

The 11th Annual Psychology Day at the United Nations: Climate Change, Psychological Interventions, and Promoting Mitigation and Adaptation.

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On April 12th 2018, the United Nations held its 11th annual Psychology Day, an event where esteemed psychological scientists describe how expert knowledge from their profession can facilitate and expedite global change and well-being in service of the Sustainable Development Goals. Non-governmental psychology organizations accredited by the UN Economic and Social Council (ECOSOC) help sponsor Psychology Day, particularly the European Health Psychology Society (EHPS), the American Psychological Association (APA), and the Society for Industrial and Organizational Psychology (SIOP). This year's event was also primarily co-sponsored by the Permanent Missions of Palau and the Dominican Republic.

For this year's theme, *Climate Change: Psychological Interventions, Promoting Mitigation and Adaptation*, speakers addressed the relevant sociobehavioral theories and interventions targeting climate change itself, as well as its negative effects on the human condition. During her introduction, clinical psychologist Dr. Leslie Popoff, PhD, this year's event chair, emphasized that "the Universal Declaration of Human Rights was drafted by representatives from all regions of the world and adopted by the UN General Assembly in 1948, for the first time establishing fundamental human rights to protect all people of all nations. Included in this declaration is the human right to benefit from science and technology," which must

be fulfilled to the greatest extent possible to achieve Sustainable Development Goal 13: Climate Action. Humanity can only take sufficient action against climate change via extensive scientific and technological advancement, and if left unaddressed, Dr. Popoff said, "climate change will exacerbate current health crises, particularly [that of] vector-borne diseases, which account for one sixth of all deaths worldwide." Although not mentioned at this particular event, the most recent report from the United Nations' Intergovernmental Panel on Climate Change (IPCC), released in October of 2018, warns of global environmental catastrophe by 2030 - in 12 years - if global temperatures increase beyond 1.5 degrees Celsius above normal. Urgent, unprecedented changes are thus needed to prevent irreversible damage to the earth's ecology and the subsequent societal deterioration. "There is nothing opaque about this new data," said Christiana Figueres, the former UN Climate Chief who led the historic Paris Agreement of 2015. "The illustrations of mounting impacts, the fast-approaching and irreversible tipping points are visceral versions of a future that no policy-maker could wish to usher in or be responsible for."

Most relevantly and importantly, Dr. Popoff then elaborated, "Climate change is as much a psychological and social phenomenon as [it is] a matter of science. Human behavior is central to energy use and environmental preservation. Psychological research has provided insights into the connections between values, beliefs, norms, behaviors, and strategies that can make a

difference in promoting a more sustainable environment." Since the current climate change crisis is entirely due to human activities such as rapid deforestation and the perpetual burning of fossil fuels, behavioral and organizational change strategies are instrumental to curtailing and altogether halting environmental degradation, pollution, wildlife endangerment, and the like.

Next to provide this event's opening remarks was Her Excellency Olai Uludong, ambassador to the Permanent Mission of Palau. Prior to her current diplomatic post, Uludong was the Climate Change Advisor for Environmental Policy and Management throughout Micronesia and the Pacific region. Indeed, she was the lead negotiator for the Alliance of Small Island States on the United Nations' Framework Convention on Climate Change from 2012 through 2014. According to Uludong, "In many ways, human psychology is at the root of the climate change crisis. Why do human beings continue to engage in polluting activities when the consequences are so grave, and solutions are so abundant?" Unfortunately, human beings are not as rational as we would like to believe, and instances of driving a gasoline-powered car or consuming an animal product, which are seemingly inconsequential at the individual level, relentlessly culminate billion-fold into the major culprits of environmental destruction. "Beyond swaying the skeptics," we must therefore examine what emergency climate action and mobilization should entail. Rather than processing its effects over the course of decades, we must learn to view and react to climate change as a swiftly mounting, present-oriented threat, given that carbon dioxide emissions have risen to 2.4 billion pounds per *second* worldwide. Uludong then stressed the importance of building strong public health systems throughout each nation to provide a decent measure of security to everyone in the wake of rising sea levels, destroyed homes, lost livelihoods, and threatened food sources as well as illnesses. Since public health agencies alone cannot

bear such weight during this new, dangerous "Anthropocene" era of natural history, "our success will invariably rest on the resilience of our communities," whose members must prioritize cooperation over competition. "Such is the bed we have made for ourselves."

The first expert guest speaker to present was Dr. Susan Clayton, PhD of the College of Wooster, whose research focuses on humans' relationships and interactions with animals. Her presentation, *The Role of Psychology in Responding to Climate Change*, overviewed different psychological theories that can be used to explain and respond to global environmental catastrophe. After emphasizing the steep linear increase in average global temperatures and frequency of natural disasters over the past 40 years, she transitioned into the relevant importance of psychology. Although 60 percent of US citizens surveyed do express significant awareness of and concern over climate change and its effects, their level of concern is not tantamount to the objective severity of the problem. This is due to a wide variety of often culturally dependent cognitive and emotional functions. Of the 3 major psychological aspects of climate change, the first is human understanding, which is largely in the realm of perception and fully processing its nature and effects. Although collective concern worldwide has increased and more people are uniting to take action, psychologists must continue to address how people perceive climate change, such that their concern prompts adequate, productive responses. They must also overcome cognitive barriers to understanding, such as filling knowledge gaps and realizing the issues' personal relevance despite their geographic distance from immediately affected regions. Emotional barriers to understanding include fear and denial, as well as attachment to the belief that "our current system is good" and will continue to work in our favor. Lastly, ideological barriers include rejection of information contradictory to existing beliefs, particularly those pertaining to religion,

technology, and economics. For instance, members of the conservative and religious Amish group believe that human behavior is inconsequential at the existential level, and that only God has control over the natural environment (this would make sense, given their rustic, electricity-free operations and relative isolation from the rest of American society). Others in more mainstream, modern settings often believe that there is no pressing need to change their habits, as they anticipate that “technology will save us,” i.e. that up-and-coming scientific advancements will ultimately solve the problem.

Indeed, factors limiting acceptance of (and subsequent action against) climate change include adherence to cultural and social norms, particularly “norms of collective ignorance.” This unique term refers to the widespread ignorance or denial that is uniformly popular throughout a given community, often for culturally relevant reasons. Clayton mentioned the uniquely American norm of ignoring climate change, which is largely related to the pervasive commitment to and faith in free-market capitalism. This is in spite of its insidious and exploitative qualities, which are nonetheless routinely justified and rationalized. Climate change denial usually accompanies adherence to capitalistic ideologies, along with the notion that environmental concerns are “feminine” and indicate emotional weakness. To maintain their platforms and personas (and retain powerful political affiliates), certain political groups also tend to ignore climate change due to their membership criteria, as with right-wing republicanism. For these reasons, convincing people to change via sheer facts and statistics remains ineffective, especially given the widespread, high levels of mistrust in the media and “fake news” outlets. Clayton emphasized that anecdotal accounts and tangible evidence are much more potent, as are direct appeals to people’s personal investment in the issue. The benefits of taking action will vary depending on people’s

group membership, geographic location, and cultural background, so it is of particular importance to gear persuasive efforts towards the specific audience being addressed at a given time. Although more research must be done on the *exact* kinds of effects climate change has on humanity, it is already abundantly clear that we are victims of our own creation in multiple interrelated physical, mental, social and interpersonal, and occupational domains.

Second to present was Dr. Daniel Dodgen, PhD of the US Department of Health and Human Services, where he directs the Office of Operational Policy and Strategic Planning for the Assistant Secretary of Preparedness and Response. His early career began in child psychology and children’s policy advocacy, yet he eventually transitioned into mental health and disaster management roles during and after 9-11. His presentation was titled “Climate Change and Extreme Weather Events: The Impact on Mental Health and Well-Being,” throughout which he described and referenced the White House’s Climate and Health Assessment of 2016. He delineated the steady increase in precipitation events in the US since the early 1900’s, as well as that of extreme droughts and heat waves in the southwest over the past decade. Also steadily increasing are the intensity, frequency, and duration of category 4 and 5 hurricanes, particularly since the 1980’s. Referencing one of Dr. Clayton’s previous points, Dr. Dodgen further belabored how we must acknowledge these major events as real and impactful everywhere, here and now (i.e., beyond visible structural damage caused to distal, “foreign” locations). Other effects include diminished nutritional value of food due to changes in soil, increased spread of vector-borne diseases, and the strained relationship between physical health and mental health. Largely due to resulting instability and tragic loss of homes and loved ones, exposure to weather-related disasters often results in mental health consequences such as PTSD, depression,

anxiety, grief and bereavement, medication dependency, substance abuse (high-risk coping methods), and suicide ideation. These disaster-related stressors and their impacts can persist for months to years on end, severely impairing individual functioning and community resiliency. Domestic violence risk increases immediately after natural disaster exposure, and veterans with preexisting mental health conditions are also 7 times more likely to develop additional afflictions. More generally, those at more heightened risk during natural disasters include children, the elderly and disabled, indigenous and rural populations, immigrants, and anyone otherwise already socioeconomically disadvantaged, as well as the first-responders attending to the situation. Indigenous populations are especially at risk of suffering from devastating impacts, since their livelihoods are much more likely to be connected to their intergenerationally significant land. Should indigenous groups need to relocate, it may have disproportionately traumatic effects on their senses of individual and community identity, as well as their economic well-being. Diminished access to healthcare services in the midst of disaster and upheaval can further exacerbate existing conditions amongst typically vulnerable groups as well, if not everyone.

Dr. Dodgen then explained how he and his team integrate mental health services into disaster responses. During the most recent hurricanes, he convened fifty Federal Disaster Behavioral Health Group coordination calls with partners such as the Red Cross and SAMSHA, as well as other regional and local organizations. He also utilized behavioral health liaison officers as part of the Incident Response Coordination Team to arrange field-level behavioral health activities. Lastly, he deployed multiple behavioral health specialists to provide services and consultations where necessary. Many other organizations can benefit from Dr. Dodgen's team's organizational model to build capacity and expand service delivery during upcoming

environmental disasters.

Third to present was Dr. Irina Feygina, PhD. She is the Director of Behavioral Science and Assessment at Climate Central LLC, an independent news organization whose scientists and journalists research and report publicly upon climate change and its impacts on society. Her presentation, "Psychological Contributions to Overcoming Disengagement and Fostering Compelling Solutions to Climate Change," coincided largely with Dr. Clayton's by investigating how people process and respond to climate change-related information. Not only did she examine people's responses to confrontation with these existential realities, but what creates and perpetuates people's resistance and disengagement in their midst. "Rather than making assumptions," said Feygina, "which is often what we do with respect to human behavior when we create policies and programs, [psychology] really gives us a way to dig in and discover what's happening from people as they encounter climate change." The many psychological processes that synergistically affect how we process and respond to climate change include cognitions, attitudes and values, needs and motives, social norms and identities, personal experience, and narratives. With regard to understanding (or lack thereof), Feygina stressed her organization's motive to discover and disseminate as much information as possible as per the information deficit model. She then expanded upon the huge difference between the developed and developing world in terms of climate change knowledge, with highly affected countries like Kenya, India, and Bangladesh having little to no access to basic information regarding drought. While always necessary, information is not always sufficient to prompt behavioral and social change. Despite the rapid increase in information access, people's general attitudes have yet to reflect ample concern and desire for major structural overhaul. This is largely attributable to worldview adherence, since we tend to respond to climate change in ways that remain consistent with

our current views, should said current views even allow such a response. In this new age of data and information science, it can also take a long time for people to fully process and accept everything suddenly at their disposal to begin with, much of which may conflict with existing beliefs.

Dr. Feygina then elaborated upon the multitude of people's needs and motives as they relate to climate change mitigation behavior. People's personal needs involve family, finances, health, and safety, while social and ideological needs include political views and "just world" theories about what is fair and to be expected in life. All of these factors influence how human beings "perceive, process, understand, encode, and recall information." Similar to what Dr. Clayton suggested regarding tailoring messages to specific groups for greatest acceptance and response rates, Dr. Feygina emphasized the importance of working with and catering to these different needs when addressing climate change issues. This is instead of working against them to completely change people's opinions altogether. Helping people to accommodate climate change mitigation into their existing ways of life not only helps fulfill psychological needs of safety, control, and belonging, but also reduces [cognitive] dissonance, anxiety, uncertainty, and fear. It will also reduce the likelihood of disengagement from the problem, which is how people maintain their existing worldviews and sense of psychological stability. Motivated cognition – the need for people to perceive things in certain ways – affects all facets of our perception, thinking, and feeling. According to Feygina, the best way to approach these cognitive hurdles is via "systems-sanctioned change," which "reframes pro-environmental change as a way to uphold what people care about and support, rather than challenge the system." For instance, it would be folly to promulgate, "Capitalism and its unbridled resource exploitation are major causes of climate change; we must do away with free-market capitalism." The issue is

much better approached as, "Being pro-environmental allows us to protect and preserve the American way of life. It is therefore patriotic to conserve our country's natural resources." This reverses the negative association between protecting the social system and the natural environment simultaneously. Above all, our paramount need for inclusion and belonging drives our decision making. Keeping this in mind is the most effective way to mobilize groups of people to accept climate change mitigation into their lives. Narratives and personal accounts from trusted speakers and messengers will further enhance and expedite this process.

Last to speak was Dr. Paul C. Stern, PhD, the president of the Social and Environmental Research Institute and a professor at the Norwegian University of Science and Technology. Dr. Stern studies climate change mitigating behaviors, particularly which ones make the greatest impact. His presentation, "Changing the Behaviors that Drive Climate Change: What People Need to Understand and How to Promote Change," began with a graph of carbon dioxide emissions (and projections thereof) from 1750 up through the future to 2100. Since the start of the industrial revolution in 1850, historical emissions up through 2018 have totaled to 515 billion tons, 3 quarters of which were released after 1965. He then discussed the interdisciplinary nature of combating climate change, which requires contributions from the physical sciences, engineering, economics, and law. For instance, while physical science research methods provide the objective evidence of carbon emissions' effects, engineering can develop the technologies to reduce fossil fuel use and capture existing greenhouse gases. Economic research methods are integral for analyses of costs and returns on investment. Lastly, law and politics must be considered to inform and implement environmentally friendly industry regulations. This last item is perhaps most conceptually relevant to behavior change, since human beings typically

behave within the limits of current laws with the tools presently at their disposal. Since climate change is man-made, behavior change is the key to its mitigation and reversal. Therefore, “the challenge is not simply to apply existing psychological theories, but to consider how psychological insights can add to or multiply what other sciences can offer.” Furthermore, we must “develop integrative theories incorporating psychological insights” for non-scientists. While natural scientists try to predict and quantify what climate change will bring, the vast majority of climate change-related risks cannot be fully quantified. Relatively non-quantifiable and unpredictable consequences include patterns of vector-borne disease spread, crop failures, floods, droughts, and other natural disasters, and the subsequent deaths, migration waves, and political upheaval. For this reason, laypeople must possess *qualitative understanding*, or solid mental models that both align with modern scientific understanding and acknowledge what is unknown, such as the extent of possible damage. After emphasizing how climate change is anthropogenic, progressive (cumulative, exponentiating), and irreversible, Dr. Stern explicated how people must be aware of climate change’s risks, challenges, and opportunities, in addition to well-established facts. Analogies are very useful in helping people understand climate change, with one likening climate change to progressive diseases such as atherosclerosis or hypertension. Both are human-induced, relatively irreversible once present, and uncertain in progression. Stern extended the metaphor by explaining how it is more effective to change high-risk, exacerbating behaviors proactively, rather than wait for a more advanced treatment after a disease has progressed to a more debilitating and costly state. Psychological experiments can help elucidate whether such analogies are consistently effective in helping people understand climate change and the utmost priority of its mitigation and eventual reversal.

The world seems vast and enormous from an everyday individual perspective. People’s absorption in their typical beliefs and ways of life, especially in locations less affected by climate change, often prevents the continuous awareness and behavior change required to combat it. This persistent lack of salience also bolsters the often contradictory, capitalistic worldviews that flourish and perpetuate in such typical modern environments. However, if left unaddressed, climate change will eventually harm even the most “stable” areas still on the same exact planet, whose homeostasis is further endangered every second. When traveling far distances by plane in a matter of hours, we can look out the window and see how small the world actually is, and how we do not have a larger, further exploitable “Planet B” at our convenience. Despite the comforts of both denial and modern amenities, we must search deep within ourselves and examine the effects of our individual and population-wide activities. It is actually quite contradictory how humans perpetually desire and exert power over other people and social systems, yet simultaneously deny the equally powerful and pivotal impact they have on the natural environment. We must therefore reframe and tout climate change mitigation as beneficial, patriotic, empowering, and stabilizing, as it is only a matter of time before we will all collectively suffer if we do not pursue a new, sustainable way forward.



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