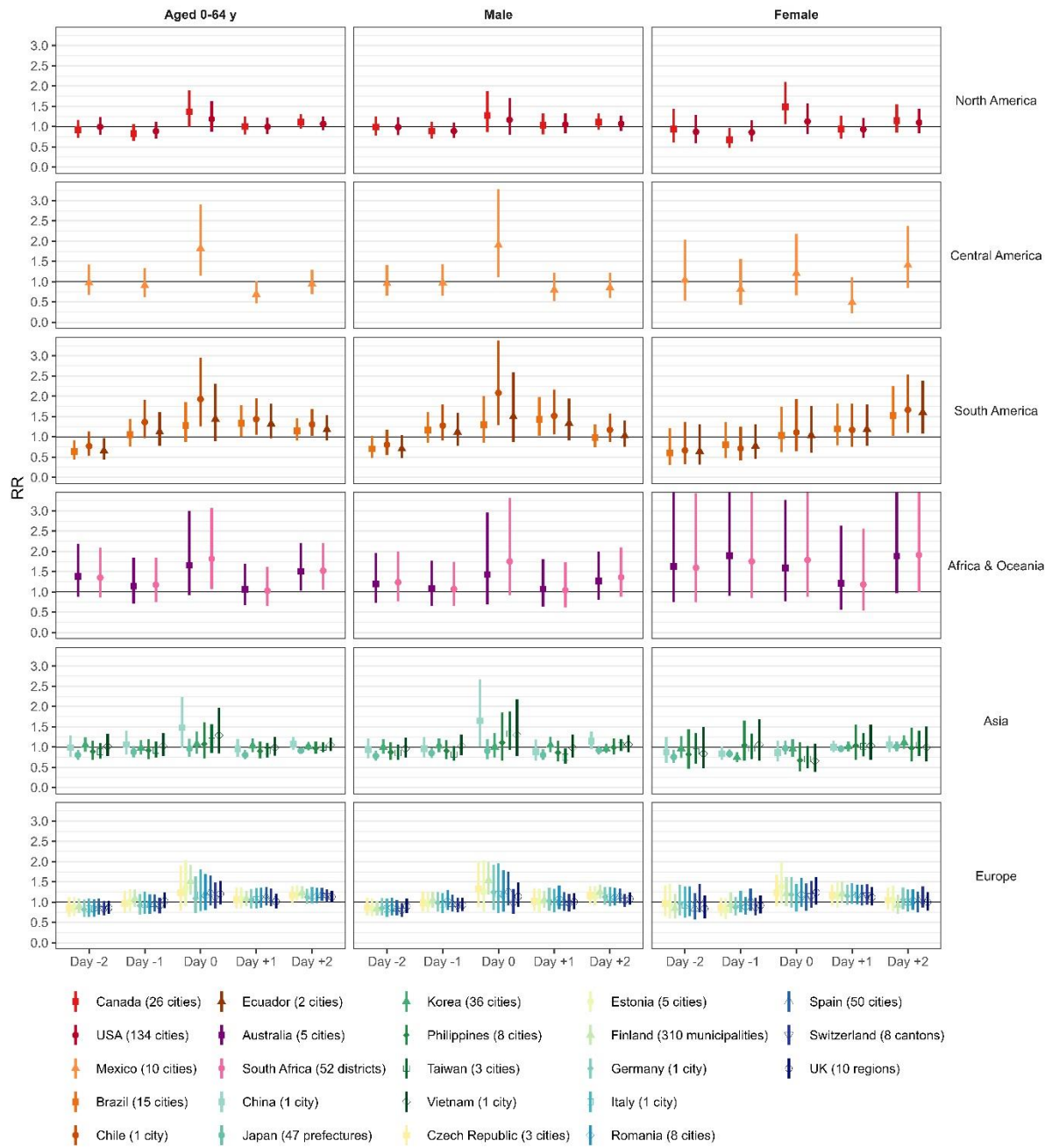**Figure S4. Temporal variation in suicide risk during the New Year's Day holidays in the population aged 0-64 years and sexes.**

Figure S5. Temporal variation in suicide risk during Luna New Year holidays in East Asian countries/regions (China, Korea, and Taiwan).
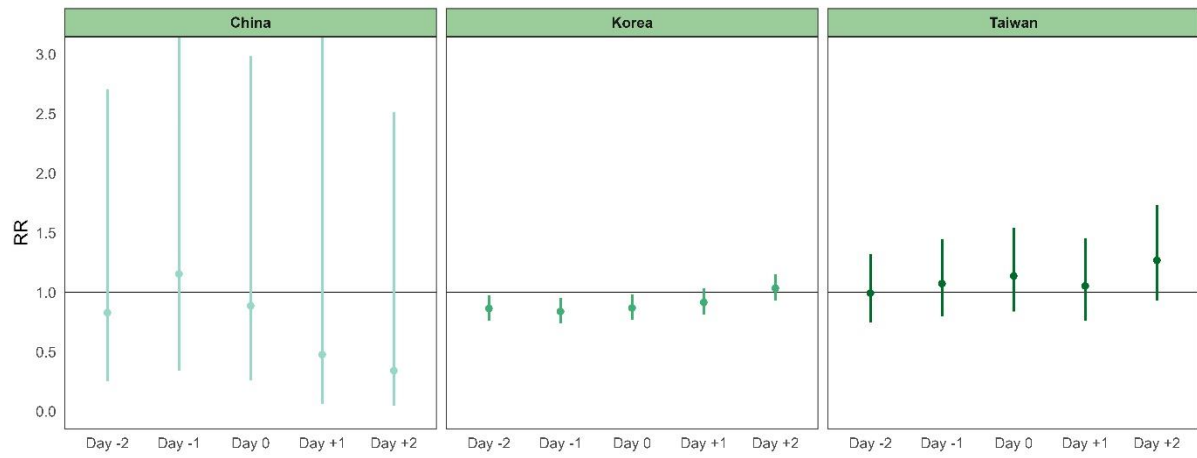
Figure S6. Temporal variation in suicide risk during other national holidays (except for Christmas and New Year's Day) in the population aged 0-64 years and sexes.
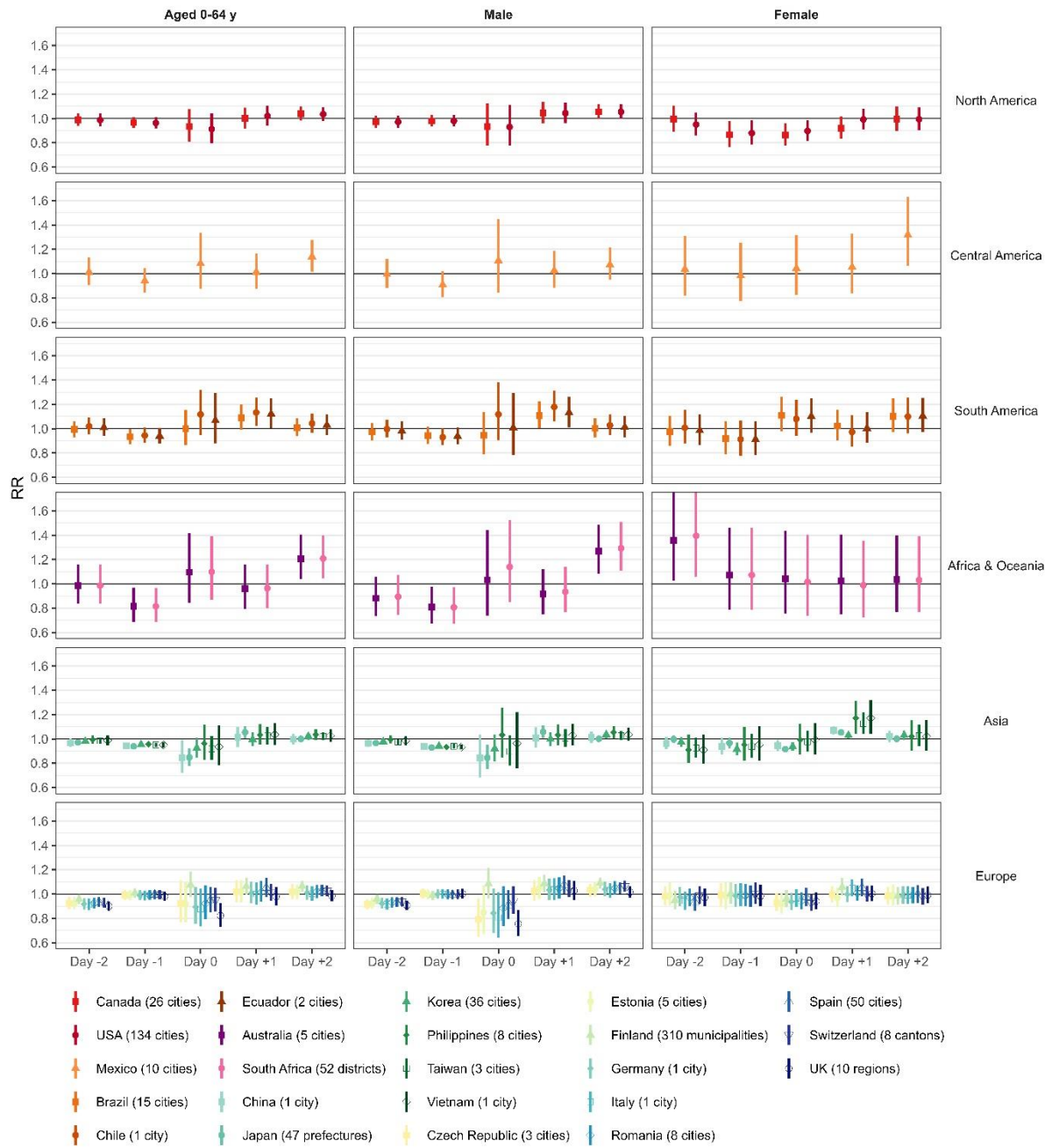
Simulation study for the misclassification on Monday

We performed a simulation study as a sensitivity analysis to examine the potential misclassification biases due to administrative systems. This simulation study was constructed based on the total suicide counts that can partly address the potential misclassification on Monday that affects suicide counts during the previous weekends.

We first assumed that suicide counts on Monday could be over-counted because of the possibility that the mortality administrative system did not work during the weekends. To be specific, we generated three situations: 3%/5%/10% of suicide counts on Monday might include suicide counts during the weekends. Second, according to the assumptions, we decreased suicide counts on Mondays and increased suicide counts equally on Saturdays and Sundays prior to the corresponding Mondays. In other words, if we decreased six counts on a certain Monday, then we increased three suicide events on the previous Saturday and Sunday, respectively. We generated a total of three additional datasets reflecting these three assumptions (3%, 5%, and 10% over-counting on Mondays). Finally, we repeated our statistical analysis to check how our results on DOW are affected by the misclassification assumptions. Australian data were excluded from the simulation because we were not allowed to access their raw data for the simulation study.

The following figures report our main results (left) and results from the simulations (right). The results of the simulation study (Simulation study Figure 1 in the Supplementary Materials) show that 3% and 5% of misclassifications on Mondays do not evidently affect our main results that show the highest suicide risk on Mondays. However, when the misclassification ratio reached 10%, our main results with a peak on Mondays were affected considerably in the total population, and this pattern was prominent in countries in Central America and Asia which show relatively lower Monday risks (estimated RRs are less than around 1.1).
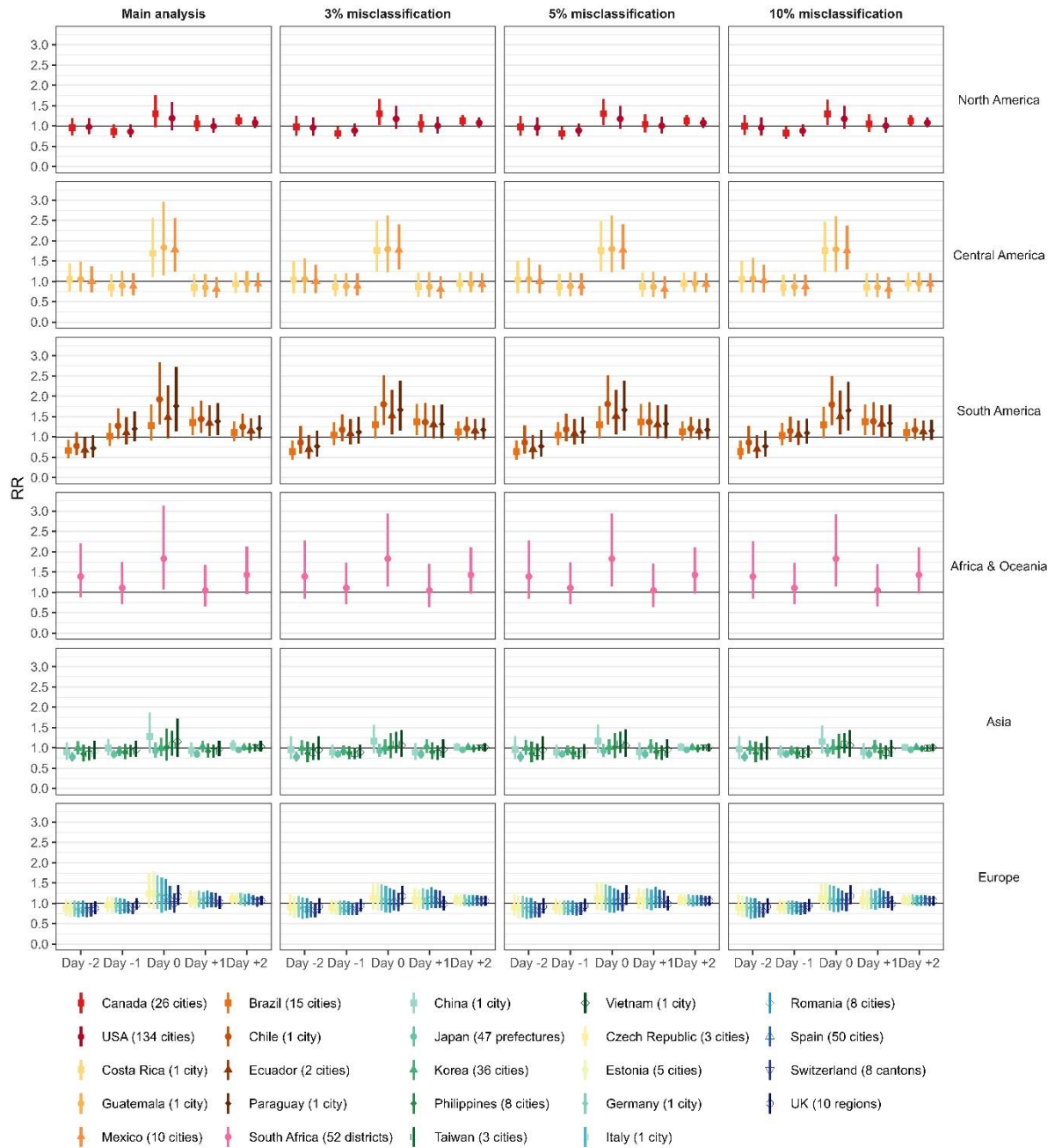
Simulation study Figure 1. Risks of suicide by the day-of-the week (a reference day: Wednesdays) with the corresponding 95% confidence intervals (vertical lines). Main results (left) and simulation study results (right).
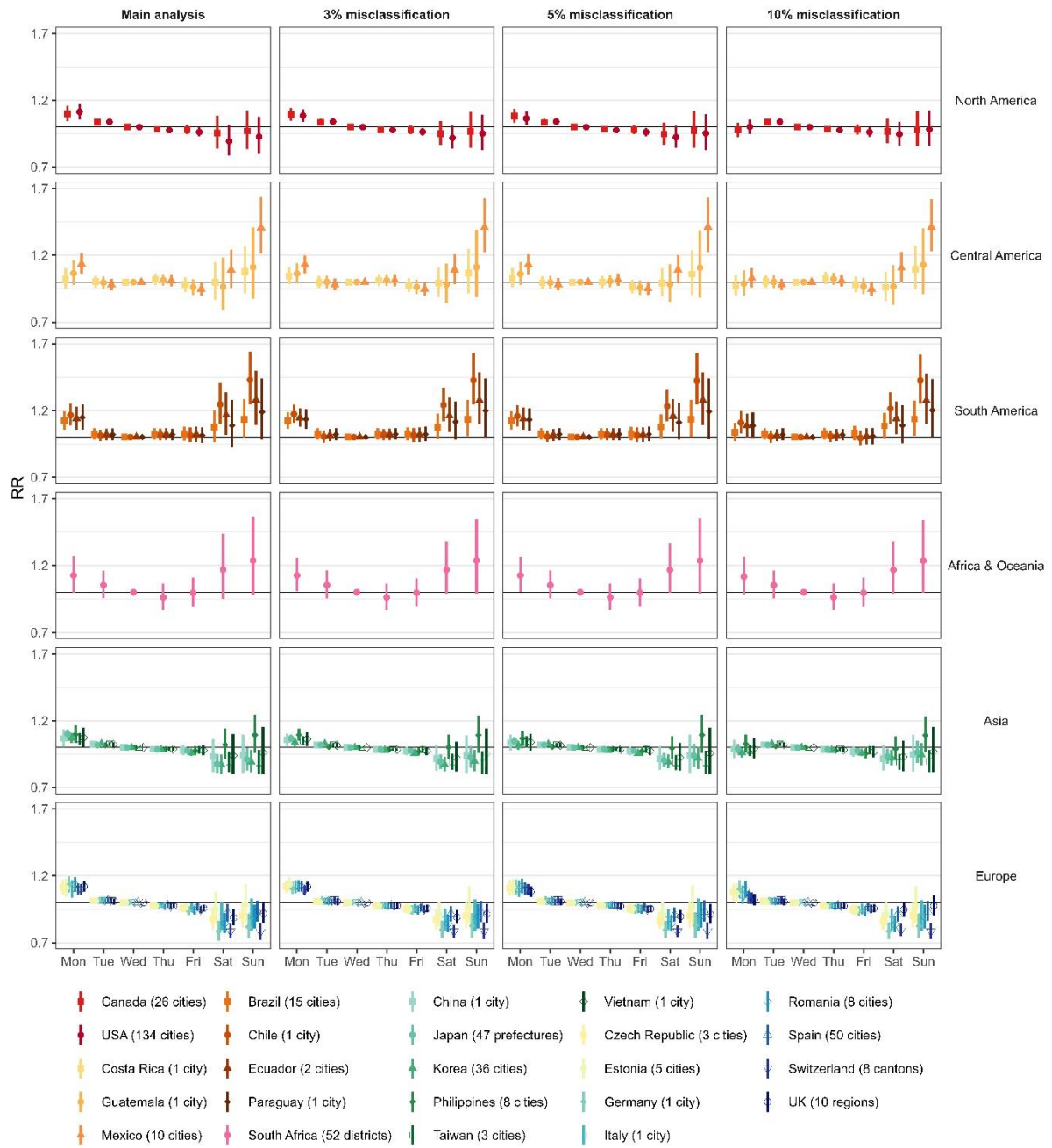
Simulation study Figure 2. Risks of suicide during Christmas season (reference days: non-holidays which are not included in New Year's Day, Christmas, and other national holidays that this study addressed). Main results (left) and simulation study results (right).
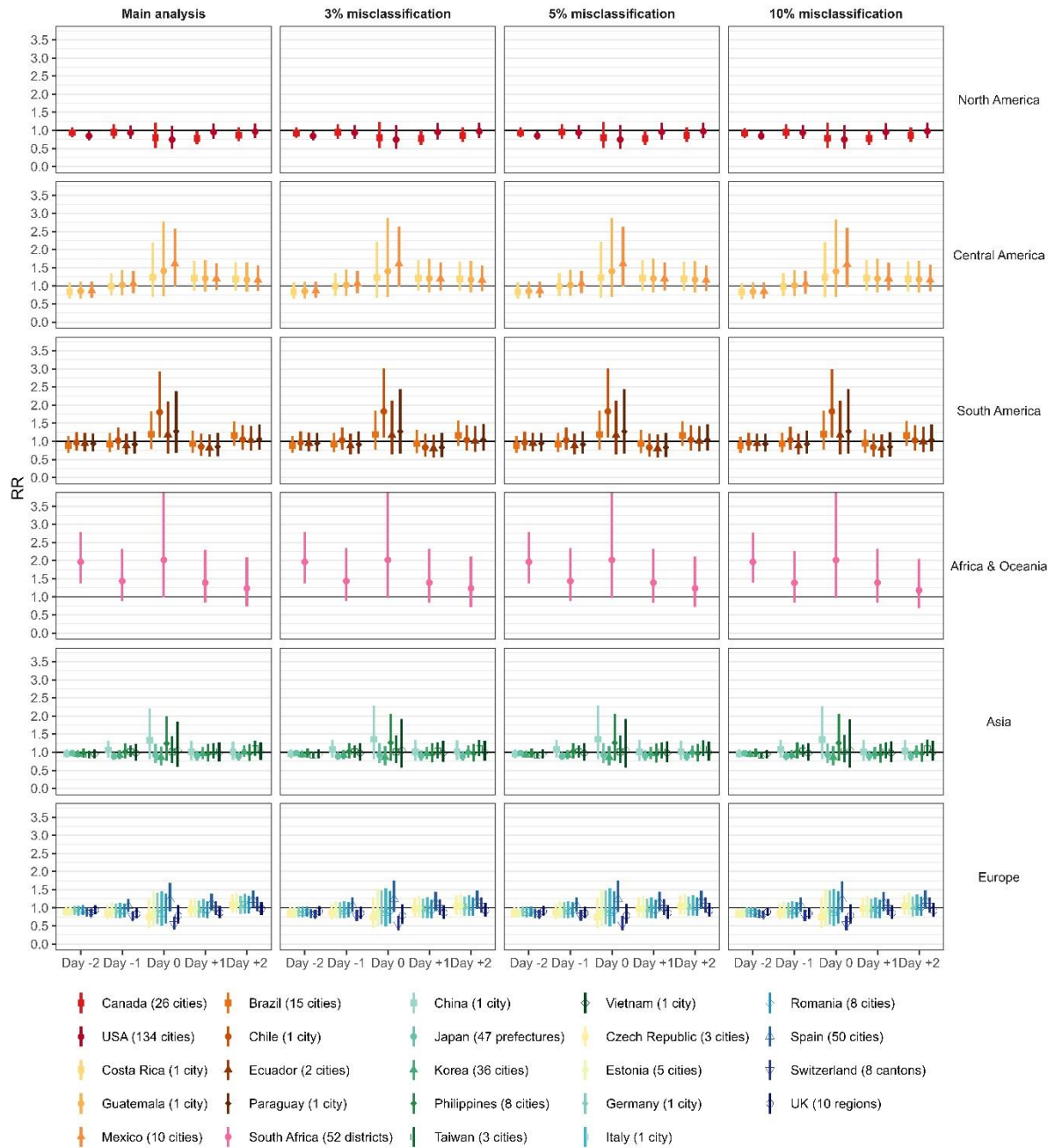
Simulation study Figure 3. Risks of suicide during New Year's Day season (reference days: non-holidays which are not included in New Year's Day, Christmas, and other national holidays that this study addressed) with the corresponding 95% confidence intervals (vertical lines). Main results (left) and simulation study results (right).

Simulation study Figure 4. Risks of suicide during other national holidays (except Christmas and New Year's Day) and neighboring days (reference days: non-holidays which are not included in New Year's Day, Christmas, and other national holidays that this study addressed) with the corresponding 95% confidence intervals (vertical lines). Main results (left) and simulation study results (right).
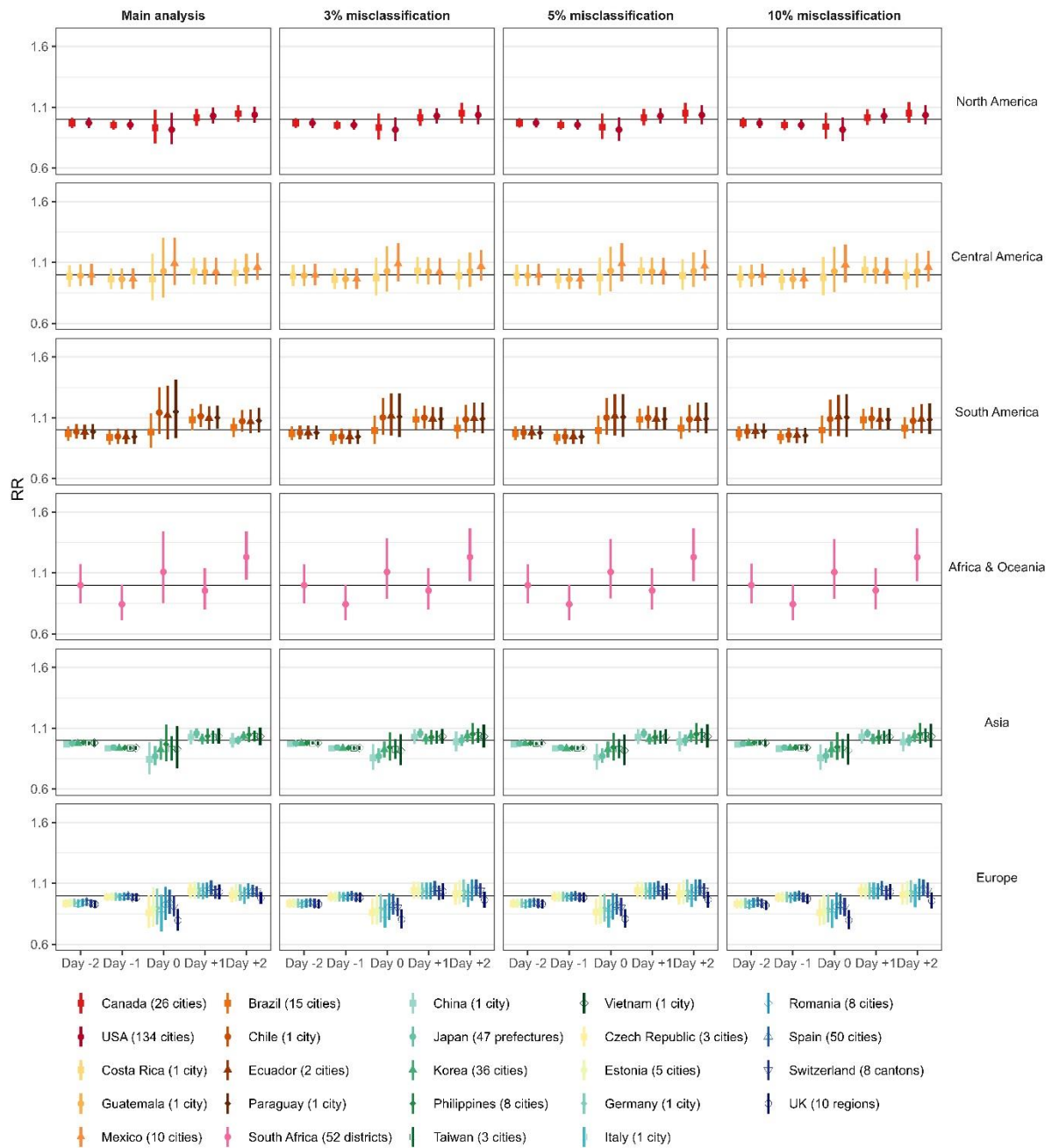
Sensitivity analysis using the recent US mortality data

In order to consider the recent information on the US suicide data, we performed sensitivity analyses with the newly opened US mortality data (the National Vital Statistics Reports; URL: https://www.cdc.gov/nchs/products/nvsr.htm) from 1999 through 2019. However, this data does not include the "residential address" and "date of the death" of each death case. This data provides death year, month, and the day-of-the-death (Mon to Sun). Thus, although we did the same time-series regression analysis (compared to the main analysis) with the-day-of-the-week; however, because the recent US mortality data does not provide the residential address, the results from the data should be interpreted as the estimates that do not consider the confounding effects of daily ambient temperature. Also, this data does not include the "date", we could not conduct sensitivity analyses regarding the public holidays, because we would link the holiday date to the death date. Further, because of the absence of the death date, we adjusted the seasonality and long-term trend using the year-month strata term (i.e. time-stratified model), instead of the spline method we used as the main methodology. The year-month strata method is a widely-used alternative method of the spline function, and it uses more parameters to capture the seasonal and long-term patterns compared to the spline method.[3]
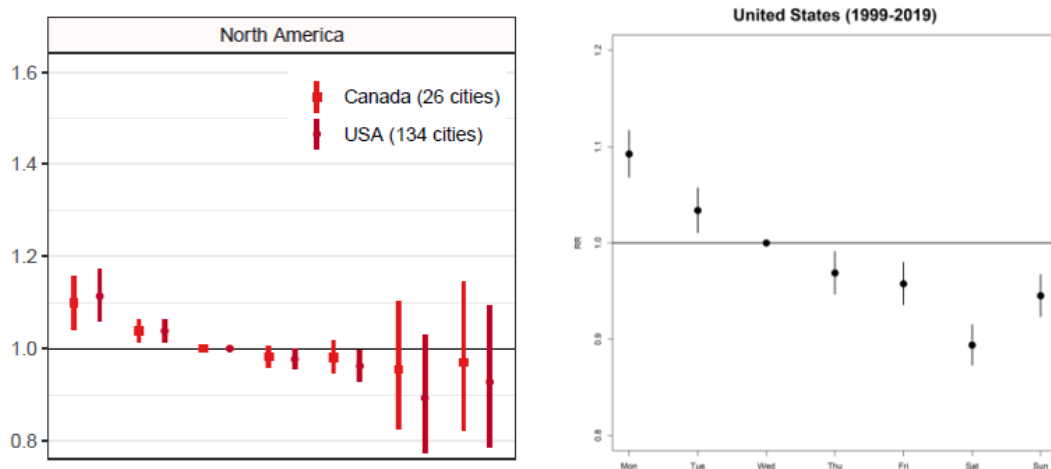
Sensitivity analysis Figure 1. Risks of suicide by the day-of-the week (a reference day: Wednesdays) with the corresponding 95% confidence intervals in the United States: our main analysis with data (2001-2006, **left**) and the new data without residential address (1999-2019, **right**).

References for the Supplementary Materials

1. Schwartz J. The distributed lag between air pollution and daily deaths. *Epidemiology* 2000;11(3):320-26.
2. Kim Y, Kim H, Gasparrini A, et al. Suicide and Ambient Temperature: A Multi-Country Multi-City Study. *Environmental health perspectives* 2019;127(11):117007-07. doi: 10.1289/EHP4898 [published Online First: 2019/11/26]
3. Bhaskaran K, Gasparrini A, Hajat S, et al. Time series regression studies in environmental epidemiology. *International Journal of Epidemiology* 2013;42(4):1187-95. doi: 10.1093/ije/dyt092