



International Journal of
*Environmental Research
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The Association of Serum TNF- α Levels and Blood Multi-Elements Modified by TNF- α Gene Polymorphisms in Metal Industrial Workers

Volume 16 - Issue 21 | November 2019



mdpi.com/journal/ijerph
ISSN 1661-7827

Effectiveness of the e-NurSus Children Intervention in the Training of Nursing Students

by Cristina Álvarez-García, Carmen Álvarez-Nieto, Janet Kelsey, Rachel Carter, Sebastián Sanz-Martos and Isabel M. López-Medina
Int. J. Environ. Res. Public Health 2019, 16(21), 4288; <https://doi.org/10.3390/ijerph16214288> - 05 Nov 2019
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Abstract The paediatric population is the most vulnerable to exposure to environmental risk factors. Institutions of higher education have to equip nursing students with the attitudes, knowledge, and skills to respond to this using blended learning. The aim of this study was to evaluate [...] Read more.
(This article belongs to the Section Children's Health)

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Open Access Article

The Effectiveness of Cigarette Pack Health Warning Labels with Religious Messages in an Urban Setting in Indonesia: A Cross-Sectional Study

by Bekir Kaplan, Jeffrey J. Hardesty, Santù Martini, Hario Megatsari, Ryan D. Kennedy and Joanna E. Cohen
Int. J. Environ. Res. Public Health 2019, 16(21), 4287; <https://doi.org/10.3390/ijerph16214287> - 05 Nov 2019
Cited by 2 | Viewed by 2457

Abstract This study sought to assess the effectiveness of religious cigarette health warning labels (HWLs) in Indonesia, a country with a high public health burden from tobacco use. The study tested different religious and nonreligious messages related to suicide, secondhand smoke (SHS) and gangrene. [...] Read more.

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Open Access Article

Chinese Consumers' Preferences for Attributes of Fresh Milk: A Best–Worst Approach

by Shaosheng Jin, Rao Yuan, Yan Zhang and Xin Jin
Int. J. Environ. Res. Public Health 2019, 16(21), 4286; <https://doi.org/10.3390/ijerph16214286> - 05 Nov 2019
Cited by 8 | Viewed by 2888

Abstract Fresh milk represents a major type of dairy product in China, while it remains at a low level in terms of consumption. Consumers' preferences are a crucial factor determining consumers' attitudes and behavior towards fresh milk consumption.



View PDF

Back to Top

- [Environmental Science and Engineering Section \(/journal/ijerph/sectioneditors/environment_engineering\)](#)
- [Occupational Safety and Health Section \(/journal/ijerph/sectioneditors/occupational_health\)](#)
- [Health Behavior, Chronic Disease and Health Promotion Section \(/journal/ijerph/sectioneditors/health_promotion\)](#)
- [Climate Change Section \(/journal/ijerph/sectioneditors/Climate_Change\)](#)
- [Infectious Disease Epidemiology Section \(/journal/ijerph/sectioneditors/Infectious_Disease_Epidemiology\)](#)
- [Mental Health Section \(/journal/ijerph/sectioneditors/Mental_Health\)](#)
- [Digital Health Section \(/journal/ijerph/sectioneditors/Digital_Health\)](#)
- [Children's Health Section \(/journal/ijerph/sectioneditors/Children_Health\)](#)
- [Women's Health Section \(/journal/ijerph/sectioneditors/women_health\)](#)
- [Health Care Sciences & Services Section \(/journal/ijerph/sectioneditors/health_care_sci\)](#)
- [Health Communication and Informatics Section \(/journal/ijerph/sectioneditors/Health_Communication\)](#)
- [Toxicology and Public Health Section \(/journal/ijerph/sectioneditors/Toxicology_and_Public_Health_1\)](#)
- [Public Health Statistics and Risk Assessment Section \(/journal/ijerph/sectioneditors/Statistics_Risk_Assessment\)](#)
- [Environmental Microbiology Section \(/journal/ijerph/sectioneditors/environmental_microbiology_\)](#)
- [Oral Health Section \(/journal/ijerph/sectioneditors/Oral_Health\)](#)
- [Exercise and Health Section \(/journal/ijerph/sectioneditors/Exercise-Health\)](#)
- [Traumas Section \(/journal/ijerph/sectioneditors/traumas\)](#)
- [Nursing Section \(/journal/ijerph/sectioneditors/nursing\)](#)
- [Adolescents Section \(/journal/ijerph/sectioneditors/adolescents\)](#)
- [Skin Health Section \(/journal/ijerph/sectioneditors/skin-health\)](#)
- [Disabilities Section \(/journal/ijerph/sectioneditors/disabilities\)](#)
- [Reproductive Health Section \(/journal/ijerph/sectioneditors/reproductive-health\)](#)
- [Sport and Health Section \(/journal/ijerph/sectioneditors/sport_health\)](#)
- [Aging Section \(/journal/ijerph/sectioneditors/aging\)](#)
- [Air Section \(/journal/ijerph/sectioneditors/Air\)](#)
- [Water Science and Technology Section \(/journal/ijerph/sectioneditors/water_science_technology\)](#)
- [Anthropogenic Circularity Section \(/journal/ijerph/sectioneditors/anthropogen_circularity\)](#)
- [Chemoenvironment Section \(/journal/ijerph/sectioneditors/chemoenvironment\)](#)
- [Environmental Earth Science and Medical Geology Section \(/journal/ijerph/sectioneditors/earth\)](#)
- [Biosafety Section \(/journal/ijerph/sectioneditors/biosafety\)](#)
- [Disease Prevention Section \(/journal/ijerph/sectioneditors/disease_prevention\)](#)
- [Health-Related Quality of Life and Well-Being Section \(/journal/ijerph/sectioneditors/health-related_quality_of_life_and_well-being\)](#)
- [Injury Prevention and Rehabilitation Section \(/journal/ijerph/sectioneditors/injury_prevention_and_rehabilitation\)](#)
- [Disaster Medicine Section \(/journal/ijerph/sectioneditors/disaster_medicine\)](#)
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School of Computer, Mathematical & Natural Sciences, Morgan State University, 1700 East Cold Spring Lane, Baltimore, MD 21252, USA

Interests: environmental health and diseases; gene-environment interactions; environmental toxicology, mutagenesis and carcinogenesis; environmental epidemiology and disease control; health risk assessment and management; ecological risk assessment and management; environmental chemistry and computational toxicology; environmental genomics and proteomics; environmental medicine; and natural resources damage assessment and management

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Interests: biomechanics

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Website (https://www.researchgate.net/profile/Chiara_Baldacchini)

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2. Istituto di Ricerca sugli Ecosistemi Terrestri (IRET), Consiglio Nazionale delle Ricerche (CNR), 05010 Porano, Italy

Interests: impact of nature-based solutions on environment and society; development of new techniques to assess the air quality mitigation by plants; use of urban forest for source apportionment

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Website (<https://www.publichealth.pitt.edu/home/directory/jeanine-buchanich>)

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Department of Biostatistics, Graduate School of Public Health, Center for Occupational Biostatistics and Epidemiology, University of Pittsburgh, Pittsburgh, PA 15260, USA

Interests: epidemiology; biostatistics; vital statistics; environmental health; occupational health; substance-related disorders; drug overdose; mortality; social determinants of health

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Website (<https://pharmacy.ufl.edu/profile/grundmann-oliver/>)

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Interests: forensic & clinical toxicology; natural products pharmacology & toxicology; dietary supplement quality & safety; pharmacology & toxicology of psychoactive drugs; epidemiology of drug use & abuse

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Website (<https://www.researchgate.net/profile/Vikas-Kumar-155>)

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Environmental Engineering Laboratory, Departament d'Enginyeria Quimica, Universitat Rovira i Virgili, Av. Països Catalans 26, 43007 Tarragona, Catalonia, Spain

Interests: system toxicology; biostatistics; big data and data analytics; exposure science; human biomonitoring; epidemiology; environmental and human health risk assessment; internal dosimetry modeling (PBPK); climate change linked risk assessment

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Website (<https://u1093.u-bourgogne.fr/membre/lepers.romuald/>)

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Faculté des Sciences du Sport (UFR Staps), Université de Bourgogne, 21078 Dijon, France

Interests: neurophysiology; neuromuscular plasticity; electromyostimulation; mental fatigue; aging and performance

* Section: Exercise and Health



Dr. Hanns Moshhammer (<https://sciprofiles.com/profile/52940>) *

Website (<https://zph.meduniwien.ac.at/umwelthygiene/allgemeine-informationen/mitarbeiterinnen/hanns-moshhammer/>)

Section Associate Editor

Institute of Environmental Health, Center for Public Health, Medical University of Vienna, Kinderspitalgasse 15, A-1090 Vienna, Austria

Interests: environmental and occupational epidemiology; environmental health impact assessment

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Website (<https://www.uninsubria.it/hpp/elena-cristina.rada>)

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Interests: resources; renewable energy; environmental sustainability; circular economy

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Website (<https://pure.unipa.it/it/persons/daniela-varrica-4>)

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Dipartimento di Scienze della Terra e del Mare (DiSTeM), Università degli Studi di Palermo, 90123 Palermo, Italy

Interests: different aspects of environmental geochemistry; ranging from hydrogeochemistry to air; water and soil pollution in volcanic; mining and anthropic areas

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Website (<http://ghi.xjtu.edu.cn/en/info/1014/1131.htm>)

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Global Health Institute and School of Public Health, Xi'an Jiaotong University, Xi'an 710061, China

Interests: obesity and chronic disease prevention and control; health disparities; nutritional epidemiology; health promotion; global health

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Website (<https://dialnet.unirioja.es/servlet/autor?codigo=917925>)

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Performance and Sport Rehabilitation Laboratory (DEPORSALUD), Faculty of Sports Sciences, University of Castilla-La Mancha, Avda. Carlos III s/n, 45071

Toledo, Spain

Interests: sport science; sport biomechanics; physical activity; caffeine; ergogenic aids; racquet sports; injury prevention; exercise performance; sonoelastography in sports injury diagnosis

* Section: Injury Prevention and Rehabilitation

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Website (<https://staffprofiles.cancer.gov/brp/prgmStaffProfile.do?contactId=1456>)

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Division of Cancer Control and Population Sciences, Behavioral Research Program, National Cancer Institute, 9609 Medical Center Drive MSC 7344,

Bethesda, MD 20892, USA

Interests: cancer prevention; built environment; physical activity; obesity; energy balance; natural experiments; transportation and health; acculturation; geospatial approaches to cancer control; childhood obesity

* Section: Health Behavior, Chronic Disease and Health Promotion

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Website (https://medchirurgia.campusnet.unito.it/do/docenti.pl/Show?_id=fbert)

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Department of Public Health, University of Turin, Via Santena 5 bis, 10126 Turin, Italy

Interests: public health; epidemiology; e-health; mental health; minority health

* Section: Digital Health

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Website (<https://uwaterloo.ca/public-health-and-health-systems/people-profiles/zahid-butt>)

Section Editor-in-Chief

School of Public Health and Health Systems, University of Waterloo, 200 University Avenue West, Waterloo, ON N2L 3G1, Canada

Interests: HIV/HCV/HBV coinfections; vaccine preventable diseases; communicable and non-communicable disease syndemics; global health; big data; spatial analysis of complex data

* Section: Infectious Disease Epidemiology

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Website (<https://pure.unipa.it/en/persons/alessandra-casuccio-4>)

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Department of Health Promotion Sciences Maternal and Infant Care, Internal Medicine and Medical Specialties "G. D'Alessandro"—Hygiene Section, University of Palermo, 90133 Palermo, Italy

Interests: health promotion; vaccination; breastfeeding; screening; health impact assessment

* Section: Women's Health

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★ (<https://clarivate.com/highly-cited-researchers/2022>) **Website1** (<https://people.ucas.ac.cn/~0008768?language=en>) **Website2** (<https://www.researchgate.net/profile/Lingxin-Chen>)

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CAS Key Laboratory of Coastal Environmental Processes and Ecological Remediation, Shandong Key Laboratory of Coastal Environmental Processes,

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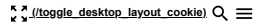
Interests: coastal zone pollutants; typical water body pollutants; microanalysis techniques; environmental microanalysis; oceanic oil spill; situ on-line and real-time environmental monitoring techniques

* Section: Environmental Science and Engineering

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Website (<https://www.unicas.it/ricerca/dottorato-di-ricerca/corso-di-dottorato-in-modelli-e-contesti-educativi-sport-inclusione-e-tecnologie.aspx>)

Section Editor-in-Chief

Department of Human Sciences, Society and Health, University of Cassino and Lazio Meridionale, 03043 Cassino, Italy

Interests: sport performance; athlete's stress management; ageing wellbeing

* Section: Sport and Health

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Website (<https://globalhealth.washington.edu/faculty/kristie-ebi>)

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Department of Global Health, University of Washington, 4225 Roosevelt Way NE, Seattle, WA 98105, USA

Interests: health risks of climate variability and change; health adaptation; health co-benefits of mitigation policy; sustainable development

* Section: Climate Change

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Website (<https://loop.frontiersin.org/people/36394/overview>)

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1. VA Cooperative Studies Program Coordinating Center, Boston, MA 02130, USA

2. Department of Radiation Oncology, Case Western Reserve University School of Medicine, Cleveland, OH 44106, USA

Interests: statistical methods; epidemiological study design; risk modeling; cardiovascular disease; cancer

* Section: Public Health Statistics and Risk Assessment

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Website (<https://publichealth.gwu.edu/departments/prevention-and-community-health-global-health/w-douglas-evans>)

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Milken Institute School of Public Health, The George Washington University, Washington, DC 20052, USA

Interests: design and evaluation of interventions using digital technologies; improving health equity through marketing and communication; social norms, social and behavior change (SBC); social marketing

* Section: Health Communication and Informatics

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Website (<http://www.gos4m.org/management-and-governance/bio-xinbin-feng/>)

Section Editor-in-Chief

State Key Laboratory of Environmental Geochemistry, Institute of Geochemistry, Chinese Academy of Sciences, Guiyang 550081, China

Interests: biogeochemical cycling of heavy metals in the environment and health impacts; non-traditional stable isotope geochemistry; remediation of heavy metal contaminated environment

* Section: Environmental Earth Science and Medical Geology

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Website (<https://www.fau.eu/person/olaf-gefeller/>)

Section Editor-in-Chief

Department of Medical Informatics, Biometry and Epidemiology, Friedrich-Alexander-University of Erlangen-Nuremberg, 91054 Erlangen, Germany

Interests: epidemiology; biostatistics; melanoma; ultraviolet radiation; UV index; prevention of sun exposure

* Section: Skin Health

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Website ([http://portal.research.lu.se/portal/en/persons/ulf-gerdtham\(883e0d0d-e6d4-426b-8851-28c263a83e30\).html](http://portal.research.lu.se/portal/en/persons/ulf-gerdtham(883e0d0d-e6d4-426b-8851-28c263a83e30).html))

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Department of Clinical Sciences, Department of Economics, Lund University, P.O. Box 7082, S-220 07 Lund, Sweden

Interests: health economics; health econometrics; inequalities in health; economics of health behaviour; international health expenditure; health system and organization

* Section: Health Economics

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Website (<https://www.unmc.edu/psychiatry/about/faculty/Goodkin.html>)

Section Editor-in-Chief

Department of Psychiatry, University of Nebraska Medical Center in Omaha, Omaha, NE 68198, USA

Interests: HIV-associated neurocognitive disorders (HAND); major depressive disorder in persons living with HIV; aging and HIV infection; global epidemiology of HAND; psychoneuroimmunology; psycho-oncology; chronic pain

* Section: Mental Health



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Website (<http://hjxy.hhu.edu.cn/english/2017/1020/c9934a159184/page.htm>)

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College of Environment, Hohai University, Nanjing 210098, China

Interests: water quality improvement technology; water environment protection and bioremediation; coupling of biofilms and active substrata; ecological engineering; nanomaterials for environmental remediation; environmental behaviors of nanomaterials; toxicity of manufactured nanoparticles

* Section: Water Science and Technology

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Website (<https://www.docenti.unina.it/ivo.iavicoli>)

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Department of Public Health, University of Naples Federico II, Via Pansini 5, 80131 Naples, Italy

Interests: occupational medicine; public health; nanosafety; active aging; occupational toxicology; industrial health; biological monitoring; occupational risk assessment; occupational diseases; occupational carcinogens

* Section: Occupational Safety and Health

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Website (<https://people.ucas.edu.cn/~dongshengji?language=en>)

Section Editor-in-Chief

State Key Laboratory of Atmospheric Boundary Layer Physics and Atmospheric Chemistry, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing 100029, China

Interests: atmospheric environment; atmospheric chemistry; atmospheric physics; aerosol chemistry; volatile organic compounds; photochemical air pollution; regional air pollution; hazardous airborne elements; carbonaceous aerosols; atmospheric pollution control

* Section: Air

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Website (<https://en.unipr.it/ugov/person/97003>)

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Geriatric-Rehabilitation Department, University Hospital of Parma, University of Parma, 43121 Parma, Italy

Interests: frail older persons; parkinsonism; dementia; amyloid PET; older persons

* Section: Aging

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Website (https://www.researchgate.net/profile/Nicola_Magnavita)

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Department of Public Health, Università Cattolica del Sacro Cuore, Largo Gemelli 8, 00168 Roma, Italy

Interests: health promotion; public health; epidemiology health; risk assessment; safety; risk analysis; epidemiology and public Health; Healthcare; Environmental Risk Assessment; Health and Safety sleep disorders and sleep medicine; risk factors; determination health risk assessment; exposure assessment; environmental exposure occupational health; hospital management; chemical risk assessment environmental epidemiology; health impact assessment informed consent; occupational epidemiology; chemical safety occupational medicine; occupational health and disease; inhalation toxicology; environmental medicine; aging and work; hazardous workers

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Website (https://www.researchgate.net/profile/Pantelis_Nikolaidis)

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School of Health and Caring Sciences, University of West Attica, 12243 Athens, Greece

Interests: exercise testing; exercise physiology; ergometer; calorimetry; anaerobic power; cardiorespiratory fitness

* Section: Exercise and Health

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Website (<https://www.ntnu.no/ansatte/jon.o.odland>)

Section Editor-in-Chief

Department of Public Health and Nursing, UIT The Arctic University of Norway, 9037 Tromsø, Norway

Interests: public health; epidemiology; environmental health; reproductive health; pregnancy care; climate change

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Website (<https://investigacion.ubu.es/investigadores/35482/detalle?lang=en>)

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Microbiology Section, Department of Biotechnology and Food Science, Faculty of Science, University of Burgos, 09001 Burgos, Spain

Interests: food-borne pathogens; food safety; food microbiology

* Section: Environmental Microbiology

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Website (<https://ebe.njust.edu.cn/4b/d0/c5080a216016/page.htm>)

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School of Environmental and Biological Engineering, Nanjing University of Science and Technology, Nanjing 210094, China

Interests: wastewater treatment process; environmental engineering; anaerobic digestion; bioelectrochemistry; nanobiotechnology; advanced oxidation processes treatment; environmental remediation; biodegradation; renewable energy

* Section: Chemoenvironment



Prof. Dr. Gianrico Spagnuolo (<https://sciprofiles.com/profile/477376>) *

Website (<https://cutt.ly/VlhRTM1>)

Section Editor-in-Chief

Department of Neuroscience, Reproductive and Odontostomatological Sciences, University of Naples "Federico II", 80131 Naples, Italy

Interests: oral medicine; dental materials; operative dentistry; oral health

* Section: Oral Health

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Website (<https://directory.sph.umn.edu/bio/sph-a-z/william-toscano>)

Section Editor-in-Chief

Division of Environmental Health Sciences, School of Public Health, University of Minnesota, Minneapolis, MN 55455, USA

Interests: toxicology; environmental hormones; public health genomics; environmental signaling

* Section: Environmental Health

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Website (<https://sideral.unizar.es/sideral/CVgerman-vicente-rodriguez>)

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Department of Physiatry and Nursing, Faculty of Health and Sport Sciences (FCSD), University of Zaragoza, Ronda Misericordia 5, 22001 Huesca, Spain

Interests: adolescents; MASS; osteoporosis; children; fractures; physical-activity; publication bias; weight-bearing exercise; vitamin-D status; impact exercise

* Section: Adolescents

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Prof. Dr. Linyu Xu (<https://sciprofiles.com/profile/44912>) *

Website (<http://envfaculty.bnu.edu.cn/Public/htm/news/5/37.html>)

Section Editor-in-Chief

State Key Joint Laboratory of Environmental Simulation and Pollution Control, School of Environment, Beijing Normal University, Beijing 100875, China

Interests: urban ecological environment; economic environmental management; environmental risk assessment; urban ecological planning

* Section: Environmental Ecology

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Dr. Xianlai Zeng (<https://sciprofiles.com/profile/152107>) *

Website (<https://www.tsinghua.edu.cn/enven/info/1052/1964.htm>)

Section Editor-in-Chief

School of Environment, Tsinghua University, Beijing 100084, China

Interests: urban mining; resource evaluation; E-waste management; circular economy

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Prof. Dr. Peter Clifton (<https://sciprofiles.com/profile/336938>)

Website (<https://people.unisa.edu.au/Peter.Clifton>)

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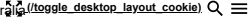
Interests: obesity; lipids; diabetes; heart disease

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Prof. Dr. Peter Ebeling (<https://sciprofiles.com/profile/374313>)
Website (<https://research.monash.edu/en/persons/peter-ebeling>)

Advisory Board Member

Department of Medicine, School of Clinical Sciences at Monash Health, Monash University, Clayton, VIC 3168, Australia 

Interests: osteoporosis; sarcopenia; vitamin D; calcium; fractures; falls

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Prof. Fabriziomaria Gobba (<https://sciprofiles.com/profile/375687>)
Website (<http://personale.unimore.it/rubrica/dettaglio/gobba>)

Advisory Board Member

Department of Biomedical, Metabolic and Neural Sciences, University of Modena & Reggio Emilia, 41125 Modena, Italy

Interests: occupational medicine; occupational diseases; non-ionizing radiations (NIRs); occupational exposure evaluation, adverse health effects in workers, and prevention; occupational skin cancer: epidemiology and prevention; visual function in workers: occupational risks to the eye, prevention

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Website (<https://www.researchgate.net/profile/Han-Kemper-2>)

Advisory Board Member

Amsterdam UMC, Amsterdam Public Health Research Institute, 1218 HD Amsterdam, The Netherlands

Interests: exercise and sport science; pediatric exercise physiology; physical activity and bone health

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Jagdish Khubchandani (<https://sciprofiles.com/profile/994451>)
Website (https://publichealth.nmsu.edu/about-us/facultydirectory/faculty_profiles/faculty1.html)

Advisory Board Member

Department of Public Health Sciences, New Mexico State University, Las Cruces, NM 88003, USA

Interests: epidemiology; violence; injury; trauma; social determinants

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Elena N. Naumova
Website (<https://facultyprofiles.tufts.edu/elena-naumova>)

Advisory Board Member

Division of Nutrition Epidemiology and Data Sciences, Freidman School of Nutrition Science and Policy, Tufts University, 150 Harrison Avenue, Boston, MA 02111, USA

Interests: development of statistical, mathematical and computational models for climate-sensitive infectious diseases; the use of big data, novel information sources and tools, including GIS and remote sensing in public health applications and environmental research

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Tomonori Okamura (<https://sciprofiles.com/profile/1146790>)
Website (https://k-ris.keio.ac.jp/html/100002086_en.html)

Advisory Board Member

Department of Preventive Medicine and Public Health, Keio University School of Medicine, Tokyo 160-8582, Japan

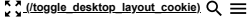
Interests: cardiovascular epidemiology; coronary artery disease; stroke; hypertension; dyslipidemia; atherosclerosis; alcohol drinking; population strategy; health education; epidemiology



Dr. Renata Sisto (<https://sciprofiles.com/profile/670083>)
Website (<https://web.uniroma1.it/trasparenza/sites/default/files/cv/CV%20Renata%20Sisto%20fomato%20europeo%20maggio%202018.pdf>)

Advisory Board Member

Head of the Laboratory of Synergistic Interaction among Risk Factors, Department of Occupational and Environmental Medicine, Epidemiology and Hygiene, INAIL Research Area, via Fontana Candida 1, 00040 Monteporzio Catone, Italy

Interests: physiological acoustics; noise exposure; synergistic interaction of noise and chemicals in inducing hearing loss; otoacoustic emissions; cochlear modeling 

Prof. Dr. Jacqueline Agnew (<https://sciprofiles.com/profile/2575977>)
Website (<https://www.jhsph.edu/faculty/directory/profile/3/jacqueline-agnew>)

Editorial Board Member

Department of Environmental Health and Engineering, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD 21205, USA

Interests: environmental health sciences; aging workers; occupational health; occupational stress; musculoskeletal disorders; ergonomics; neurotoxins

Dr. Fulvio Amato (<https://sciprofiles.com/profile/442024>)

Editorial Board Member

IDAEA-CSIC - Spanish Research Council, Barcelona, Spain

Interests: air quality; source apportionment; traffic emissions; atmospheric geochemistry

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Alan Apter (<https://sciprofiles.com/profile/617533>)
Website (<https://www.idc.ac.il/en/pages/faculty.aspx?username=aalan>)

Editorial Board Member

Department of Psychological Medicine, Schneider Children's Medical Center of Israel, Petah Tikva 4920235, Israel

Interests: suicide; children; adolescents; depression; Tourette syndrome

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Soledad Ballesteros (<https://sciprofiles.com/profile/495546>)
Website (https://portal.uned.es/portal/page?_pageid=93.25162945&_dad=portal&_schema=PORTAL)

Editorial Board Member

Department of Basic Psychology II, National Distance Education University (UNED), C/ Juan del Rosal, 10, 28040 Madrid, Spain

Interests: implicit and explicit memory in normal and pathological aging; attention; cross-modal priming; haptic and visual perception and cognitive neuroscience of aging



Prof. Dr. John R. Balmes (<https://sciprofiles.com/profile/543428>)
Website (<https://tobacco.ucsf.edu/people/john-balmes-md>)

Editorial Board Member

Division of Occupational and Environmental Medicine, School of Medicine, University of California, San Francisco, CA 94143, USA

Interests: effects of exposure to air pollution; environmental health; environmental medicine



Prof. Dr. Claudio Barbaranelli (<https://sciprofiles.com/profile/2510487>)
Website (<https://corsidilaurea.uniroma1.it/it/users/claudio barbaranelli/uniroma1it>)

Editorial Board Member

Department of Psychology, Sapienza University of Rome, Via dei Marsi, 78, 00185 Rome, Italy

Interests: structural equation modeling; self-efficacy; moral disengagement; work related stress; scale development and validation; personality structure; job insecurity; safety at work

Dr. Emma Beard (<https://sciprofiles.com/profile/808050>)
Website (<https://www.ucl.ac.uk/pals/people/emma-beard>)

Editorial Board Member

1. Department of Behavioural Science and Health, University College London, London WC1E 7HB, UK

2. SPECTRUM Research Consortium, Edinburgh EH8 9YL, UK

Interests: statistical methodology; Bayesian analysis and advanced regression methodologies; qualitative studies and smaller community based surveys; smoking and alcohol toolkit studies

Prof. Dr. Bettina M. Beech (<https://sciprofiles.com/profile/2421427>)
Website (<https://www.uh.edu/medicine/about/faculty/bettina-beech/>)

Editorial Board Member

1. Department of Health Systems and Population Health Sciences, University of Houston Tilman J. Fertitta Family College of Medicine, Houston, TX 77204, USA

2. University of Houston Population Health, University of Houston, Houston, TX 77030, USA

Interests: prevention and treatment of childhood obesity; health disparities research; adolescent health



Prof. Dr. Giovanni Benelli (<https://sciprofiles.com/profile/688957>)

★ (<https://recognition.webofscience.com/awards/highly-cited/2020/>) **Website** (<https://peerj.com/GBenelli/>)

Editorial Board Member

Department of Agriculture, Food and Environment, University of Pisa, via del Borghetto 80, 56124 Pisa, Italy

Interests: arthropod vectors; entomology; insect control; mosquitoes; nano-synthesis; nanoparticles; nano-pesticides; nanotechnology; non-target effects; ticks

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Peng Bi (<https://sciprofiles.com/profile/208178>)

Website (<http://www.adelaide.edu.au/directory/peng.bi>)

Editorial Board Member

School of Public Health, The University of Adelaide, Adelaide, SA 5005, Australia

Interests: climate change and population health; adaptation; vulnerability; infectious disease; disaster response; public health policy and health services

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Fabrizio Bianchi (<https://sciprofiles.com/profile/244737>)

Website (<https://areaperta.pi.cnr.it/fabrizio-bianchi/>)

Editorial Board Member

Institute of Clinical Physiology, National Research Council, 56124 Pisa, Italy

Interests: environmental epidemiology; statistics; environment and health research; reproductive epidemiology; clinical epidemiology; medical statistics; diseases registries; public health surveillance

Special Issues, Collections and Topics in MDPI journals



Dr. Guillermo Blanco (<https://sciprofiles.com/profile/1024698>)

Website (<https://canarianegyptianvulture.com/current-members/>)

Editorial Board Member

National Museum of Natural Sciences, Spanish National Research Council, Consejo Superior de Investigaciones Científicas, 28006 Madrid, Spain

Interests: conservation biology; ecology; birds; ecotoxicology; pathogens; evolution; raptors; parrots; corvids; behavioural ecology; population dynamics; population trends; antibiotics; salmonella; parasites; conservation management; wildlife

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Denis Bourgeois (<https://sciprofiles.com/profile/1015897>)

Website (<https://cappmea.com/speaker/prof-denis-bourgeois>)

Editorial Board Member

Health, Systemic, Process, UR 4129 Research Unit, University of Lyon, 69008 Lyon, France

Interests: chronic diseases; periodontology; inflammation; health policy

Special Issues, Collections and Topics in MDPI journals



Dr. Jennifer Bragg-Gresham (<https://sciprofiles.com/profile/2393650>)

Website (<https://apha.confex.com/apha/143am/webprogram/Person294765.html>)

Editorial Board Member

School of Public Health, University of Michigan, 1119 N University Ave, Ann Arbor, MI 48109-1084, USA

Interests: epidemiology; genetic epidemiology; chronic kidney disease; environmental health risks



Prof. Dr. Michael S. Breen (<https://sciprofiles.com/profile/84639>)

Website (<https://www.ccee.ncsu.edu/people/msbreen/>)

Editorial Board Member

Center for Public Health & Environmental Assessment, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, USA

Interests: exposure monitoring and assessment

Special Issues, Collections and Topics in MDPI journals



Dr. Tamara Brown (<https://sciprofiles.com/profile/92085>)

Website1 (<https://www.leedsbeckett.ac.uk/staff/dr-tamara-brown/>) **Website2** (<https://www.stir.ac.uk/people/1244009#aboutme>)

Editorial Board Member

1. Obesity Institute, School of Health, Leeds Beckett University, Leeds LS1 3HE, England, UK

2. Faculty of Social Sciences, University of Stirling, Stirling FK9 4LA, Scotland, UK

Interests: obesity; behaviour change; lived experience; public health; health equity

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. David Canning (<https://sciprofiles.com/profile/2486550>)

Website (<https://www.hsph.harvard.edu/david-canning/>)

Editorial Board Member

Department of Global Health and Population, Harvard T. H. Chan School of Public Health, Boston, MA 02115, USA

Interests: air pollution and mortality; air pollution and cognition; inequalities in health; fertility



Dr. Emanuele Cannizzaro (<https://sciprofiles.com/profile/741485>)

Website (<https://www.unipa.it/personedocenti/c/emanuele.cannizzaro/?pagina=curriculum>)

Editorial Board Member

Associate Professor, Department of Health Promotion Sciences Maternal and Infantile Care, Internal Medicine and Medical Specialities "Giuseppe D'Alessandro", University of Palermo, via del Vespro 133, 90127 Palermo, Italy

Interests: occupational medicine; toxicology; work-related stress; swift work

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Gustavo Carlo (<https://sciprofiles.com/profile/2483588>)

Website (https://www.faculty.uci.edu/profile.cfm?faculty_id=6783)

Editorial Board Member

School of Education, University of California, Irvine, CA 92697, USA

Interests: prosocial and moral development; cultural mechanisms; personality; parenting; child and adolescent development



Prof. Dr. Marco Carmignani (<https://sciprofiles.com/profile/1193279>)

Website (<https://www.univaq.it/rubrica.php?id=84&docente=on>)

Editorial Board Member

Department of Basic and Applied Biology, Università degli Studi dell'Aquila, 6710 L'Aquila, Italy

Interests: cardiovascular pharmacology/toxicology; environmental pollutants; xenobiotics and cancer; neuroendocrine toxicology



Prof. Dr. Constantinos Cartalis (<https://sciprofiles.com/profile/103106>)

Website (<https://uoa.academia.edu/ConstantinosCartalis>)

Editorial Board Member

Department of Physics, National and Kapodistrian University of Athens, 15784 Athens, Greece
Interests: urban environment; air pollution; thermal environment in cities; climate change adaptation
Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Albert P. C. Chan (<https://sciprofiles.com/profile/241706>)
Website (<http://www.bre.polyu.edu.hk/staff/bsachan/>)

Editorial Board Member

Faculty of Construction and Environment, The Hong Kong Polytechnic University, Hong Kong, China
Interests: construction safety and health; project management and project success; project finance and public private partnerships (PPP); construction procurement and relational contracting; construction industry development
Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Susanne Charlesworth (<https://sciprofiles.com/profile/150964>)
Website (<http://www.coventry.ac.uk/research/research-directories/researchers/sue-charlesworth/>)

Editorial Board Member

Centre for Agroecology, Water and Resilience, Coventry University, Coventry CV1 5FB, UK
Interests: sustainable drainage (SuDS); water and sediment quality in SuDS devices; metal pollution of urban environments; drainage of informal settlements and refugee camps; Natural Flood Resilience Measures
Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Judith L. Charlton (<https://sciprofiles.com/profile/2026553>)
Website (<https://research.monash.edu/en/persons/judith-charlton>)

Editorial Board Member

Monash University Accident Research Centre, Monash University, Melbourne 3800, Australia
Interests: safe mobility; ageing; child passenger safety; future transport technologies; older drivers



Prof. Dr. Lianguo Chen (<https://sciprofiles.com/profile/1568596>)
Website1 (http://www.ihb.ac.cn/yjdw/yjy/index_83634.html?
json=http://sourcedb.ihb.cas.cn/cn/gb/yjy1/shjgcyjzx_172772/201810/20181031_5749597.json) **Website2**
(http://edu.ihb.cas.cn/ds/bsds/202103/20210304_627617.html)

Editorial Board Member

Institute of Hydrobiology, Chinese Academy of Science, Wuhan 430072, China
Interests: environmental behavior, toxicology, and molecular mechanisms of emerging pollutants; development of toxicity-ameliorative measures based on gut microbiota manipulation to protect the health of animals and humans
Special Issues, Collections and Topics in MDPI journals



Dr. Mei-chun Cheung (<https://sciprofiles.com/profile/1658819>)
Website (<https://web.swk.cuhk.edu.hk/en-gb/people/full-time-teaching-staff/136-prof-cheung-mei-chun>)

Editorial Board Member

Department of Social Work, The Chinese University of Hong Kong, Hong Kong, China
Interests: clinical neuropsychology; clinical intervention; aging and dementia; autism spectrum disorder



Prof. Dr. Imti Choonara (<https://sciprofiles.com/profile/79245>)
Website (<https://www.nottingham.ac.uk/medicine/people/imti.choonara>)

Editorial Board Member

Division of Medical Sciences and Graduate Entry Medicine, University of Nottingham, Derby DE22 3DT, UK
Interests: drug toxicity; clinical trials; rational use of medicines; epidemiology of the use of medicines; inequalities in child health; access to medicines in children
Special Issues, Collections and Topics in MDPI journals



Dr. Cain Clark (<https://sciprofiles.com/profile/369316>)
Website (<https://pureportal.coventry.ac.uk/en/persons/cain-clark>)

Editorial Board Member

Centre for Intelligent Healthcare, Coventry University, Coventry CV1 5RW, UK
Interests: data analytics; visualization and meta-analyses; physical activity; motor competence; sedentary behaviour
Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Derek Clements-Croome (<https://sciprofiles.com/profile/11099>)
Website (<https://derekcroome.com/>)

Editorial Board Member

School of the Built Environment, University of Reading, PO Box 219, Whitek Nights, Reading RG6 6AW, UK
Interests: health and wellbeing; design and management of intelligent buildings; sustainable liveable buildings; environmental sensory design; creating productive and creative workplaces
Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Peter Congdon (<https://sciprofiles.com/profile/36143>)
Website (<https://www.qmul.ac.uk/geog/staff/congdonp.html>)

Editorial Board Member

School of Geography, Queen Mary University of London, Mile End Road, London E1 4NS, UK
Interests: geographical health inequalities; spatial epidemiology; urban environments and health
Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Paola Dalmasso (<https://sciprofiles.com/profile/1130341>)
Website (<https://medchirurgia.campusnet.unito.it/do/docenti.pl?Alias?paola.dalmasso#tab-profilo>)

Editorial Board Member

Department of Public Health and Pediatrics, University of Torino, 10126 Torino, Italy
Interests: public health; epidemiology; biostatistics; child and adolescent health; well-being and health complaints; health behaviors
Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Shaonong Dang (<https://sciprofiles.com/profile/323114>)
Website (<http://sph.xjtu.edu.cn/info/1154/2123.htm>)

Editorial Board Member

Department of Epidemiology and Biostatistics, School of Public Health, Xi'an Jiaotong University, Xi'an 710061, China
Interests: nutritional epidemiology; maternal and child nutrition and health care; public health evaluation; clinical trial; data process and analysis in medical field
Special Issues, Collections and Topics in MDPI journals



Dr. Bithin Datta (<https://sciprofiles.com/profile/479823>)
Website (<https://research.jcu.edu.au/portfolio/bithin.datta/>)

Editorial Board Member

Discipline of Civil Engineering, College of Science & Engineering, James Cook University, Townsville, QLD 4811, Australia
Interests: hydrology; groundwater contamination; water resources; artificial intelligence
Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Giovanni De Girolamo
Website (<https://docenti.unicatt.it/ppd2/it/docenti/39590/giovanni-de-girolamo/profilo>)

Editorial Board Member

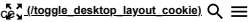
Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, 25125 Brescia, Italy
Interests: psychiatry; mental health



Dr. Séverine Deguen (<https://sciprofiles.com/profile/2021404>)

Website (<https://cv.archives-ouvertes.fr/severine-deguen?langChosen=en>)

Editorial Board Member

Bordeaux Population Health Research Center, University of Bordeaux, Inserm, UMR 1219, F-33000 Bordeaux, France 

Interests: biostatistics; environmental epidemiology; social and environmental inequalities; cumulative environmental exposure; vulnerable population

Special Issues, Collections and Topics in MDPI journals



Dr. Maurizio Delvecchio (<https://sciprofiles.com/profile/1045124>)

Website (<https://scholar.google.com/citations?user=xcDMRgQAAAAJ&hl=ro&oi=ao>)

Editorial Board Member

Department of Metabolic and Genetic Diseases, Giovanni XXIII Children's Hospital, 70126 Bari, Italy

Interests: neonatal diabetes mellitus; type 1 diabetes; celiac disease; thyroid disorders; insulin; Wolfram syndrome; Prader Villino syndrome

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Shyamali Dharmage (<https://sciprofiles.com/profile/160903>)

Website (<https://findanexpert.unimelb.edu.au/profile/3474-shyamali-dharmage#tab-research>)

Editorial Board Member

Allergy and Lung Health Unit, University of Melbourne, Parkville 3010, Australia

Interests: epidemiology; respiratory medicine; chronic obstructive pulmonary disease (COPD); asthma; allergy; risk factors

Special Issues, Collections and Topics in MDPI journals



Dr. Julio Diaz (<https://sciprofiles.com/profile/100775>)

Website (https://www.researchgate.net/profile/Julio_Diaz7)

Editorial Board Member

Department of Epidemiology and Biostatistics, National School of Public Health, Carlos III National Institute of Health (Instituto Salud Carlos III/ISCIII), 28029 Madrid, Spain

Interests: air pollution; noise and health; climate change; cold and heat waves

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Julia Dickson-Gomez (<https://sciprofiles.com/profile/2305385>)

Website (<https://www.mcu.edu/departments/psychiatry-and-behavioral-medicine/people/julia-dickson-gomez-phd>)

Editorial Board Member

Institute for Health and Equity, Medical College of Wisconsin, Milwaukee, WI 53226, USA

Interests: HIV; substance use disorder; homelessness; housing instability; informal settlements; global health; opioids; crack

Special Issues, Collections and Topics in MDPI journals



Dr. Thomas Dos Santos (<https://sciprofiles.com/profile/1447140>)

Website (<https://www.mmu.ac.uk/sport-and-exercise-sciences/staff/profile/dr-thomas-dossantos>)

Editorial Board Member

Department for Sport and Exercise Sciences, Musculoskeletal Science and Sports Medicine Research Centre, Manchester Metropolitan University, Manchester M15 6BH, UK

Interests: assessment and development of strength, power, multidirectional speed; injury mitigation; ACL injury

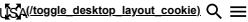
Special Issues, Collections and Topics in MDPI journals



Dr. Norca Maritza Dowling (<https://sciprofiles.com/profile/2538874>)

Website (<https://nursing.gwu.edu/n-maritza-dowling>)

Editorial Board Member

1. Department of Acute & Chronic Care, School of Nursing, George Washington University, Washington, DC 20006, USA 

2. Department of Epidemiology, George Washington University, Washington, DC 20006, USA

Interests: alzheimer's disease and related dementias; health disparities and health outcomes in older adults; methods to strengthen causal inference in observational research; longitudinal data analysis; latent variable modeling; population heterogeneity

Prof. Dr. Isabelle S. Durand-Zaleski (<https://sciprofiles.com/profile/2214701>)

Website (<http://recherche-innovation.aphp.fr/urc-eco/>)

Editorial Board Member

AP-HP, Health Economics Research Unit, 75004 Paris, France

Interests: spinal muscular atrophy; health-related quality of life; economic burden; cost-of-illness; europe; informal care

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Timothy Dvonch (<https://sciprofiles.com/profile/96695>)

Website (<https://sph.umich.edu/faculty-profiles/dvonch-jtim.html>)

Editorial Board Member

Department of Environmental Health Sciences, University of Michigan, Ann Arbor, MI 48109, USA

Interests: exposure assessment and health effects of air pollution; atmospheric transport and fate of mercury and other trace metals; receptor modeling and source apportionment of atmospheric pollutants

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Helen Edwards (<https://sciprofiles.com/profile/1335889>)

Website (<https://staff.qut.edu.au/staff/h.edwards>)

Editorial Board Member

School of Nursing and Midwifery, Queensland University of Technology, Brisbane, QLD 4001, Australia

Interests: wound management; evidenced based practice; older people's health; implementation science



Dr. Frank Eves (<https://sciprofiles.com/profile/829577>)

Website (<https://www.birmingham.ac.uk/staff/profiles/sportex/eves-frank.aspx>)

Editorial Board Member

School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham B15 2TT, UK

Interests: health psychology; environmental psychology; lifestyle physical activity; physical activity interventions

Prof. Dr. Nùria Fabrellas (<https://sciprofiles.com/profile/1680785>)

Website (http://www.ub.edu/infermeria_recerca/en/fitxes-pdi/fabrellas-padres)

Editorial Board Member

Hospital Clinic Barcelona, Faculty of Health Sciences, University of Barcelona (UB), 08036 Barcelona, Spain

Interests: primary care; primary care nursing



Prof. Dr. Alesia Ferguson (<https://sciprofiles.com/profile/215800>)

Website (<https://www.ncat.edu/employee-bio.php?directoryID=100953105>)

Editorial Board Member

Built Environment Department, College of Science and Technology, North Carolina Agricultural and Technical State University, Greensboro, NC 27411, USA

Interests: risk assessment and dermal adherence and exposures; human activity patterns and exposures; outreach and education focused on exposure in and around the home; occupational exposure in the service industries

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Maria Beatriz Duarte Gavião (<https://sciprofiles.com/profile/2123457>)

Website (<https://www.fop.unicamp.br/cpg/index.php/es-es/346-maria-beatriz-duarte-gaviao>)

Editorial Board Member

Department of Health Sciences and Pediatric Dentistry, Piracicaba Dental School, University of Campinas, Piracicaba 13414-903, Brazil

Interests: quality of life; oral physiology; salivary biomarkers; sleep

Special Issues, Collections and Topics in MDPI journals



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Dr. Emma Godfrey (<https://sciprofiles.com/profile/2599889>)

Website (<https://www.kcl.ac.uk/people/emma-godfrey>)

Editorial Board Member

Department of Psychology, Institute of Psychiatry, Psychology and Neuroscience (IoPPN), King's College London, London SE5 8AF, UK

Interests: health psychology; chronic musculoskeletal pain; adherence to exercise

Prof. Dr. Susan Griffin

Website (<https://www.york.ac.uk/che/staff/research/susan-griffin/>)

Editorial Board Member

Centre for Health Economics, University of York, York YO10 5DD, UK

Interests: health economics; economic evaluation; health inequalities; value of information; cost-effectiveness; decision-analytic models



Dr. Jennifer M. Grossman (<https://sciprofiles.com/profile/361173>)

Website (<https://www.wcwoonline.org/Active-Researchers/jennifer-m-grossman-phd>)

Editorial Board Member

Wellesley Centers for Women, Wellesley College, Wellesley, MA 02481, USA

Interests: adolescent development; sexual risk and prevention; family sexuality communication; teen-family relationships; evaluation of preventive programs; qualitative and mixed-methods approaches

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Xihui Gu (<https://sciprofiles.com/profile/504118>)

Website (https://grzy.cug.edu.cn/guxihui/zh_CN/index.htm)

Editorial Board Member

Department of Atmospheric Science, School of Environmental Studies, China University of Geosciences, Wuhan 430074, China

Interests: climate change; climate change and human health; climatic and hydrological extremes; urban climate; extreme events prediction and projection



Prof. Dr. Christos Hadjichristodoulou (<https://sciprofiles.com/profile/20637>)

Website (<http://www.med.uth.gr/en/DepDetailsEN.aspx?id=100>)

Editorial Board Member

Laboratory of Hygiene and Epidemiology, Faculty of Medicine, University of Thessaly, 41222 Larissa, Greece

Interests: infectious diseases; epidemiology; surveillance; infection prevention and control; environmental health and hygiene; points of entry; cross-border health threats; maritime health

Special Issues, Collections and Topics in MDPI journals

Dr. Chanita Hughes Halbert (<https://sciprofiles.com/profile/2714200>)

Website (<https://usc Norris Cancer.usc.edu/chanita-hughes-halbert-phd/>)

Editorial Board Member

Department of Population and Public Health Sciences, University of Southern California, Los Angeles, CA 90032, USA

Interests: public health; health inequality; cancer prevention; cancer health disparities; health ethnic



Prof. Dr. Gregory W. Heath (<https://sciprofiles.com/profile/2206953>)

Website1 (<https://www.utc.edu/health-education-and-professional-studies/health-and-human-performance/graduate-programs/master-of-public-health/faculty-and-staff>) **Website2** (<https://www.researchgate.net/profile/Gregory-Heath>)

Editorial Board Member

Department of Health and Human Performance, University of Tennessee at Chattanooga, Chattanooga, TN 37403, USA

Interests: physical activity epidemiology; NCD prevention; physical activity interventions

Special Issues, Collections and Topics in MDPI journals



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Prof. Dr. Michael Hendryx (<https://sciprofiles.com/profile/479174>)

Website (<https://publichealth.indiana.edu/research/faculty-directory/profile.html?user=hendryx>)

Editorial Board Member

Department of Environmental and Occupational Health, Indiana University, Bloomington, IN 47405, USA

Interests: health disparities; environmental justice; environmental exposures; Appalachia; public health effects of coal mining



Dr. Kevin A. Henry (<https://sciprofiles.com/profile/235701>)

Website (<https://liberalarts.temple.edu/academics/faculty/henry-kevin>)

Editorial Board Member

Geography and Urban Studies, Temple University, Philadelphia, PA 19122, USA

Interests: geospatial approaches to cancer control; life course epidemiology; cancer prevention; vaccination; health disparities; spatial statistics; health care access

Prof. Dr. Moonseong Heo (<https://sciprofiles.com/profile/2398536>)

Website (<https://www.clemson.edu/cbshs/about/profiles/index.html?userid=mheo>)

Editorial Board Member

Department of Public Health Sciences, Clemson University, Clemson, SC 29631, USA

Interests: clinical trial design and analysis; obesity epidemiology; opioid use disorder epidemiology and associated infectious diseases; pediatric quality improvement



Dr. Wen-Che Hou (<https://sciprofiles.com/profile/1801191>)

Website (<https://researchoutput.ncku.edu.tw/zh/persons/wen-che-hou>)

Editorial Board Member

Department of Environmental Engineering, National Cheng Kung University, Tainan 701, Taiwan

Interests: environmental nanotechnology; nano- and microplastics; environmental exposure; contaminant fate and transport modeling; nanotoxicology; bioaccumulation; environmental photochemistry



Prof. Dr. Gordon Huang (<https://sciprofiles.com/profile/214602>)

Website (<http://www.jeionline.org/huangg/research.html>)

Editorial Board Member

Faculty of Engineering and Applied Science, University of Regina, Regina, SK S4S 0A2, Canada

Interests: waste management; site remediation; and risk assessment; simulation and optimization of hydrological and environmental systems; modeling of energy and environmental management systems; climate modeling; impact assessment; adaptation planning

Special Issues, Collections and Topics in MDPI journals



Dr. Po-Chin Huang (<https://sciprofiles.com/profile/1206262>)

Website (https://www.researchgate.net/profile/Po_Chin_Huang/research)

Editorial Board Member

National Institute of Environmental Health Sciences, National Health Research Institutes, Miaoli 350, Taiwan

Interests: environmental epidemiology; exposure science; biomonitoring; risk assessment; oxidative stress biomarkers; thyroid hormones homeostasis

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Andrew S. Hursthouse (<https://sciprofiles.com/profile/123544>)

Website (<https://research-portal.uws.ac.uk/en/persons/andrew-hursthouse>)

Editorial Board Member

School of Computing, Engineering and Physical Sciences, University of the West of Scotland, Paisley PA1 2BE, UK  [/toggle_desktop_layout_cookie](#)  

Interests: environmental geochemistry and health; behavior and transport of pollutants in atmospheric, aquatic, and terrestrial environments; policy related to environmental regulation (waste and environmental management); contaminated land risk and remediation; urban management; environmental and public health

Special Issues, Collections and Topics in MDPI journals



Dr. Tomohiko Isoe (<https://sciprofiles.com/profile/1028490>)

Website (<https://www.nies.go.jp/researchers/200326.html>)

Editorial Board Member

Japan Environment and Children's Study Programme Office, Health and Environmental Risk Division, National Institute for Environmental Studies, Tsukuba 305-0053, Ibaraki, Japan

Interests: development of analytical method for environmental contaminants in biological/environmental matrices; human biomonitoring of environmental contaminants; quality control and quality assurance of exposure assessment

Special Issues, Collections and Topics in MDPI journals



Dr. Mirosław Janik (<https://sciprofiles.com/profile/424914>)

Website (<https://www.researchgate.net/profile/Mirosław-Janik/5>)

Editorial Board Member

The National Institutes for Quantum and Radiological Science and Technology (QST), Center for Advanced Radiation Medicine, Chiba 263-8555, Japan

Interests: radon; thoron; alpha spectrometry; machine learning; quality assurance; radiation protection

Special Issues, Collections and Topics in MDPI journals



Dr. Billingsley Kaambwa (<https://sciprofiles.com/profile/1230361>)

Website (<https://www.flinders.edu.au/people/billingsley.kaambwa>)

Editorial Board Member

Health Economics, College of Medicine and Public Health, Bedford Park Campus, Flinders University, Adelaide 5042, Australia

Interests: economic evaluation; cost-effectiveness analysis; cost-utility analysis; decision-analytic modelling; contingent valuation; discrete choice experiments; quality of life; cost analysis



Dr. Leonid Kalichman (<https://sciprofiles.com/profile/2371533>)

Website (<https://cris.bgu.ac.il/en/persons/leonid-kalichman>)

Editorial Board Member

Department of Physical Therapy, Recanati School for Community Health Professions, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer Sheva 84105, Israel

Interests: musculoskeletal medicine; manual therapy; orthopedic physical therapy and rehabilitation; pelvic floor physical therapy; musculoskeletal pain and sexual dysfunctions



Prof. Dr. Arata Katayama (<https://sciprofiles.com/profile/526481>)

Website (http://www.er.imass.nagoya-u.ac.jp/AKLab_En/index.html)

Editorial Board Member

Institute of Materials and Systems for Sustainability, Nagoya University, Nagoya 464-8603, Japan

Interests: Bioremediation; soil and water; anaerobic microorganisms; bioelectrochemical system; humic substances; bioelectrochemical synthesis; modeling of biological activity; composting; reclamation of solid organic wastes



Prof. Dr. Qiang Kong (<https://sciprofiles.com/profile/2503603>)

Website (<https://www.sdnu.edu.cn/info/1130/9768.htm>)

Editorial Board Member

College of Geography and Environment, Shandong Normal University, Shandong 250358, China

Interests: wastewater treatment; microbial community; constructed wetland; microbial fuel cell; antibiotic-resistance genes



Prof. Dr. Peter C. Konturek (<https://sciprofiles.com/profile/930484>)

Website (<https://www.thueringen-kliniken.de/kontakt/detail/kiinikpersonal-114>)

Editorial Board Member

Thuringia Clinic Saalfeld, Teaching Hospital of the University of Jena, 07318 Saalfeld, Germany

Interests: irritable bowel syndrome; gut microbiota; food intolerance

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Naresh Kumar

Website (<http://biostat.med.miami.edu/people/secondary-faculty/naresh-kumar-ph.d/>)

Editorial Board Member

Department of Public Health Sciences, Miller School of Medicine, University of Miami, Miami, FL 33136, USA

Interests: personalized real-time exposure; air pollution toxicity; personalize health risk surveillance; spatiotemporal sampling and modeling; portable air pollution sensors



Prof. Dr. Thomas Küpper (<https://sciprofiles.com/profile/2328011>)

Website (<https://www.ukaachen.de/kliniken-institute/institut-fuer-arbeits-sozial-und-umweltmedizin/institut/team/wissenschaftliche-mitarbeiter/thomas-kuepper/>)

Editorial Board Member

Institute of Occupational & Social Medicine, RWTH Aachen University, 52074 Aachen, Germany

Interests: travel medicine; hypoxia; high altitude; exercise physiology; acclimatization; expedition medicine; human performance; aviation medicine; arctic/polar medicine; diving medicine

Prof. Dr. Michael Langston (<https://sciprofiles.com/profile/532949>)

Website (<http://web.eecs.utk.edu/~mlangsto/>)

Editorial Board Member

Department of Electrical Engineering and Computer Science, University of Tennessee, Knoxville, TN 37996, USA

Interests: artificial intelligence; big data analytics; computer and data science; graph theoretical algorithms; life science applications; public health

Special Issues, Collections and Topics in MDPI journals



Dr. Michaël R. Laurent (<https://sciprofiles.com/profile/954839>)

Website (<https://ectsoc.org/dr-michael-r-laurent/>)

Editorial Board Member

Centre for Metabolic Bone Diseases, University Hospitals Leuven, 3000 Leuven, Belgium

Interests: geriatrics; metabolic bone diseases; molecular and cellular endocrinology; medical informatics

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Shooou Yih Daniel Lee (<https://sciprofiles.com/profile/2726291>)

Website (<https://ha.chp.vcu.edu/staff/shooou-yih-daniel-lee-phd.html>)

Editorial Board Member

Department of Health Administration, College of Health Professions, Virginia Commonwealth University, Richmond, VA 23298, USA

Interests: health services research; health care management; organizational studies; organizational resilience



Prof. Dr. Peter Lercher

Website (<https://graz.pure.elsevier.com/en/persons/peter-lercher>)

Editorial Board Member

Institute for Highway Engineering and Transport Planning, Graz University of Technology, 8010 Graz, Austria

Interests: combined environmental exposures (noise, vibration, air-pollution, good neighbourhood environments); health of children and adults methodological issues in environmental epidemiology

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Jonathan Levy

Website (<http://www.bu.edu/sph/profile/jonathan-levy/>)

Editorial Board Member

Department of Occupational and Environmental Health, Hudson College of Public Health, The University of Oklahoma Health Sciences Center, Oklahoma, OK 73104, USA

Interests: air pollution exposure assessment; health risk assessment



Prof. Dr. Peiyue Li (<https://sciprofiles.com/profile/53520>)

★ (<https://clarivate.com/highly-cited-researchers/2022/>) **Website** (<https://js.chd.edu.cn/hjkygcxy/lpy/list.htm>)

Editorial Board Member

School of Water and Environment, Chang'an University, Xi'an 710054, China

Interests: water resources; hydrogeology; groundwater quality; groundwater pollution; groundwater modeling; health risk assessment; geochemical modeling; hydrogeochemistry

Special Issues, Collections and Topics in MDPI journals



Dr. Sha Liang

Website (<http://ese.hust.edu.cn/info/1216/4015.htm>)

Editorial Board Member

School of Environmental Science and Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

Interests: solid waste recycling; sewage sludge treatment and disposal; sludge pyrolysis; phosphorus recovery; biochar



Prof. Dr. Boqiang Lin (<https://sciprofiles.com/profile/453049>)

★ (<https://clarivate.com/highly-cited-researchers/2022/>) **Website** (<https://cicep.xmu.edu.cn/info/1033/1533.htm>)

Editorial Board Member

Collaborative Innovation Center for Energy Economics and Energy Policy, China Institute for Studies in Energy Policy, School of Management, Xiamen University, Xiamen 361005, China

Interests: energy economy; energy policy; technical economy

Prof. Dr. Shang-Lien Lo (<https://sciprofiles.com/profile/33924>)

Website (<http://enve.ntu.edu.tw/DispPageBox/giee/GieeCP.aspx?ddsPageID=GIEETCFULL&dbid=3234561903>)

Editorial Board Member

Graduate Institute of Environmental Engineering, National Taiwan University, 71 Chou-Shan Rd., Taipei 106, Taiwan

Interests: drinking water treatment; river and groundwater pollution; interaction at sediment-water interfaces; physicochemical processes; microwave-induced technologies; enhanced sonochemical technology; wastewater/sludge treatment; environmental nanomaterials; resource recycling of heavy metal-containing sludge; environment and ecosystem management

Dr. Fortunato Lombardo (<https://sciprofiles.com/profile/1105730>)

Website (<https://www.unime.it/it/persona/fortunato-lombardo/curriculum>)

Editorial Board Member

Department of Human Pathology in Adult and Developmental Age "Gaetano Barresi", University of Messina, 98124 Messina, Italy

Interests: pediatric diabetes; type 1 diabetes; monogenic diabetes; technology and diabetes

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Daniela Lucini (<https://sciprofiles.com/profile/982616>)

Website (<https://www.unimi.it/it/ugov/person/daniela-lucini>)

Editorial Board Member

Department of Medical Biotechnology and Translational Medicine, University of Milan, 20135 Milan, Italy

Interests: autonomic nervous system; lifestyle

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Tao Luo (<https://sciprofiles.com/profile/337003>)

Website (<https://jzxy.fzu.edu.cn/info/1041/1652.htm>)

Editorial Board Member

School of Architecture and Urban-Rural Planning, Fuzhou University, Fuzhou 350108, China

Interests: rural/vernacular landscape; landscape dynamic/evolution; landscape spatial analyse; in human-settlement science: rural settlement and environment, urbanisation process, regional characteristic, place identity; in planning science: sustainable development, territorial spatial planning, landscape evaluation and planning



Prof. Dr. Chuanxin Ma (<https://sciprofiles.com/profile/1508115>)

Website (<https://seer.gdut.edu.cn/info/1029/1056.htm>)

Editorial Board Member

Key Laboratory for City Cluster Environmental Safety and Green Development of the Ministry of Education, School of Ecology, Environment and Resources, Guangdong University of Technology, Guangzhou 510006, China

Interests: engineered nanoparticles; heavy metals; biochar; plant stress physiology; nano-enabled agriculture; biogeochemistry; nanotoxicity; phytoremediation; environmental soil chemistry

Special Issues, Collections and Topics in MDPI journals

Prof. Maurice Mars (<https://sciprofiles.com/profile/253492>)

Website (<https://telehealth.ukzn.ac.za/Staff/ProfessorMauriceMars/>)

Editorial Board Member

Department of TeleHealth, School of Nursing & Public Health, College of Health Sciences, University of KwaZulu-Natal, Durban 4041, South Africa

Interests: telemedicine; mhealth; ehealth; telehealth



Prof. Dr. Gerardo Maupomé (<https://sciprofiles.com/profile/517526>)

Website (<https://fsph.iupui.edu/about/directory/maupome-gerardo.html>)

Editorial Board Member

Richard M. Fairbanks School of Public Health, Indiana University, 1050 Wishard Blvd., suite R6054, Health Sciences Building, Indianapolis, IN 46202, USA

Interests: oral health; dental epidemiology; health services research; minority health; immigrant health; health disparities; social-behavioral sciences

Special Issues, Collections and Topics in MDPI journals



Dr. Peter Memiah (<https://sciprofiles.com/profile/1647018>)

Website (<https://www.medschool.umaryland.edu/profiles/Memiah-Peter/>)

Editorial Board Member

Division of Epidemiology and Prevention, Institute of Human Virology, University of Maryland Baltimore, Baltimore, MD 21201, USA

Interests: quality improvement; HIV; adolescent health; non communicable diseases

Dr. Paola Michelozzi (<https://sciprofiles.com/profile/322157>)

Website (<https://www.deplazio.net/en/staff/47>)

Editorial Board Member

Department of Epidemiology, Lazio Regional Health Service-Italy, Via Cristoforo Colombo, 112-00147 Rome, Italy



Interests: environmental epidemiology; climate change; extreme weather events and health; short and long term effect of air pollution; environmental exposure and cancer; public health

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Mori Mitsuru
Website (<https://researchmap.jp/read0043653>)

Editorial Board Member

Department of Health Science, Hokkaido Chitose College of Rehabilitation, 2-10, Satomi, Chitose 066-0055, Japan  

Interests: health promotion of the older persons; prevention of cancer and other diseases; stress management of workers



Prof. Dr. Masaaki Miyata (<https://sciprofiles.com/profile/2604896>)
Website (https://ris.kuas.kagoshima-u.ac.jp/html/100004926_en.html)

Editorial Board Member

Graduate School of Health Sciences, Kagoshima University, 8-35-1, Sakuragaoka, Kagoshima 890-8544, Japan

Interests: atherosclerosis; coronary artery disease; hypertension; dyslipidemia; health promotion

Prof. Dr. Joshua Muscat (<https://sciprofiles.com/profile/2024180>)

Website (<https://cancer.psu.edu/researchers/individual/-/researcher/5B6500F63D2538DBE0540010E056499A/joshua-muscat-phd-mph>)

Editorial Board Member

Department of Public Health Sciences, College of Medicine, Penn State University, Hershey, PA 17033, USA

Interests: tobacco products; smokers; smoking; odds ratio; confidence intervals; head and neck neoplasms; lung neoplasms; neoplasms; tobacco; epidemiology



Dr. Masatoshi Nakamura (<https://sciprofiles.com/profile/281609>)

Website (<https://researchmap.jp/masatoshi-nakamura>)

Editorial Board Member

Department of Physical Therapy, Faculty of Rehabilitation, Niigata University of Health and Welfare, 1398 Shimamicho, Kitaku, Niigata 950-3198, Japan

Interests: muscle-tendon adaptation; flexibility; stretching; resistance training; ultrasound; muscle stiffness; eccentric contraction; cross-education effect; delayed onset muscle soreness

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. K. Daniel O'Leary

Website (https://www.stonybrook.edu/commcms/psychology/faculty/faculty_profiles/doleary)

Editorial Board Member

Department of Psychology, Stony Brook University, Stony Brook, NY 11794, USA

Interests: marital therapy; the relationship between marital and child problems; the etiology and treatment of spouse abuse; the alcohol abuse/partner abuse link

Dr. Antonio G. Oliveira (<https://sciprofiles.com/profile/2303158>)

Website (<http://lattes.cnpq.br/0119633997550691>)

Editorial Board Member

Pharmacy Department, Universidade Federal do Rio Grande do Norte, Natal 59012-570, Brazil

Interests: biostatistics; epidemiology; meta-analysis; clinical trials; design of experiments; clinical questionnaire development and validation

Dr. Vincenzo Ostilio Palmieri

Website (<https://persone.ict.uniba.it/rubrica/vincenzoostilio.palmieri>)

Editorial Board Member

Department of Precision and Regenerative Medicine and Jonic Area, University of Bari Aldo Moro, 70121 Bari, Italy

Interests: liver physiopathology; metabolic syndrome; autoimmune diseases of liver and related organs; primitive tumors of the liver; COVID 19 infection; post-COVID diseases



Dr. Chi Peng (<https://sciprofiles.com/profile/1811451>)

Website (http://faculty.csu.edu.cn/pengchizh_CN/index.htm)

Editorial Board Member

School of Metallurgy and Environment, Central South University, Changsha 410083, China

Interests: rare metals; risk assessment; soil contamination

Special Issues, Collections and Topics in MDPI journals



Dr. Annalisa Pinsino (<https://sciprofiles.com/profile/1498237>)

Website (<https://publications.cnr.it/authors/annalisa.pinsino>)

Editorial Board Member

Institute of Translational Pharmacology (IFT), National Research Council (CNR), Via Ugo La Malfa 153, 90146 Palermo, Italy

Interests: nanotoxicology; immunology; innate immunity; cell biology; molecular biology; proxy to human model; environmental risk

Special Issues, Collections and Topics in MDPI journals

Dr. Adília O. Pires (<https://sciprofiles.com/profile/1860092>)

Website (<http://www.cesam.ua.pt/index.php?tabela=pessoaldetail&menu=82&user=361>)

Editorial Board Member

Department of Biology & CESAM, University of Aveiro, Campus de Santiago, 3810-193 Aveiro, Portugal

Interests: ecotoxicology; environmental sciences; climate change; contaminants; trace elements; polychaetes; stressors effects on biodiversity; biomarkers; biological conservation; molecular genetics



Dr. Prisco Piscitelli (<https://sciprofiles.com/profile/1104368>)

Website (<https://www.unescochairnapoli.it/wp-content/uploads/2019/09/CV-Piscitelli.pdf>)

Editorial Board Member

1. Euro Mediterranean Scientific Biomedical Institute (ISBEM), 72023 Mesagne, Italy

2. Italian Society of Environmental Medicine (SIMA), 20123 Milan, Italy

Interests: epidemiology; preventive medicine; occupational medicine; environmental medicine; global health; air pollution; indoor pollution; radon; infectious diseases

Special Issues, Collections and Topics in MDPI journals

Dr. Dietrich Plaß (<https://sciprofiles.com/profile/157177>)

Website (https://www.researchgate.net/profile/Dietrich_Plass)

Editorial Board Member

Section Exposure Assessment and Environmental Health Indicators, Federal Environmental Agency, Berlin, Germany

Interests: burden of disease; environmental burden of disease; comparative risk assessment; ambient air pollution; exposure assessment; exposure modelling; infectious diseases



Prof. Dr. Kinga Polańska (<https://sciprofiles.com/profile/213414>)

Website (http://www.imp.lodz.pl/home_en/dep/departament_of_environmental_epidemiology/children_s_environmental_health_unit/about_unit/)

Editorial Board Member

1. Department of Environmental and Occupational Health Hazards, Nofer Institute of Occupational Medicine, 91-348 Lodz, Poland

2. Department of Hygiene and Epidemiology, Medical University of Lodz, 90-419 Lodz, Poland

Interests: environmental exposure; pregnancy; birth outcomes; child health; child neurodevelopment

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Robert G. Price (<https://sciprofiles.com/profile/1118189>)

Website ([https://kclpure.kcl.ac.uk/portal/en/persons/robert-price\(aad05791-b807-4ac9-9bdc-6eb34e63fc84\).html](https://kclpure.kcl.ac.uk/portal/en/persons/robert-price(aad05791-b807-4ac9-9bdc-6eb34e63fc84).html))

Editorial Board Member

King's College London, Stamford Street, London SE1 9NH, UK

Interests: environmental toxicology; biomarkers of kidney injury; metal toxicity; diagnostic enzymology



Prof. Dr. Saumyadipta Pyne (<https://sciprofiles.com/profile/2460391>)

Website (<https://www.pstat.ucsb.edu/people/saumyadipta-pyne>)

Editorial Board Member

Department of Statistics and Applied Probability, University of California, Santa Barbara, CA 93106, USA
Interests: public health informatics; environmental data science; data integration; computational statistics



Dr. Ri Qiu (<https://sciprofiles.com/profile/2328543>)

Website (<http://csee.sdust.edu.cn/info/1070/1208.htm?yikikata=74d33aba-c09bb8d85f6802c18894975ff2c0bebe>)

Editorial Board Member

College of Safety and Environmental Engineering, Shandong University of Science and Technology, Qingdao 266590, China

Interests: water pollution and remediation; water reuse; remediation of soils polluted by chemicals; environmental pollution and remediation; microbial biodegradation and bioremediation; air pollutants; greenhouse gases

Prof. Dr. Maria Catena Quattropani (<https://sciprofiles.com/profile/2460023>)

Website (<http://www.disfor.unict.it/courses/lm-51/faculty/maria.catena.quattropani>)

Editorial Board Member

Department of Educational Sciences, University of Catania, 95124 Catania, Italy

Interests: traumatic experience; covid-19 and mental health; psychological resilience and coping; aging

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Arja Rautio (<https://sciprofiles.com/profile/183734>)

Website (<https://www oulu.fi/medicine/node/193041>)

Editorial Board Member

Thule Institute and Faculty of Medicine, University of Oulu, 90570 Oulu, Finland

Interests: arctic health; environmental health; social exclusion and Indigenous health and well-being

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Ralf Reintjes (<https://sciprofiles.com/profile/2622615>)

Website (<https://www.haw-hamburg.de/hochschule/beschaefigte/detail/person/person/show/ralf-reintjes/2345/>)

Editorial Board Member

Department of Health Sciences, Hamburg University of Applied Science, 21033 Hamburg, Germany

Interests: epidemiology; pandemic control; public health surveillance; infectious disease epidemiology; risk communication



Prof. Dr. Jairo Lisboa Rodrigues (<https://sciprofiles.com/profile/350363>)

Website (https://tas.mucuri.ufvjm.edu.br/wp/?page_id=50)

Editorial Board Member

Instituto de Ciência, Engenharia e Tecnologia, Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM), Campus Mucuri, Teófilo Otoni 39803-371, MG, Brazil

Interests: environmental health; toxic metals, pesticides; nanomaterial; biomonitoring; biomass; adsorption; genotoxicity assay



Dr. Amy Denise Rodriguez (<https://sciprofiles.com/profile/2841276>)

Website (<http://www.varrd.emory.edu/people/amy-rodriguez/>)

Editorial Board Member

1. Department of Neurology, Emory University, Atlanta, GA 30322, USA

2. Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center, Decatur, GA 30033, USA

Interests: language; cognition; neuroplasticity; aphasia; rehabilitation

Prof. Dr. Martin Rössli (<https://sciprofiles.com/profile/93242>)

Website (<https://www.swisstph.ch/de/staff/profile/people/martin-roeoegli/>)

Editorial Board Member

Head of the Unit for Environmental Exposures and Health, Swiss Tropical and Public Health Institute, Socinstrasse 57, CH-4051 Basel, Switzerland

Interests: exposure assessment studies; aetiological research and health risk assessments in the area of ionizing and non-ionizing radiation; passive smoking, noise exposure; ambient air pollution; climate change and pesticides

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Pier Luigi Sacco (<https://sciprofiles.com/profile/137833>)

Website (<https://milanandsiena.com/course-of-study/faculty/>)

Editorial Board Member

Department of Philosophical, Pedagogical and Economic-Quantitative Sciences, University of Chieti-Pescara, 65127 Pescara, Italy

Interests: psycho-social development; social and affective neuroscience; affectivity and attachment; bonding; mating

Special Issues, Collections and Topics in MDPI journals



Prof. Dr. Zoltan Sarnyai (<https://sciprofiles.com/profile/944674>)

Website (<https://research.jcu.edu.au/portfolio/zoltan.sarnyai/>)

Editorial Board Member

Australian Institute of Tropical Health and Medicine, College of Public Health, Medicine and Veterinary Science, James Cook University, Townsville, QLD 4811, Australia

Interests: psychiatric neuroscience; social and biological determinants of mental health; aboriginal and torres strait islander health and social & emotional well-being; stress and allostatic load; behavioural neuroscience; psychopharmacology

Special Issues, Collections and Topics in MDPI journals



Dr. Ingmar Schäfer (<https://sciprofiles.com/profile/2714948>)

Website (https://www.uke.de/allgemein/arztprofile-und-wissenschaftlerprofile/wissenschaftlerprofilseite_ingmar_sch%C3%A4fer.html)

Editorial Board Member

Institute and Outpatients Clinic of General Practice/Primary Care, University Medical Center Hamburg Eppendorf, 20246 Hamburg, Germany

Interests: multimorbidity in primary care; patients with low treatment urgency in emergency care; COVID-19 and primary care; primary care of socially disadvantaged patient groups; digitalisation in primary care

Dr. Zhenyao Shen (<https://sciprofiles.com/profile/350544>)

Website (<https://wsmelab.bnu.edu.cn/yjdw/yjry/53558.html>)

Editorial Board Member

Key Laboratory for Water and Sediment Science, Ministry of Education, Beijing Normal University, Beijing 100875, China

Interests: nonpoint source simulation and control; urban stormwater management; water quality simulation



Prof. Dr. Judith Sixsmith (<https://sciprofiles.com/profile/889570>)

Website (<https://www.dundee.ac.uk/people/judith-sixsmith>)

Editorial Board Member

School of Health Sciences, University of Dundee, Dundee DD1 4HJ, UK

Interests: marginalisation; public health; gerontology; participatory research; qualitative methods; ageing and technology; palliative and end of life care; placemaking; age friendly environments

Prof. Dr. Min Song (<https://sciprofiles.com/profile/250880>)

Website (<https://power.seu.edu.cn/sm/list.htm>)

Editorial Board Member

Ministry of Education of Key Laboratory of Energy Thermal Conversion and Control, School of Energy and Environment, Southeast University, Nanjing 211189, China

Interests: environmental pollution control; environmental engineering; waste treatment and recycling; soil pollution and remediation



Prof. Dr. Steven Stack

Website (<https://clasprofiles.wayne.edu/profile/aa1051>)

Editorial Board Member

College of Liberal Arts & Sciences, Wayne State University, 4841 Cass Avenue, Detroit, MI 48201, USA

Interests: social risk & protective factors for suicide; culture of suicide; suicide acceptability; media and suicide; religion and suicide; economic strain and

suicide; marital strain and suicide; temporal patterns and suicide; cross-national analysis of suicide



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Dr. Jaana Suvisaari (<https://sciprofiles.com/profile/2840592>)

Website (<https://thi.fi/tutkimus-ja-kehittaminen/tutkimusprofessorit/jaana-suvisaari>)

Editorial Board Member

Finnish Institute for Health and Welfare, 00271 Helsinki, Finland

Interests: psychotic disorders; general population studies on mental health; psychiatric services; register-based research; epidemiology; psychiatric genetics



Prof. Dr. Orit Taubman-Ben-Ari (<https://sciprofiles.com/profile/1519941>)

Website (https://social-work.biu.ac.il/en/Taubman_Orit_en)

Editorial Board Member

School of Social Work Faculty of Social Sciences, Bar-Ilan University, Ramat-Gan 5290002, Israel

Interests: personal growth; transition to parenthood; positive psychology; reckless driving; the multidimensional driving style inventory

Special Issues, Collections and Topics in MDPI journals

Dr. Marcia Testa (<https://sciprofiles.com/profile/1558794>)

Website (<https://www.hsph.harvard.edu/marcia-testa/>)

Editorial Board Member

Emergency Preparedness Research, Evaluation & Practice Program, Harvard T.H. Chan School of Public Health, 677 Huntington Avenue, Boston, MA 02115, USA

Interests: quantitative and health information technology methods and processes relating to the measurement and analysis of expanded patient outcomes (quality of life, cost-effectiveness and risk-benefit) for clinical; pharmacoepidemiology and pharmacoepidemiology; quality of care and comparative effectiveness research studies with particular application to primary care, cardiovascular disease, HIV, and diabetes



Dr. Andrea Tinelli (<https://sciprofiles.com/profile/807217>)

Website (https://www.researchgate.net/profile/Andrea_Tinelli)

Editorial Board Member

1. Department of Obstetrics and Gynecology, "Veris delli Ponti" Hospital, 73020 Scorrano, Italy

2. Laboratory of Human Physiology, Phystech BioMed School, Faculty of Biological & Medical Physics, Moscow Institute of Physics and Technology, State University, Dolgoprudny, Moscow Region 141701, Russia

Interests: uterine fibroids; uterine myoma; reproductive surgery; pregnancy; delivery; cesarean cection

Special Issues, Collections and Topics in MDPI journals



Dr. Eleonora Tobaldini (<https://sciprofiles.com/profile/577513>)

Website (<https://www.unimi.it/it/ugov/person/eleonora-tobaldini>)

Editorial Board Member

1. Department of Clinical Sciences and Community Health, The University of Milan, 20122 Milan, Italy

2. Department of Internal Medicine, Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico, 20122 Milan, Italy

Interests: autonomic nervous system; dysautonomia; sleep; syncope

Special Issues, Collections and Topics in MDPI journals

Prof. Dr. Shilu Tong

★ (<https://recognition.webofscience.com/awards/highly-cited/2020/>) **Website** (<http://staff.qut.edu.au/staff/tong/>)

Editorial Board Member

1. Shanghai Children's Medical Center, Shanghai Jiao Tong University, Shanghai 200240, China

2. School of Public Health and Social Work, Queensland University of Technology, Brisbane City, QLD 4000, Australia

Interests: climate change; quantitative risk assessment; spatiotemporal modelling; sustainable development

Prof. Dr. Yiheng Tu (<https://sciprofiles.com/profile/2004565>)

Website (http://sourcedb.psych.cas.cn/cn/psychexpert/202011/t20201123_5772392.html)

Editorial Board Member

1. CAS Key Laboratory of Mental Health, Institute of Psychology, Chinese Academy of Sciences, Beijing 100101, China

2. Department of Psychology, University of Chinese Academy of Sciences, Beijing 100049, China

Interests: neuromodulation; chronic pain; neuroimaging; biomedical signal processing

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Dr. Tanvir Chowdhury Turin (<https://sciprofiles.com/profile/1298476>)

Website (<https://contacts.ucalgary.ca/info/chs/profiles/1-4841167>)

Editorial Board Member

Department of Family Medicine, Cumming School of Medicine, University of Calgary, Calgary, AB T2N 1N4, Canada

Interests: health literacy; equity; community; immigrant; racialized; engagement



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Website (<https://esc365.escardio.org/person/43336>)

Editorial Board Member

Department of Clinical Nursing, Faculty of Health Sciences, Wrocław Medical University, 50-367 Wrocław, Poland

Interests: heart failure; frailty syndrome; self care

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Website (https://www.iarc.who.int/staff_member/salvatore-vaccarella/)

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Section of Cancer Surveillance, International Agency for Research on Cancer (IARC), 69372 Lyon, France

Interests: global transitions and trends in cancer; cancer inequalities; overdiagnosis of cancer; global health; epidemiology



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Website (<https://www.maastrichtuniversity.nl/lgpm.vanamelsvoort>)

Editorial Board Member

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Interests: epidemiology; occupational health; labour participation; epidemiological research methods; clinical epidemiology



Dr. Fernanda Velluzzi (<https://sciprofiles.com/profile/1581274>)

Website (https://www.unica.it/unica/page/it/fernanda_velluzzi)

Editorial Board Member

Endocrinology, and Obesity Unit, Department of Medical Sciences and Public Health, University of Cagliari, 09124 Cagliari, Italy

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Website (<http://zh.ujn.edu.cn/info/1114/5584.htm>)

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Website (<http://people.unisa.edu.au/craig.williams>)

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Website (<http://yzb.sicau.edu.cn/dscx/dspc.aspx?qzbh=14307>)

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Sichuan Center for Rural Development Research, College of Management, Sichuan Agricultural University, 211 Huimin Road, Wenjiang District, Chengdu 611130, China

Interests: land use policy; sustainable livelihoods and poverty; emergency management; rural sustainable development; climate change and behavioral response; resources and environment policy; policy evaluation; rural revitalization

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Website (<http://www.labs.kdu.ac.jp/yakaishika/staff.html>)

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Website (<http://ee.hnu.edu.cn/info/1007/26629.htm>)

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Website (https://faculty.nuist.edu.cn/yang_yang/zh_CN/index.htm)

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School of Environmental Science and Engineering, Nanjing University of Information Science & Technology, Nanjing 210044, China

Interests: air pollution; atmospheric environment; climate change; source attribution of air pollutants; aerosol-climate interactions



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Website (https://faculty.hzau.edu.cn/yinhui/zh_CN/index.htm)

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College of Resources and Environment, Huazhong Agricultural University, Wuhan 430070, China

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Article

The Effectiveness of Cigarette Pack Health Warning Labels with Religious Messages in an Urban Setting in Indonesia: A Cross-Sectional Study

Bekir Kaplan ^{1,*}, Jeffrey J. Hardesty ¹, Santi Martini ² , Hario Megatsari ², Ryan D. Kennedy ¹ and Joanna E. Cohen ¹

¹ Department of Health, Behavior and Society, Institute for Global Tobacco Control, Johns Hopkins Bloomberg School of Public Health, 615 N Wolfe St, Baltimore, MD 21205, USA

² Faculty of Public Health, University of Airlangga, Jl. Mulyorejo, Surabaya 60115, Indonesia

* Correspondence: bkaplan9@jhu.edu; Tel.: +1-410-614-5378

Received: 23 September 2019; Accepted: 3 November 2019; Published: 5 November 2019



Abstract: This study sought to assess the effectiveness of religious cigarette health warning labels (HWLs) in Indonesia, a country with a high public health burden from tobacco use. The study tested different religious and nonreligious messages related to suicide, secondhand smoke (SHS) and gangrene. Participants were smokers and non-smokers from Surabaya, Indonesia ($n = 817$). Participants rated each HWL for its effectiveness on a scale of 1 to 10 (1 = “not at all”, 10 = “extremely”) with respect to 10 items. Nonreligious HWLs were marginally superior for SHS and suicide while religious HWLs were marginally superior for gangrene. Given the close rating scores between religious and nonreligious HWLs, they were functionally equal in effectiveness. With proper assessment of potential unintended consequences, the implementation of religious HWLs could be considered for a proportion of HWLs.

Keywords: spiritual messages; tobacco control; Indonesia

1. Introduction

Indonesia has over 60 million smokers, the third-highest number of smokers among all countries in the world [1]. Over the last two decades, smoking prevalence in Indonesia has increased nearly 25% (from 54% to 67%) among males and 260% (from 1.7% to 4.5%) among females [1]. Compared to other countries in the region, Indonesia has minimal tobacco control measures at the national level and is one of the few countries in the world that has not signed or ratified the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC). The WHO FCTC sets minimum standards for impactful tobacco control policies, including health warning labels (HWLs) on cigarette packs. Despite a lack of participation in the global treaty, Indonesia has made progress in tobacco control, including developing and implementing one set of five cigarette pictorial health warning labels introduced in 2014 [2].

Indonesia has the largest population of Muslims in the world, with 86% of Indonesians declaring themselves as Muslims [3]. The Indonesia Family Life Survey-4 reported that 79% of Indonesians are highly religious [4]. Moreover, religion had a particular effect on the recent election results, suggesting that religion plays a significant role in the political, economic and cultural spheres in Indonesia [5–7].

The relationship between religion and public health has been a longstanding interest in the health, social, and behavioral sciences [8]. Religion can affect health status by establishing norms regarding behavior, including health-related behaviors [9].

There is evidence in the public health literature that religion can play a substantial role in health beliefs and behaviors [10–14]. Several studies reported that higher religiosity level was associated

with lower tobacco, alcohol, and illicit drug use [10–14]. Regarding tobacco control, Ramadan (a holy month) could be used to support people to quit smoking [14]. Furthermore, the WHO called upon its Member States to include a spiritual dimension in their health strategies [15] and encourages engaging with religious leaders to advance tobacco control priorities [16].

Reducing tobacco use in Indonesia will require a change in social norms. Given the substantial role of religion in Indonesia, cigarette health warning labels (HWLs) with religious messages may help to de-normalize tobacco use in Indonesia [1,4]. In this study, we aimed to assess the effectiveness of religious HWLs among Muslims in Surabaya, Indonesia, a city with a population of 3.5 million.

2. Methods

2.1. Sample and Recruitment

In this cross-sectional study, two teams supported data collection from 28 April to 2 May 2018, in two malls in Surabaya, the second-most populous city on Java Island, Indonesia. Potential participants were recruited via intercept then screened for eligibility based on age (≥ 18 years), religion (Muslims), and length of residency (≥ 1 year) in Surabaya. Quotas were utilized for smoking status (80% smokers, 20% nonsmokers) and sex (80% male, 20% female) to oversample female smokers. Once completed, survey participants received a voucher for 100,000 IDR (~\$6.25 USD) for their time.

2.2. Health Warning Label Design

To create religious-based HWLs, we used a WHO publication [17] regarding the Islamic view on smoking as a guide. Islam works to reduce harm to society and individuals. Many principles of Islam call upon people to look after their own and others' health, to avoid health hazards and risks [17]. For instance, suicide, harming yourself, and harming others are forbidden in Islam and these behaviors could be relevant to smoking given the harmful effects of cigarettes on health [17]. Considering the Islamic view on smoking, we developed three messages as follows: (1) Smoking kills you gradually (Gradual Suicide) and suicide is haram (forbidden), (2) Smoking around others disturbs and violates other people. Disturbing other people is dzolim (cruelty), and, (3) Smoking causes gangrene and damaging yourself is haram (forbidden) (Figure 1). The featured text and image pairings are designed to elicit feelings of guilt from self-harm (suicide and gangrene) and harming others (secondhand smoke). We obtained necessary permissions to use the death and SHS images from the Centers for Disease Control and Prevention and the gangrene image from Commonwealth of Australia.



Figure 1. Religious Health Warning Labels.

To compare the effectiveness of religious messages, we developed three corresponding nonreligious messages as follows: (1) Smoking harms your health and can kill you, (2) Smoking harms other people and causes fatal lung diseases in nonsmokers, and, (3) Smoking causes gangrene and harms blood vessels and cause gangrene (Figure 2).



Figure 2. Nonreligious Health Warning Labels.

2.3. Rating the Effectiveness of HWLs

The six HWLs were shown to participants in random order. All participants rated each HWL on a scale of 1 to 10 (1 = “not at all”, 10 = “extremely”) for whether the HWL: (1) grabs my attention, (2) is easy to understand, (3) is credible, (4) makes me feel more concerned about smoking, (5) makes me think about the health risks of smoking, (6) motivates me to stay smoke-free (for nonsmokers), (7) makes me think about quitting (for smokers), (8) motivates me to quit smoking (for smokers), (9) makes me avoid looking at the warning label, and, (10) the effectiveness of the HWL.

We also created an “average overall rating score” for religious HWLs by summing the values of the 10 rating scores for each religious HWL, and dividing by the total number of rating questions (30), the same procedure was used for the nonreligious HWLs. The Cronbach’s alpha for the six HWL questions was 0.961.

2.4. Religiosity Level

Religious predisposition was measured using the Centrality of Religiosity Scale (CRS) [18]. The validation study of CRS was conducted in Indonesia by Wardhani and Dewi [19]. The CRS measures five theoretical core dimensions of religiosity, including public practice, private practice, religious experience, ideology and intellectual (thoughts). The CRS assessed each dimension using three levels (1 or 2 = not at all, 3 = moderately, 4 or 5 = quite a bit/very much so).

2.5. Smoking Behavior and Intentions

Smoking status was measured using questions from the Global Adult Tobacco Survey-Indonesia [1]. Participants were defined as “daily smokers” if they smoked every day, “occasional smokers” if they smoked less than daily but more than 100 cigarettes in their entire life. Never smokers, former smokers, and smokers smoked fewer than 100 cigarettes in their entire life were defined as non-smokers. Intention to quit was assessed by asking “Are you planning to quit in the next month, 6 months, beyond 6 months, or not at all?” Past year quit attempts was coded as a dichotomous variable reflecting at least one attempt to quit in the last year (1) or none (0). Time for the first cigarette in the morning

was measured using the following choices: “within 5 min,” “6–30 min,” “31–60 min,” and “more than 60 min [20].” Motivation to quit for smokers and motivation to stay smoke-free for nonsmokers were rated by the participants on a scale of 1 to 10 (1 = “not at all”, 10 = “extremely”). All sociodemographic and smoking behavior questions were asked before the rating questions.

2.6. Statistical Analysis

Statistical analyses were performed using SPSS® for Windows®, version 21.0 (SPSS Inc., Chicago, IL, USA). Differences between rating scores were tested with the Wilcoxon signed-rank test. Spearman correlation and linear regression analyses were conducted to assess potential associations between participants’ religiosity level and their HWL rating scores. The beta coefficients and 95% confidence intervals from each linear regression model were exponentiated to obtain geometric mean ratios (GMRs) and corresponding 95% confidence intervals (CI). The HWL rating scores and the religious and nonreligious overall rating scores were left-skewed and log-transformed for the linear regression analyses. All statistical tests were two-sided ($\alpha = 0.05$).

Institutional Review Boards (IRB) at the Johns Hopkins Bloomberg School of Public Health in Baltimore (United States of America) (IRB No: 8315) and at the University of Airlangga Faculty of Public Health in Surabaya (Indonesia) approved the study protocol.

2.7. Ethics Approval

The study was approved by the Institutional Review Boards of the Johns Hopkins Bloomberg School of Public Health and the Institutional Review Boards of University of Airlangga, Faculty of Public Health.

3. Results

In total, we screened 1045 potential participants, 11 (1.1%) resided in the survey city less than one year, 26 (2.5%) were non-Muslim, 11 (1.1%) were less than 18 years old, and 180 (17.2%) did not meet the quotas. Our final sample was comprised of 817 participants.

The study population of 817 participants were 78.8% male, 51.5% were 18–24 years old, 62.7% had graduated high school, 33.6% had children, 29.9% reported smoking their first cigarette within 5 min of waking, 54.8% reported their motivation to quit was at least a 6 on the 10-point scale, and, 54.6% and 29.7% reported good and excellent health status, respectively. Among smokers, 51.0% attempted to quit in the last year and 36.3% did not plan to quit smoking in the future. Most participants (86.2%) had a high CSR score (4 or 5), 12.0% a moderate score (3), and 1.8% a low score (1 or 2) (Table 1).

Table 1. Sociodemographic Characteristics of Participants.

Gender	<i>n</i>	%
Male	644	78.8
Female	173	21.2
Age (Year)		
18–24	421	51.5
25–34	236	28.9
35–44	103	12.6
≥45	50	6.1
Education Level		
Primary/Secondary	76	9.3
High School	510	62.7
College	228	28.0

Table 1. Cont.

Having Children		
No	538	66.4
Yes	272	33.6
Monthly Income (IDR)		
≤3 million IDR	420	54.9
>3 million and ≤5 million IDR	217	28.4
>5 million IDR	128	16.7
Smoking Status		
Daily	642	78.6
Occasionally	46	5.6
Not at all	129	15.8
Health Status		
Poor/Fair	123	15.6
Good	430	54.6
Very Good/Excellent	234	29.7
Religiosity Level (n = 665)		
Quite a bit/very much so (4 or 5)	706	86.6
Moderately (3)	93	11.4
Not at all (1 or 2)	16	2.0
Daily Practice		
5 or more	497	60.8
1–4 times in a day	280	34.3
Never	40	4.9
Time to First Cigarette (n = 633)		
Within 5 min	189	29.9
6–30 min	253	40.0
More than 30 min	191	30.2
Quit Attempt in the Past Year (n = 635)		
Yes	324	51.0
No	311	49.0
Plan to Quit (n = 634)		
Within next month	119	18.8
Within next 6 months	136	21.5
Beyond next 6 months	149	23.5
Not at all	230	36.3
Motivation to Quit (n = 635) *		
1–5	287	45.2
6–10	348	54.8
Motivation to Stay Smoke Free (n = 172) *		
1–7	80	46.5
8–10	92	53.5
Total	817	100.0

* The median values were used as cut off points.

3.1. Sociodemographic Characteristics of Participants by Religiosity Level

College graduates and occasionally/not at all smokers were more religious than primary/secondary graduates and daily smokers ($p = 0.049$ and $p = 0.004$, respectively). Participants who reported very good /excellent health status (88.9%) and between 3–5 million IDR monthly income (91.2%) had

higher religiosity scores than participants who reported poor/fair health status (76.4%) and less than 3 million IDR monthly income (84.0%) ($p = 0.001$ and $p = 0.040$, respectively). There were no significant differences between religiosity level and gender, age, and having children (Table 2). In addition, we did not find any significant difference between the rating score of religious and nonreligious HWLs and the sociodemographic characteristics of the participants.

Table 2. Sociodemographic Characteristics of Participants by Religiosity Level.

Characteristics	Religiosity Level				<i>p</i>
	Score 1–3		Score 4–5		
	<i>n</i>	%	<i>n</i>	%	
Gender					
Male	84	13.0	560	87.0	0.590
Female	25	14.6	146	85.4	
Age (Year)					
18–24	65	15.5	354	84.5	0.065
≥25	44	11.1	352	88.9	
Education Level					
Primary/Secondary	16	21.1	60	78.9	0.049
High School	69	13.6	440	86.4	
College	23	10.1	205	89.9	
Having Children					
No	74	13.8	462	86.2	0.606
Yes	34	12.5	238	87.5	
Monthly Income (IDR)					
≤3 million	67	16.0	352	84.0	0.040
>3 million and ≤5 million	19	8.8	198	91.2	
>5 million	17	13.3	111	86.7	
Smoking Status					
Daily	97	15.2	543	84.8	0.004
Occasionally/Not at all	12	6.9	163	93.1	
Health Status					
Poor/Fair	29	23.6	94	76.4	0.001
Good	48	11.2	380	88.8	
Very Good/Excellent	26	11.1	208	88.9	
Total	109	13.4	706	86.6	

3.2. Rating Scores of Religious and Nonreligious HWLs

The nonreligious HWLs had a median rating score of 7.3, which was slightly higher than the religious HWLs' median score of 7.2. ($p = 0.005$) (Table 3).

The mean values of the nonreligious suicide HWL, with regards to credibility and general effectiveness (7.4 ± 3.0 and 7.1 ± 3.1 , respectively), were higher for than the religious suicide HWL (7.1 ± 3.1 and 6.9 ± 3.2 , respectively) ($p = 0.001$ and $p = 0.016$) (Table 3). There were no statistically significant differences between the nonreligious and religious suicide HWLs with regards to following rating questions: grabs my attention, easy to understand, makes me feel more concerned about smoking, makes me think about health risk of smoking, motivates me to stay smoke-free (for nonsmokers), makes me think about quitting (for smokers only), motivates me to quit smoking (for smokers only), and makes me avoid looking at the warning label (Table 3).

Table 3. Average Scores of the HWLs by the Rating Questions.

Rating Questions	n	Nonreligious Death		Religious Death		Nonreligious SHS		Religious SHS		Nonreligious Gangrene		Religious Gangrene	
		Mean ± SD	Med	Mean ± SD	Med	Mean ± SD	Med	Mean ± SD	Med	Mean ± SD	Med	Mean ± SD	Med
Grabs My Attention	810	6.9 ± 3.3	8.0	6.8 ± 3.3	8.0	7.3 ± 3.0	8.0	7.2 ± 3.1	8.0	7.0 ± 3.3	8.0	7.0 ± 3.2	8.0
	<i>p</i> *		0.080				0.492				0.528		
Easy to Understand	810	7.4 ± 3.0	8.0	7.4 ± 3.0	8.0	7.8 ± 2.8	9.0	7.6 ± 2.8	9.0	7.1 ± 3.1	8.0	7.1 ± 3.1	8.0
	<i>p</i> *		0.577				0.131				0.489		
Credible	804	7.4 ± 3.0	9.0	7.1 ± 3.1	8.0	8.0 ± 2.7	9.0	7.7 ± 2.8	9.0	7.0 ± 3.1	8.0	7.0 ± 3.2	8.0
	<i>p</i> *		0.001				<0.001				0.704		
Makes Me Feel More Concerned about Smoking	807	6.7 ± 3.4	8.0	6.7 ± 3.3	8.0	6.8 ± 3.2	8.0	6.7 ± 3.3	8.0	6.7 ± 3.3	7.0	6.8 ± 3.4	8.0
	<i>p</i> *		0.436				0.011				0.086		
Makes Me Think about the Health Risks of Smoking	804	6.9 ± 3.3	8.0	6.8 ± 3.2	8.0	7.0 ± 3.2	8.0	6.8 ± 3.2	8.0	6.9 ± 3.3	8.0	7.0 ± 3.2	8.0
	<i>p</i> *		0.141				0.002				0.042		
Motivates Me to Stay Smoke-Free (Non-Smokers)	175	8.5 ± 2.5	10.0	8.6 ± 2.4	10.0	8.6 ± 2.4	10.0	8.6 ± 2.4	10.0	8.7 ± 2.3	10.0	8.7 ± 2.3	10.0
	<i>p</i> *		0.229				0.805				0.911		
Makes Me Think about Quitting (Smokers)	628	6.1 ± 3.4	6.0	5.9 ± 3.4	6.0	6.1 ± 3.4	6.0	5.9 ± 3.4	6.0	6.1 ± 3.4	7.0	6.1 ± 3.4	7.0
	<i>p</i> *		0.076				0.027				0.431		
Motivates Me to Quit Smoking (Smokers)	624	6.1 ± 3.5	6.0	6.0 ± 3.4	6.0	6.1 ± 3.4	6.0	5.9 ± 3.4	6.0	6.1 ± 3.4	7.0	6.1 ± 3.4	7.0
	<i>p</i> *		0.219				0.001				0.490		
Makes Me Avoid Looking at the Warning Label	799	5.9 ± 3.5	6.0	5.9 ± 3.5	6.0	5.8 ± 3.5	6.0	5.7 ± 3.5	6.0	6.1 ± 3.5	7.0	6.2 ± 3.5	7.0
	<i>p</i> *		0.842				0.040				0.985		
In General, How Effective is This Warning	797	7.1 ± 3.1	8.0	6.9 ± 3.2	8.0	7.2 ± 3.0	8.0	7.1 ± 3.0	8.0	7.0 ± 3.2	8.0	7.1 ± 3.1	8.0
	<i>p</i> *		0.016				0.007				0.714		
Overall Rating Score	815	Average Rating Score of All RELIGIOUS HWLs				Average Rating Score of All NONRELIGIOUS HWLs							
		Mean ± SD	Med	Mean ± SD	Med	Mean ± SD	Med	Mean ± SD	Med				
	<i>p</i> *	6.8 ± 2.6		7.2		6.9 ± 2.6		7.3		0.005			

* Wilcoxon Test to assess whether there was a difference in the median scores.

The nonreligious secondhand smoke (SHS) HWL was rated significantly higher than the religious SHS HWL with regard to credibility, makes me feel more concerned about smoking, makes me think about the health risks of smoking, makes me think about quitting (for smokers only), motivates me to quit smoking (for smokers only), makes me avoid looking at the warning label, and the effectiveness of the HWL ($p < 0.05$). There were no statistically significant differences between the nonreligious and religious SHS HWLs with regard to grabs my attention, easy to understand, and motivates me to stay smoke-free ($p > 0.05$) (Table 3).

The mean value of the religious gangrene HWL (7.0 ± 3.2) was higher than the nonreligious gangrene HWL (6.9 ± 3.3) ($p = 0.042$) with regard to making me think about the health risks of smoking. There were no significant differences between the religious and nonreligious gangrene HWLs for the other rating questions (Table 3).

In response to the credibility outcome, the nonreligious SHS HWL had the highest mean rating score (8.00), followed by the religious SHS HWL (7.7) and the nonreligious suicide HWL (7.4). The mean values of the SHS HWLs were higher than suicide and gangrene HWLs with regard to credibility (Table 3).

3.3. The Association between CRS Score and HWL Rating Scores

There were significant but weak ($\rho: 0.102\text{--}0.187$) correlations between the CRS score of the participants and nine of the 10 rating questions. The only rating question not correlated with CRS was “motivates me to stay smoke-free” which had a median score “10” for all HWLs among nonsmokers. In addition, the participants with high CRS scores (4 or 5) rated all ten rating questions higher than the participants with low/moderate CRS scores (1 to 3) ($p < 0.05$).

There were significant associations between the credibility of the HWLs and the CRS scores in the linear regression models. Each additional unit increase in the CRS score was associated with a 5 to 8 percent increase in the credibility of HWLs after adjustment for age, gender, income, education status, health status, having children, how carefully the participant reported s/he read the HWL, motivation to quit for smokers, and motivation to stay smoke free (Table 4).

Each additional unit increase in the CRS was associated with a 4% increase in the rating score of the religious suicide and SHS HWLs with regard to making them more concerned about smoking, and a 5% increase in the rating score of the same HWLs with regard to making them think about quitting (Table 4).

Each additional unit increase in the CRS score was associated with a 4% increase in the rating score of the religious suicide HWLs with regard to motivating people to quit smoking (Table 4).

Table 4. Ratio of Geometric Means of Rating Questions by Centrality of Religiosity Score **.

Rating Questions	<i>n</i>	Nonreligious	Religious	Nonreligious	Religious	Nonreligious	Religious
		Death	Death	SHS	SHS	Gangrene	Gangrene
		GMR * (95%CI)	GMR * (95%CI)	GMR* (95%CI)	GMR* (95%CI)	GMR* (95%CI)	GMR* (95%CI)
Grabs My Attention	810	1.01 (0.98–1.04)	1.04 (1.01–1.07)	1.04 (1.01–1.06)	1.03 (0.99–1.05)	1.01 (0.97–1.03)	1.02 (0.99–1.05)
Easy to Understand	810	1.02 (0.99–1.05)	0.99 (0.96–1.02)	0.99 (0.97–1.02)	0.97 (0.95–0.99)	0.99 (0.97–1.02)	1.03 (0.99–1.06)
Credible	804	1.05 (1.01–1.09)	1.07 (1.02–1.12)	1.05 (1.02–1.09)	1.07 (1.03–1.11)	1.06 (1.02–1.11)	1.08 (1.04–1.13)
Makes Me Feel More Concerned about Smoking	807	1.02 (0.99–1.06)	1.04 (1.01–1.07)	1.04 (0.99–1.07)	1.04 (1.01–1.08)	1.02 (0.99–1.05)	1.02 (0.99–1.05)
Makes Me Think about the Health Risks of Smoking	804	1.03 (0.99–1.06)	1.04 (1.01–1.07)	1.05 (1.02–1.09)	1.03 (0.99–1.07)	1.02 (0.98–1.05)	1.02 (0.98–1.05)
Motivates Me to Stay Smoke-Free (Non-Smokers)	175	0.98 (0.91–1.05)	1.02 (0.96–1.09)	1.03 (0.96–1.11)	0.97 (0.91–1.04)	1.04 (0.97–1.12)	0.99 (0.93–1.05)
Makes Me Think about Quitting (Smokers)	628	1.04 (0.99–1.08)	1.05 (1.01–1.09)	1.03 (0.99–1.07)	1.05 (1.02–1.11)	1.03 (0.99–1.07)	1.02 (0.98–1.06)
Motivates Me to Quit Smoking (Smokers)	624	1.03 (0.99–1.08)	1.04 (1.01–1.08)	1.03 (0.99–1.07)	1.04 (0.99–1.09)	1.03 (0.98–1.07)	1.01 (0.97–1.04)
Makes Me Avoid Looking at the Warning Label	799	1.02 (0.98–1.07)	1.01 (0.96–1.05)	1.02 (0.97–1.07)	1.01 (0.95–1.05)	1.01 (0.96–1.05)	0.99 (0.95–1.04)
In General, How Effective is This Warning	797	1.01 (0.98–1.03)	1.02 (0.99–1.05)	1.02 (0.99–1.05)	0.99 (0.96–1.02)	1.01 (0.97–1.03)	0.99 (0.96–1.02)

* GMRs were adjusted by age, gender, income, education status, health status, having children, credibility, how carefully read the HWL, motivation to quit for smokers, motivation to stay smoke free for nonsmoker. ** The CRS on a scale of 1 to 5.

4. Discussion

This is the first study to examine the effectiveness of religious messages on pictorial HWLs. The nonreligious HWLs were marginally superior with the SHS and suicide themes, while the religious HWL was marginally superior with the gangrene theme. The religious and nonreligious SHS HWLs were more credible than the suicide and gangrene HWLs. The religious gangrene and suicide HWLs were as effective as the nonreligious HWLs with regards to grabbing attention, easy to understand, making people more concerned about smoking, motivating people to stay smoke-free, making people think about quitting, and motivating people to quit smoking. Given the close rating scores between the religious and nonreligious HWLs, religious and nonreligious HWLs were functionally equal in effectiveness. With proper assessment of the potential unintended consequences, implementation of religious HWLs could be considered for a proportion of HWLs in countries where religion has a substantial effect on social life.

To date, several studies have shown the potential benefits of religious-based tobacco control interventions [21–23]. In a national survey in the US [21], it was reported that regular religious attendance might serve as a protective factor against cigarette smoking among black men. In Malaysia, it was shown that religious norms may play a greater role than secular norms in influencing quit attempts among Muslim Malaysian and Buddhist Thai adult smokers [22]. Another study in Aceh-Indonesia reported that school-based smoking prevention programs could be more effective if they include Islamic teachings and rulings on tobacco smoking [23]. Other studies have shown that religiosity reduces the risk of tobacco smoking and other risky behaviors and that religiosity/spirituality can have positive effects on behaviors relating to health [10–14].

The use of religion to improve health is not new. Previous research indicates that religion can facilitate successful quitting among adults. In a cross-sectional study in Saudi Arabia, religious considerations were the most important reasons for not smoking among never-smokers, for quitting among ex-smokers, and for attempting to quit or thinking about quitting among current smokers [24]. In an experimental study among Buddhists in Thailand, trying to quit smoking and stopping smoking for more than 1 year were greater among religious people compared to less religious [25]. Previously, religious messages have been used to help reducing smoking in several Muslim countries such as Egypt and Saudi Arabia [26]. An awareness campaign in Saudi Arabia including religious messages about smoking led to 200 retailers no longer selling tobacco [26]. Given the themes used in the religious messages in this study (suicide, harming yourself and others) are discouraged by many religions, similar messages could be tested for other faiths, where deemed appropriate, to determine if they help increase knowledge about the harms of smoking and encourage smoking cessation.

The central aims of the Islamic legal framework, as well as a majority of other religions, are to minimize the risk of harm to society and individuals and maximize the opportunities for collective and individual wellbeing. Considering this framework, we created three different text messages consisting of suicide, harming yourself, and harming others. All of these are prohibited behaviors in Islam and could result from smoking. The created religious HWLs are designed to elicit feelings of guilt from self-harm (suicide and gangrene) and harming others (secondhand smoke).

All HWLs in the current study were more effective among those with high religiosity scores. To the best of our knowledge, this is the first study to report that cigarette HWLs are more effective among religious Muslims in Indonesia compared to Muslims with low or moderate religiosity scores.

Religious-based tobacco control interventions have been targeted by tobacco companies. It was reported in tobacco company internal documents that religion-based tobacco control activities are a significant threat to their expansion into emerging markets [27]. In order to counter religious-based tobacco control interventions, tobacco companies framed Islamic objection to smoking as “extremism [27].” In 1985, a lobbyist advising a tobacco company stated, “A Moslem who attacks smoking generally speaking would be a threat to existing government as a “fundamentalist” who wishes to return to Sharia law ... ” thereby indicating tobacco companies’ strategy with religious objection to smoking [28].

The credibilities of the SHS HWLs were higher than the suicide or gangrene HWLs. One potential reason could be a 2009 fatwa (religious rulings or opinion) issued by Majelis Ulama Indonesia (MUI), the government-funded council in Jakarta that includes representation from many Indonesian Muslim organizations [16]. The fatwa announced “*smoking in public and smoking [near] children or pregnant women is haram (prohibited)*”, otherwise smoking was said to be makruh (discouraged, not sinful but those abstaining from it will be blessed by God) [16]. In this announcement, there is a clear denouncement of SHS exposure from smoking, which might have affected the participants’ responses to the SHS HWLs in the current study. Furthermore, recent news reporting the harmful effect of SHS on children in Indonesia might have also affected participants’ responses to the SHS HWLs in the current study [29,30]. Another reason could be that the majority of participants in the study were under 25 years of age, these young participants might have perceived illness or suicide as being of less relevance compared to older participants.

Using religious-based HWLs in countries where smoking is perceived as a norm of social life may aid in the denormalization of smoking and could be considered by health authorities as a promising avenue to include in tobacco control efforts. The implementation of religious HWLs could be considered for a proportion of HWLs. First, it would be important to assess the magnitude of potential unintended consequences. For instance, there is a need to study and consider whether religious HWLs could have negative impacts on people of other faiths or people of no faith. Furthermore, additional evidence is needed to determine whether religious HWLs cause people, particularly older unhealthy adults and those trying but failing to quit, to associate their poor health outcome with non-adherence to religious practices. Given the close ties between religion and personal identity, inducing significant feelings of guilt related to non-adherence could have positive or negative implications for smoking and/or mental health. Finally, advocating for religious HWLs will likely involve partnering with religious institutions and authorities, whose public arguments tend to be religious and political in nature rather than health-focused. Given their ties to specific political parties or factions of politicians, partnering could be beneficial in the near-term, however there may be long-term risks. By amplifying the voice of religious institutions and authorities, public health institutions could be promoting their social standing as an authority on health-related policy, which may cause challenges in the future when interests do not align.

This study has some potential limitations. First, the HWLs were not tested on people of faiths other than Islam. That being said, suicide, secondhand smoke, and harming yourself are generally important themes for many religions. Similar HWLs could be created and tested with people of other faiths. Therefore, we can only make conclusions about our sample of Muslims. Second, we tested the textual religious messages with images that were already in use in other countries. Thus, we could have better-matched images with the religious textual messages if we created more specific graphical images in accordance with the text. Third, we used sex (80% male, 20% female) and smoking status (80% smokers, 20% non-smokers) quotas to obtain a more representative sample of the individuals that would be affected by HWLs, but did not have age quotas, resulting in a large number of younger participants and an underrepresentation of people aged 45 and older. Fourth, participants were recruited in an urban setting in Indonesia. Despite the high religiosity level, the participants in the current study might have more secular norms than those who live in rural settings in Indonesia. Fifth, in order to measure the effectiveness of the health warning labels, participants had a one time, forced exposure to health warning labels, which differs substantially from prolonged, naturalistic exposure. Despite this survey method being used previously in numerous studies [25,31,32] to measure the effectiveness of health warning labels, other study methods that provide more time to participants to review health warning labels could be better for measuring real-world effectiveness. Sixth, we did not test the effectiveness of textual messages and graphical images separately. Therefore, the current study was not able to differentiate the observed effect from the graphic pictures themselves and the addition of religious textual messages. Seventh, this was an exploratory study tested under specific conditions for a specific group of people. Before a recommendation can be made about using religious messages

on HWLs, it would be important to assess the magnitude of potential unintended consequences. For instance, there is a need to study and consider whether religious HWLs could have negative impacts on people of other faiths or people of no faith, particularly in states where power is concentrated amongst a single demographic or ruling class (e.g., persons of a single religion).

5. Conclusions

The nonreligious HWLs were marginally superior with the SHS and suicide themes while the religious HWL was marginally superior with the gangrene theme. Given the close rating scores between the religious and nonreligious HWLs, the religious and nonreligious HWLs were functionally equal in effectiveness. The SHS HWLs were more credible than the suicide and gangrene HWLs. With additional consideration of possible unintended consequences, religious-based HWLs could be considered for use in countries where religious norms have a large role in social life. Considering other harmful health effects of smoking, this work could be expanded by additional religious textual messages stating other health risks of tobacco in combination with appropriate graphical images and tested with regard to their effectiveness.

Author Contributions: B.K. led project design, analysis, and writing. J.H. led the training of data collectors and data collection. S.M., H.M., R.D.K., and J.E.C. assisted with project design, data collection oversight, revising and final review.

Funding: This research was funded by Bloomberg Philanthropies' Bloomberg Initiative to Reduce Tobacco Use (bloomberg.org), grant number 90071742.

Conflicts of Interest: The authors declare no potential conflicts of interest.

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