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Build brains better

A proposal for a White House Brain Capital Council to accelerate post-COVID recovery and resilience

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All roads lead to the brain. Depression and anxiety, loneliness, Alzheimer's disease, learning disorders, substance misuse disorder, long-haul COVID (i.e., "brain fog"), the toxic effects of air pollution on the brain, and even deaths of despair are all brain-based challenges. These issues typically fall through the proverbial cracks given they cut across policy areas and sectors of government. We need a coordinated approach to manage and ultimately prevent these issues: Such an approach will boost economic dynamism through reduced suffering, optimized brain performance and productivity, and new industries.

Brain-based challenges all involve brain health and wellness at an individual and societal level. They all represent internal or external disruptions whether biological, economic, structural, environmental, or social. Collectively, they were reducing life expectancy in the United States, long before the SARS-COV-2 pandemic.[1-10] The pandemic, in turn, has made all of these brain-based issues profoundly worse.

Brain function and the myriad of conditions that influence it are rarely considered in current economic or public policy approaches. This may in part be due to scientific advancements in the brain sciences outpacing economic and policy change. It is also a result of the siloed and growing knowledge of the brain and economics rarely converging to inform the development and implementation of policy.

Our collective failure to connect neuroscience and social policy may be most conspicuous in matters of social justice. Increasing homelessness, mass incarceration, and deaths of despair are all driven, in part, by untreated brain disorders. With the rising threat of automation, workers who are not "brain ready" for the knowledge economy will face job losses, loss of purpose, despair, and fall further behind.[11] Further, over a dozen institutions within the National Institutes of Health (NIH) engage in brain research, which results in imperfect coordination, artificial siloes, resource waste, and redundancy. This is particularly troubling given many of the fundamental brain disease mechanics are shared across many disorders, and dysfunction in mood and cognition is common among brain challenges across the lifespan.

A new approach to improve economies and societies is long overdue. To this end, we have developed a novel asset, Brain Capital, which we believe can inform better policy development.[12] Brain Capital incorporates brain health and brain skills and drives economic empowerment, social resilience, and emotional connection. As brains are indispensable drivers of human progress, Brain Capital provides an opportunity to invest

in these valuable assets and nurture healthier, more resilient, and flexible brains. And yet, remarkably, Brain Capital is not captured by any existing measure of gross domestic product (GDP).

Why a Brain Capital Council?

We believe a Brain Capital Council would be a critical action for the building of and accounting for Brain Capital. As a step toward establishing a permanent Brain Capital Council, a Task Force could first be established. Task forces on the most salient issues facing the country (e.g., AIDS, poverty, healthcare, trade) have a long precedence for encouraging collaborations and achieving successful solutions through the coordination of efforts across the many agencies of the U.S. federal government. A Brain Capital Task Force could be established within the Executive Office of the President, with high-level leadership provided by the Vice President.[13] The Task Force would connect the federal government with communities at all levels, engaging partners across the spectrum, from small- and medium-sized enterprises (SMEs) to patient and caregiver groups, educators, healthcare workers, and beyond. This Brain Capital Task Force would harmonize with existing task forces, councils, and advisory groups with overlapping remits as to not duplicate but rather bolster all efforts related to the building of Brain Capital. This group could converge Brain Capital-related datasets across the government and with private sectors players. This group should aim to showcase local- and state-based exemplary projects so they can be cross-pollinated to other jurisdictions. Multidimensional data linking brain disorders to environmental factors, economics, and other social data would be singularly unique. It would drive new precision policy and public health strategies.

This new Task Force could facilitate Brain Capital building policies being considered in various sectors ranging from human development, immigration, gender, social justice, national security, racial equity, foreign affairs, technology, climate change, environmental protections, and economic productivity.[14] This Task Force, and ultimately, the Brain Capital Council, would develop the infrastructure for public investments such as brain bonds and social impact investing.

At a global level, these brain-based issues must be integrated into the United Nations (U.N.) Sustainable Development Goals (SDGs).[15] Adding an 18th Global Goal devoted to the brain's cross-cutting role would facilitate a global recognition of this important issue. The leadership of the United States, bolstered by the federal focus on Brain Capital building, is key to actualizing this vision.

Table 1 outlines the Brain Capital's interrelationships with existing Whitehouse Councils.

Table 1. Brain Capital interrelationship with existing White House councils

Existing White House Councils	Brain Capital Interrelationship
Council of Economic Advisors	• The economic implications of brain health (e.g., depression, anxiety, neuro-COVID, Alzheimer's disease, PTSD, TBI) are profound. • The economic implications of brain skills (e.g., education deficits and challenges) are also profound. • The economy is transforming into a Brain Economy (e.g., think knowledge economy, mixed with rising brain health disorders, mixed with stigma reduction, mixed with neuroscience advances). • Wellbeing indications should be measured and tracked and considered alongside GDP and conventional "wealth" measures.
Council on Environmental Quality	• Air pollution, micro- and nano-plastics are brain-damaging pollutants.
Domestic Policy Council	• Building Brain Capital in our own backyard is paramount to a thriving economy and society. • Multiple barriers exist to overcome these challenges. In essence, we have a Brain Capital "gap" in society, and if we do not try to close this gap, it will only widen. Those who cannot "keep up" in the brain economy will lose their jobs, purpose, and hope, leading them towards a vicious cycle of despair. Note the recent report of the Brookings Working Group on Despair and Economic Recovery. • Brain Capital technologies, investments, and policies could become a new economic engine/new industry. • The importance of housing should be taken into consideration.
Gender Policy Council	• Perhaps the best way of boosting Brain Capital is through female empowerment. There is a Brain Health Gap across the translational spectrum. Inequalities in "brain issues" from the study of rodents to clinical trials, health care design, social policies, and STEM education.
National Security Council	• Radicalization is happening through social media at a rapid rate. This is a brain-based phenomenon also known as "brain hijacking".
Office of Intergovernmental Affairs	• It is critical to support other areas that have tremendous resource and healthcare access issues. Considering the way brain-based issues are interrelated to each Sustainable Development Goal is an important pursuit.

Office of Management and Budget	• Brain Capital is inextricably linked to environmental, social, and governance (ESG) issues, therefore accounting frameworks need to be established for Brain-ESG or B-ESG. • Further, understanding the investments in the United States in neuroscience are key–from public to public-private. Investments spanning the translational spectrum and spanning mental health, neurology, early childhood, aging, education.
Office of National Drug Control Policy	• Substance misuse and addiction are major challenges to Brain Capital. To mental health and to educational attainment. Low educational attainment and economic challenges can lead to crime and incarceration challenges.
Office of Public Engagement	• Promoting Brain Capital and the above-mentioned issues is an entirely new public engagement challenge.
Office of Science and Technology Policy	• Neuroscience is rapidly advancing. Care must be taken to shepherd neuroscience and neurotechnology toward a common goal: Brain Capital. Brain Capital "technology" could be conceptualized as a new asset class, neuroscience-inspired technologies, which cut across and between psychiatry, neurology, education, and positive psychology (e.g., resilience- and wisdom-science). • Optimizing the governance of neurotechnology organizations is key as information asymmetry between technologists and company directors is fierce. • The development of boutique, public-private investment vehicles can stimulate this field of economic activity.
Office of the U.S. Trade Representative	• The United States promoting trade of Brain Capital idea and technologies will be a major industry/soft power asset. An emphasis on Brain Capital is a novel, human-centered approach to societal progress.

Centering the brain in the nation's institutional structures

By placing the brain–our most worthwhile asset–at the very center of the nations' policymaking process, we will be able to increase people's productivity as well as their well-being. This strategy, and the Task Force to coordinate it, can build back better our "American Brain Power."[16]

To return to the example of the NIH, the Task Force could work with the NIH to develop a new brain-focused institute and serve as a national coordinator of brain-based research. This new Institute would not supplant the existing NIH institutes; rather it would better connect, integrate, and build on their work with other NIH institutes and outside partners.

Ultimately, an independent agency is needed to coordinate all brain-based development, actions, and policies with the rest of the United States government. This would be an independent executive-level federal agency, which would provide the high-level leadership to support brain capital building within American society.

This is a unique opportunity for the United States to act as a global leader in the building of Brain Capital, and associated technology and investment industries. This brain-centric approach will allow us to successfully navigate with agility the unknowns and unpredictable changes and thrive in the 21st century. It will also help us, as a global community, to develop resilience in the face of the next global financial, climate, or pandemic shock.

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