CLIMATE CHANGE AND MENTAL HEALTH: EVIDENCE FOR ACTION

OVERVIEW
Climate change will have significant effects not only in far flung places but also in the United States, including more severe heat waves, damaging storms, droughts, crop-growing changes, and worsening of the air quality. All of these effects will increase the risks for untoward mental health outcomes for millions of people.

What follows is a brief list of relevant articles describing some of these psychological and behavioral risks, grouped according to the category of effect. Each article is prefaced with a brief description of its main point. Please note that these articles don’t necessarily speak to climate change’s implications in specific but instead are indicative of what we can expect in a warmer world.

A final section describes links to resources for up-to-date and non-politicized information about climate change and its implications.

HEAT

- Higher temperatures are associated with increased rates of assault, rape, robbery, burglary, and larceny but not murder, and this might be the result of more people being outside interacting in the community when the temperatures are higher. Murder tends to occur more inside homes.


  • Violent crime may be exacerbated during heat waves because more stress hormones are released when people are exposed to excessive heat.


  • More alcohol and drugs may be consumed during heat waves, and more people may seek help for their psychiatric problems during these periods.


  • Work performance declines as temperatures rise, so climate change is likely to reduce the world’s economic output.
• Apart from heat, such behavioral and situational factors as poverty and isolation contribute to more deaths during heat waves.


**WATER**

• Drought appears to contribute to a variety of mental health effects, including more stress, grief, and hopelessness as well a sense of *solastalgia*, which describes a palpable sense of dislocation and loss people feel when they perceive changes to their local environment are pervasively harmful.


• Higher rates of anxiety and emotional distress may be one result of experiencing drought.


• Drought appears to create increased anxiety and stress among farmers, problems in their family relationships, and risks for suicide.


**FOOD**

• Climate change will affect food supplies around the world, and research indicates inadequate nutrition is associated with more developmental and behavioral problems in children as well as lower IQs.


• Inadequate access to food resources also increases the risk for serious psychological and coping problems.


• Climate change will exacerbate one of the primary reasons for malnutrition, namely socioeconomic disadvantage.


• Food insecurity—the lack of access to sufficient food for good health and mental functioning—and water shortages may be traumatizing to people, resulting in more anxiety, post-traumatic stress, and depression as well as more violence toward women.


AIR
• More air pollution is a hallmark of climate change’s higher temperatures, and people perceive themselves to be less well when exposed to more air pollution.


• Air pollution both causes and exacerbates asthma, and children who experience asthma (34 million Americans have asthma, and the rates are increasing) are at least two times more likely to have anxiety symptoms, almost twice as likely to be depressed, and report my general psychological distress.


• Higher levels of ozone, and air pollutant that will become more prevalent with climate change, are associated with increased rates of family violence.

- **People who perceive their air quality to be worse feel more depressed.**


- **People experience more anxiety and tension when they live near industrial air pollutants, which will be exacerbated in climate change’s warmer temperatures.**


- **Air pollution from traffic, a major contributor to climate change and something climate change will make worse, may deepen or contribute to higher rates of schizophrenia.**


**CATACLYSMIC EVENTS**

- **Conflict among people may be one of the hallmarks of climate change’s severe weather, which can displace thousands or millions and lead to those people competing with others for scarce resources.**


- **While many people have short-term reactions to extreme natural disasters—including grief, anger, anxiety, and depression—persistent post-traumatic stress may be the hallmark of climate change, as was demonstrated after Hurricane Katrina.**


- **One study showed that mental illness doubled after Hurricane Katrina.**
• One year after Hurricane Katrina, exposed children were four times more likely than before the storm to be depressed or anxious and twice as likely to have behavioral problems.


• Other psychological problems, including family dysfunction, difficulties at work, increased child misbehavior, a sense of lost identity, and more may result from experiences of the extreme disasters that climate change is likely to bring.


• Climate change will bring more droughts, fires, and other natural disasters to some regions, and these will more significantly harm the psychological well-being of citizens thereby requiring better preparedness to deter the worst outcomes.


• Climatic variability also will be common with climate change, and the unpredictability of storms, floods, droughts, and other extreme events will tax many people’s ability to cope.


• Emotional distress and anxiety will be among the hallmarks of climate change and its effects, and disadvantaged communities are among those to be most harmed.
INFECTIONOUS DISEASE

• While currently there is but conjecture that more infectious diseases will be a likely outcome of climate change, research on the SARS epidemic found people responded with enormous anxiety, post-traumatic stress, and depression.


• Children can experience intense, delayed anxiety in response to outbreaks of infectious disease, especially when they’re anxious to begin with.


• Many infectious diseases themselves can cause psychological symptoms—some lasting—including harming children’s thinking and lucidity, academic performance, attention and memory, and speech-language skills.


• Nongovernmental organizations that intervene after disease epidemics and other natural disasters don’t often launch what could be helpful mental health programs in response.


ARTICLES AND BOOKS CONCERNING PSYCHOLOGY AND CLIMATE CHANGE


CLIMATE CHANGE DATA AND INFORMATION WEB SITES

- Intergovernmental Panel on Climate Change: [http://www.ipcc.ch/](http://www.ipcc.ch/)
- U.S. Environmental Protection Agency: [http://www.epa.gov/climatechange/](http://www.epa.gov/climatechange/)
- Real Climate: [www.realclimate.org/](http://www.realclimate.org/)