



The Psychology of Pandemics

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Member

Conflicts of interest:

None identified

Land Acknowledgement

This presentation takes place on on the
unceded traditional territories of the
x^wməθk^wəy̓əm (Musqueam),
Sk̓w̓x̓w̓ú7mesh (Squamish), and səlilwətał
(Tsleil-Waututh) Nations

Importance of Psychological Factors

- Methods for managing pandemics
 - Communication from health authorities
 - Hygiene – e.g., handwashing, masks
 - Social distancing
 - Vaccination
- Psychological disorders
 - Worsening of preexisting problems
 - Triggered by pandemic
 - Exacerbated by lockdown

Overview

- Psychological phenomena: Similarities across pandemics
- Polarization of attitudes, emotions, and behaviors
- Heterogeneity of responses: Role of personality traits
- Coping and the illusion of control
- Lockdown: Effects, alternatives
- Pandemics and mental health

Psychological Phenomena: Similarities across Disease Outbreaks

Pandemics and Other Noteworthy Outbreaks

- Influenza pandemics:
 - e.g., 1889, 1918, 1957, 1968, 2009
- Plague: Recurrent waves over 300+ years
- Cholera: 7 pandemics over 200 years
- HIV/AIDS
- COVID-19
- Others:
 - e.g., Zika, SARS-1, yellow fever, smallpox

Characteristics of Disease Outbreaks that Trigger Widespread Public Alarm

- **Lethal:** Higher fatality than endemic diseases
- **Unfamiliar:** Emergent or re-emergent rather than endemic
- **Volatile:** Sudden or swift acting
- **Egalitarian:** Not limited to particular demographic groups
- **Uncertainties** about prevention, protection, and treatment
- **Newsworthy:** Widely reported in the media
- **Disgusting:** Revolting signs or symptoms
- **Stressful mitigation measures:** Socioeconomic impacts of lockdown, quarantine, etc.

Similarities across Pandemics: Common Reactions

- Polarization of emotions, attitudes, behaviors
- New onset and newly worsened psychol. disorders
- Rise of altruism
- Rise of racism, xenophobia
- Non-adherence; masks, vaccinations, closures
- Sporadic protests, including violent protests
- Rumors
- Conspiracy theories
- Panic buying, superstitious coping
- Folk remedies, quack cures, and profiteering
- Fleeing

Fleeing



Pandemics and Protests

- Violent protests are commonly underestimated
- Cholera riots
 - Europe (1830s), Venezuela (1992), Haiti (2010)
- Smallpox vaccination riots
 - Montreal (1885), Rio de Janeiro (1904)
- Plague riots
 - India (1890s)
- COVID-19:
 - 3% increase in protests from 2019 to 2020; 94% peaceful
 - About two dozen violent protests (2020-2022)
 - e.g., Netherlands, Nov/2021: “worst riots in four decades”
- Commonly triggered by tightening or re-imposing restrictions
- Protests, including violent protests, tend to be bundled phenomena



An anti-lockdown protest in Wellington on August 29, during the second lockdown. Photo: Lynn Grieveson

COVID-19 vs. Past Pandemics: Notable Differences



- Beliefs about the cause of disease
 - miasma vs germ theory
- Social media, 24/7 news cycle
- *Quantitatively* bigger “infodemic”
- Global, digital inter-connectedness
- Rapidly evolving views on COVID-19
 - e.g., whether masks are useful

Polarization of Attitudes, Emotions, and Behaviors

Pandemics Evoke Extremes

- Exacerbation of pre-existing societal tensions
 - The “fault lines” of society
- Over- vs under-responders re threat perception
- Pro vs anti ... vax, masks, lockdown
- Increasing piety vs “lawlessness, pleasure, & sin”
- Altruism vs self-interest
- Authoritarianism vs libertarianism

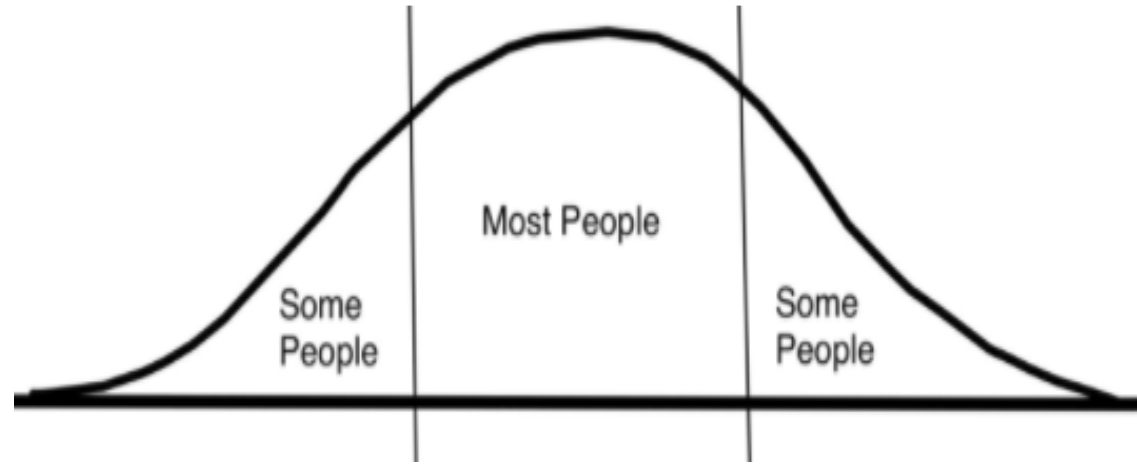


Attitude Polarization



- Uncertainty invites speculation and rumors
- Like-minded people share common views
- Repeated expression of beliefs within a group of like-minded people:
 - Increase perceived truth of beliefs (repetition effect)
 - Exposes people to arguments supporting beliefs and to refutations to counter-arguments
 - Encourages extreme forms of beliefs
- Extreme attitudes are typically resistant to change

COVID Stress Study



- Evidence for:
- COVID Stress Syndrome
- COVID Disregard “Syndrome”
- Extreme ends of a continuum; ~ 10-15% at each end

WHAT IS COVID STRESS SYNDROME?

COMPONENTS

COVID Stress Syndrome is characterized by five related facets: danger and contamination fears, socioeconomic concerns, xenophobia, traumatic stress, and compulsive checking and reassurance seeking.



ASSOCIATIONS

People with more severe COVID Stress Syndrome are more likely to be anxious or depressed, stockpile supplies, experience distress during voluntary self-isolation, and avoid public places or transportation.



ANXIETY OR
DEPRESSION



SELF-ISOLATION
DISTRESS



PANIC BUYING



AVOIDANCE
BEHAVIOURS

WHAT IS COVID DISREGARD SYNDROME?

COMPONENTS

COVID Disregard Syndrome involves believing that the COVID-19 threat is exaggerated, believing one will be largely unaffected from COVID-19 infection, and a disregard for social distancing.



ASSOCIATIONS

People with more severe COVID Disregard Syndrome are more likely to have poorer COVID-19 hygiene practices (e.g., hand washing) and stronger COVID-19 anti-vaccination attitudes.



**POORER COVID-19
HYGIENE**



**COVID-19 ANTI-VACCINATION
ATTITUDES**

Personality Traits

Personality Traits

Distress **protective** factors

- Hardiness:
 - Commitment, control, challenge
- Trait optimism

Distress **Vulnerability** factors

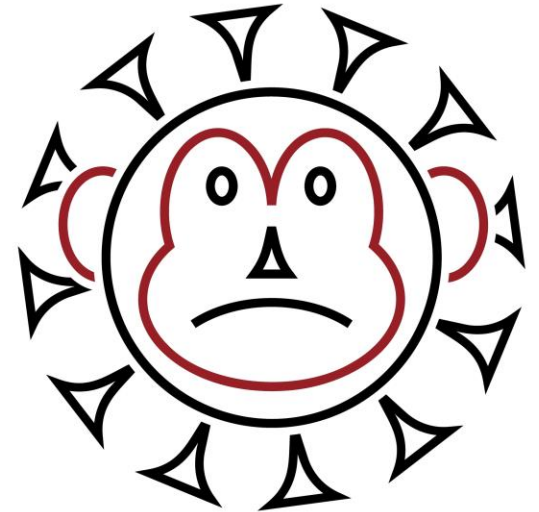
- Negative emotionality
 - Overestimation of threat
 - Worry proneness
 - Intolerance of uncertainty
- Disgust sensitivity
- Perceived vulnerability to disease

Non-adherence factors

- Psychological reactance
- Boredom proneness
- Dark traits; e.g.,
 - Psychological entitlement
 - Negative social potency

Disgust Sensitivity

- Trait: Propensity to readily experience strong disgust
- High levels of disgust sensitivity are associated with...
 - Germ phobia
 - OCD
 - Xenophobia
- Linked to stigmatization
 - Sickly people
 - Elderly, infirm, handicapped



Psychological Reactance

- An allergic reaction to being told what to do; “You’re not the boss of me!”
- Leads people to strengthen their reasons for refusing to do something
- Nudges?



The Anti-Mask League, 1919

ANTI-MASK MEETING

TONIGHT (Saturday) JAN. 25

DREAMLAND RINK

To Protest Against the Unhealthy Mask Ordinance

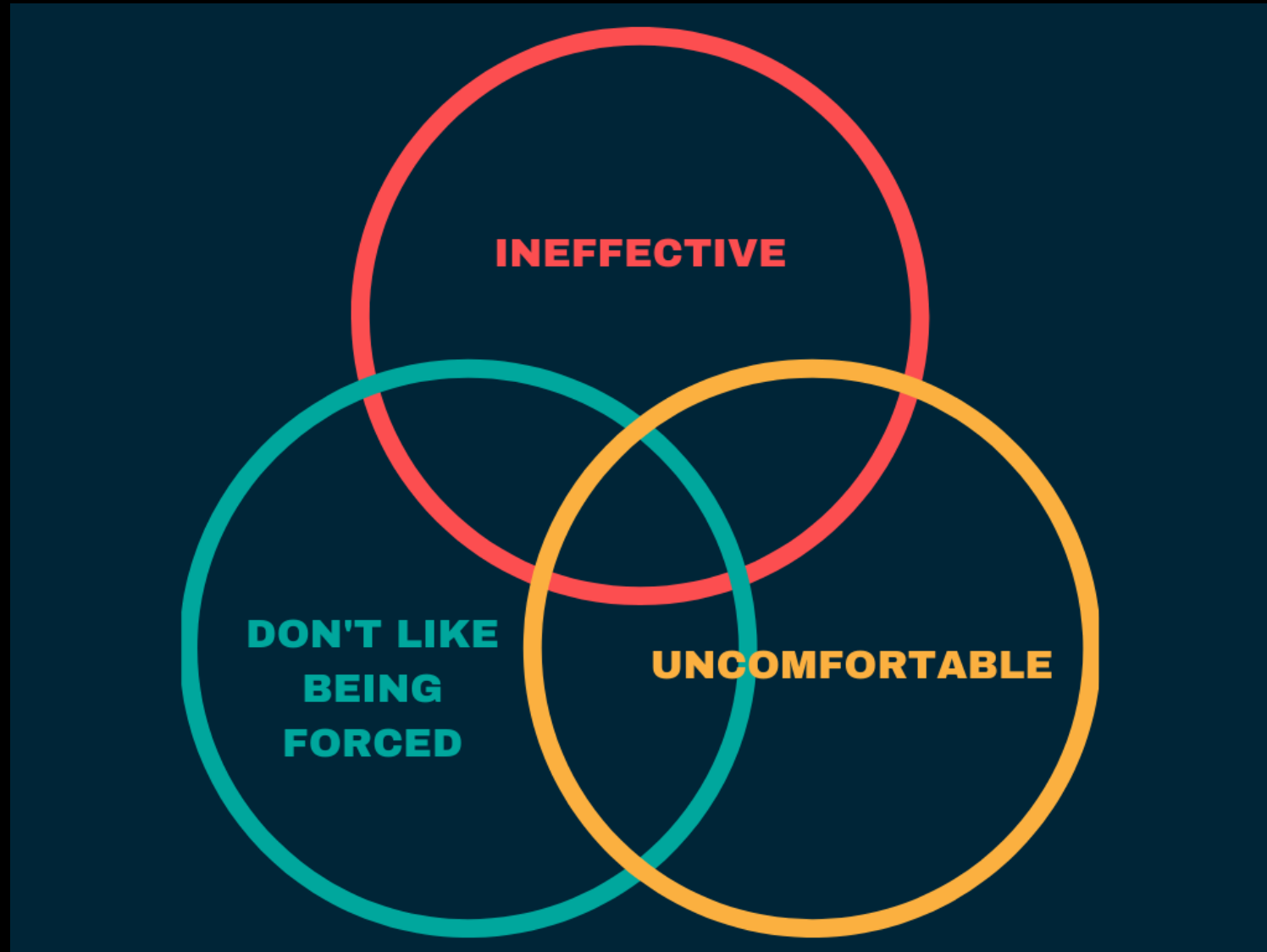
Extracts will be read from State Board of Health
Bulletin showing compulsory mask wearing to be a failure.

Eugene E. Schmitz and other interesting speakers.

Admission Free.

A clipping from the San Francisco Chronicle on January 25, 1919. [The San Francisco Chronicle.](#)

Resistance to Wearing Face Masks



Coping During Pandemics

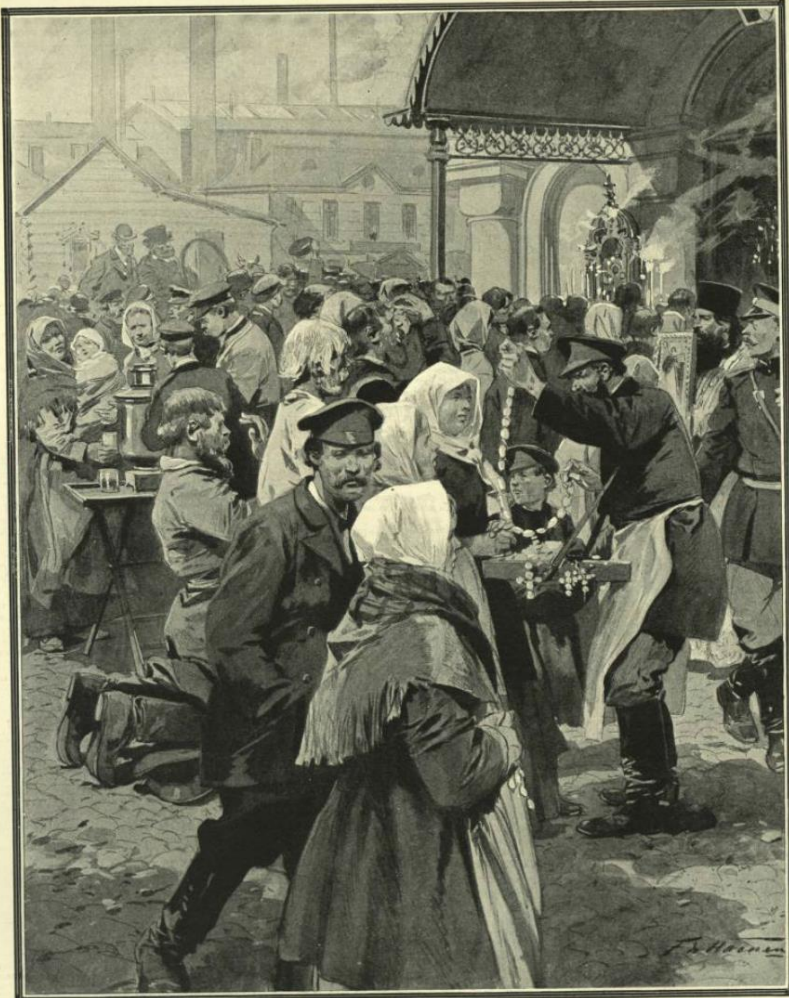
Coping

- Coping can be adaptive, maladaptive, or somewhere in between
- Emotion-focused coping
 - e.g., nostalgia, dark humor, religious coping, giving and receiving social support
- Problem-focused coping
 - Search for cues to danger and safety; e.g., 1527, Machiavelli's morning walks
 - Fleeing
 - Panic buying, seeking cures and preventives
 - Superstitious coping
 - Coping based on the illusion of control

Superstitious Coping

- Disease modeling and *homo economicus*
- People are superstitious, especially when it comes to fighting off invisible forces
 - 80% of high-rise buildings lack a 13th floor
 - 70% of US students use good luck charms to improve academic performance
- Omens, stigmata (danger signals)
- Amulets, talismans (safety signals)
- Rituals (lucky behaviors); e.g., “sulphur in shoes”
- Rituals bolster an illusion of personal control
- Superstitious rituals are more likely when the stakes are high
 - e.g., baseball players
 - COVID-19: higher fear of infection associated with greater use of superstitious behaviors





DRAWN BY F. DE WAERDEN

FROM A SKETCH BY OUR SPECIAL ARTIST, H. CUMING

A fierce outbreak of cholera has been ravaging St. Petersburg for some weeks past, and between three and four hundred fresh cases are reported daily. In combating the pestilence the authorities find their difficulties immensely increased by the crass ignorance and superstition of the lower classes, who trust rather to the virtue of

charms and amulets than in preventive measures, belts made of old copper coins rusted green being considered particularly efficacious and commanding a large sale. By order of the Governor a free distribution of hot tea is now being made in all the streets where the poor reside, to discourage them from drinking contaminated water.

The Cholera Scare in St. Petersburg: Combating the Epidemic with Amulets and Hot Tea

LIFE

LIFE Magazine, 1908

“... In combating the pestilence the authorities find their difficulties immensely increased by the crass ignorance and superstition of the lower classes, who trust rather to the virtue of charms and amulets than in preventive measures ...”



President Andrés Manuel López Obrador showing amulets that he says protect him from the coronavirus. Mexican Presidency/Agence France-Presse — Getty Images

**Illusion of Control:
Not always a bad thing**



Popular

Latest

IDEAS

Hygiene Theater Is a Huge Waste of Time

People are power scrubbing their way to a false sense of security.

JULY 27, 2020



Derek Thompson

Staff writer at *The Atlantic*



GETTY / THE ATLANTIC

Coping Fads Spread by Rumours

- Coping fads are common during pandemics
- Plague of Justinian, Constantinople, 543AD:
 - A rumour spread that if you threw pitchers from upper storey windows and they burst below on the street, then death would flee from the city; “Everybody succumbed to this foolishness”
- Sometimes based on a grain of truth
 - E.g., avoiding vegetables (Cholera, 1849)
- COVID-19: Alcohol as “preventive”



2020



**ALCOHOL POISONING
KILLS 480 IN IRAN**



Lockdown: Effects and Alternatives



Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic



COVID-19 Mental Disorders Collaborators*

- Increases in disorders:
 - Major depression 28%
 - Anxiety disorders 26%
- Increases greater with:
 - Higher infection rates
 - Greater restrictions on mobility
- Greater in women and younger adults
- Transient vs. persistent?

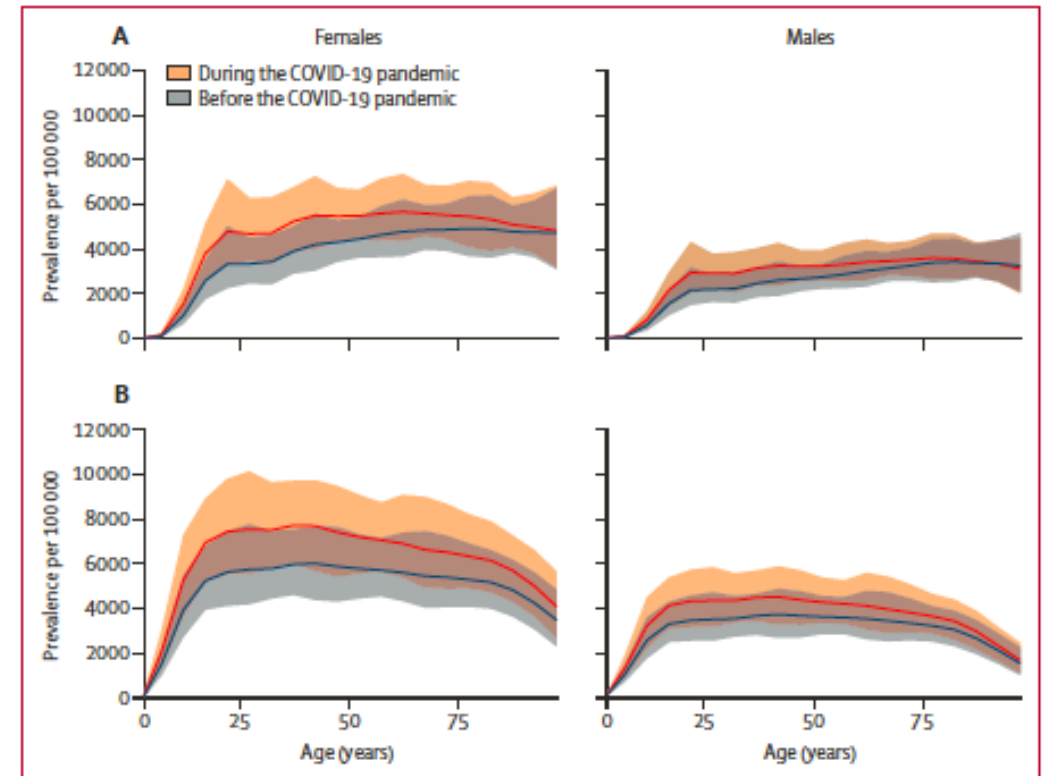


Figure 1: Global prevalence of major depressive disorder (A) and anxiety disorders (B) before and after adjustment for (ie, during) the COVID-19 pandemic, 2020, by age and sex

Lockdown

- Shelter-in-place orders and closures
- Centuries of controversy
- The “catch-and-release” problem of recurrent lockdowns
- Pandemic fatigue
- Use sparingly
- Alternatives to lockdown
 - Targeted self-isolation protocols; test-trace-isolate
 - App-based: *Advanced Automated Contact Tracing and Targeted Isolation*
 - Issues: Privacy, discrimination, adherence

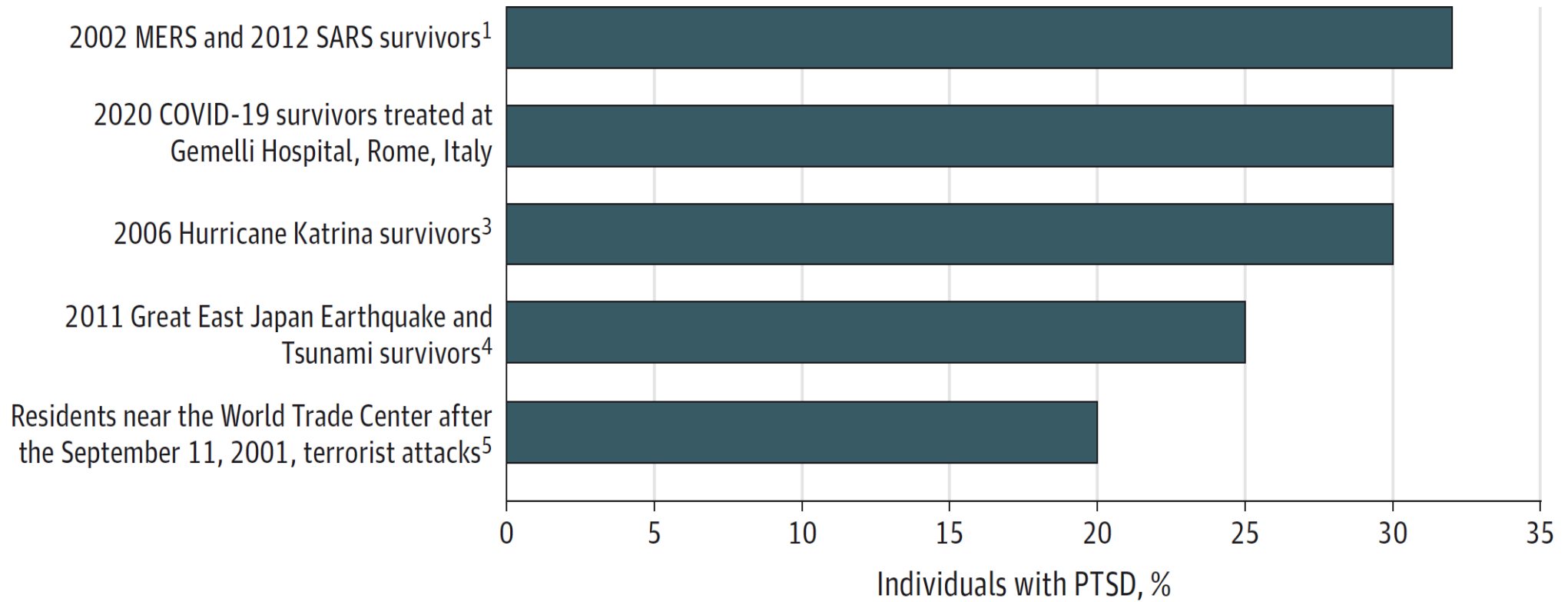
Pandemics and Mental Health

Resilience

- Most people are resilient to stress
 - Bounce-back is the norm
- A substantial minority of people (15%?) may develop persistent psychological problems
 - e.g., mood and anxiety disorders, OCD, PTSD, germ phobias
 - higher prevalence in particular sub-populations
- Resilience can be increased, within limits, by training in coping skills
- Posttraumatic growth is common: Thriving through adversity

PTSD and COVID-19

Figure. Posttraumatic Stress Disorder (PTSD) After COVID-19 Infection and Other Collective Traumatic Events



Other Clinical Conditions

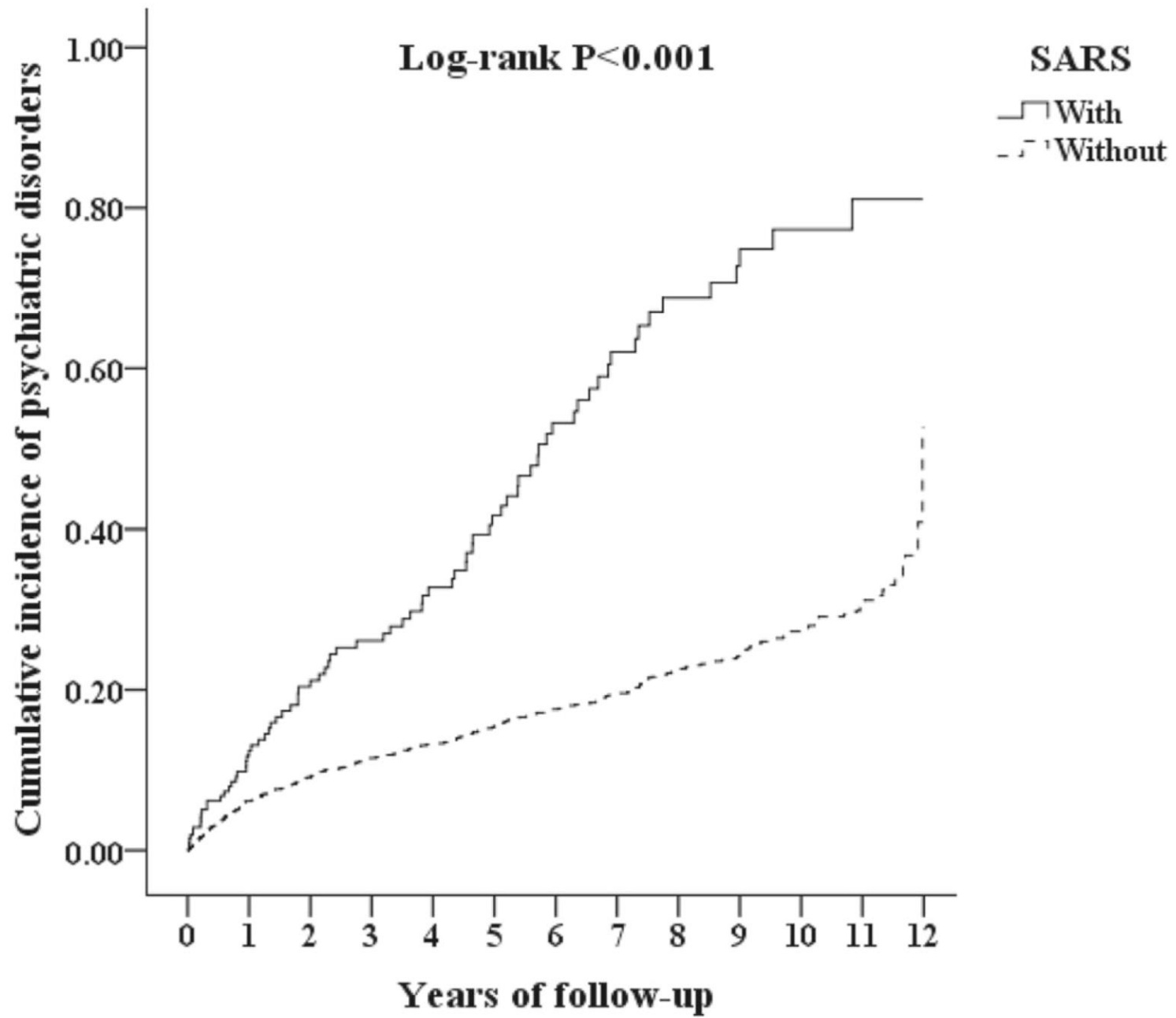
- Suicide
 - SARS, Spanish flu, Russian flu
 - Linked to economic recessions
 - COVID-19: Mixed findings
- Prolonged grief disorder
- Hikikomori
- Addictive behaviors
 - Problem gambling → switching addictions
 - Role of boredom proneness
 - Treatment of boredom proneness?
Mindfulness?



Long COVID



- Term coined by patients
- Chronic fatigue, dyspnea
- Shifting symptoms
- Relapsing/remitting
- Stigma
- Treatment?



Mental Health Resources

- Telehealth
- CBT phone apps
- Comprehensive, integrated programs
- Method for enhancing HCW resilience
- Inevitable rise of AI-assisted therapy



MindShift CBT - Anxiety Relief

Manage anxiety & be mindful

Anxiety Canada Association

Designed for iPad

#81 in Health & Fitness

★★★★★ 4.4 • 345 Ratings

Free

[View in Mac App Store ↗](#)



COVID Coach 4+

Cope with stress & stay well

US Department of Veterans Affairs (VA)

Designed for iPad

★★★★★ 4.8 • 599 Ratings

Free

[View in Mac App Store ↗](#)

COPING WITH COVID-19

While some offices may be closed, BounceBack program coaches are still here for you by phone and online. Visit the [adult](#) or [youth](#) page to learn more and get started.

Online Referrals for BounceBack Coaching

You can now submit online referrals for our free coaching program. If you have a family doctor, nurse practitioner or psychiatrist, you can sign up online yourself. If not, you can book an online appointment with a primary care provider to get your referral.

Chengdu, Sichuan Province, China



The leading group



 Live media group



Hotline consultation group

 Online video intervention group

 On-site crisis intervention group



Enhancing the Resilience of Frontline Healthcare Workers

- Needs assessment
 - Stress management is not enough...
- Infrastructure, work environment
 - Adequate staff, sufficient resources, solid leadership, workplace culture...
- Resilience training
- Mental health practitioners embedded in clinics & wards
- Peer support
- Buddy system
 - Matched on demographics, professional roles, seniority
 - Check-in, debrief, mutual support

Implications for Future Pandemics

- Psychological phenomena are remarkably consistent across pandemics
- Most people are resilient, within limits
- Expect a rise in mental health problems in future outbreaks
- Expect to see unusual coping strategies (coping fads)
- Protests, including violent protests, are more common than people expect
- Use lockdown sparingly
- Innovations in mental health services show promise